

limiting factor for the Siona-Secoya peoples of the San Pablo area in northeastern Ecuador, it is limiting for another branch of the same people living elsewhere.

This raises what is possibly the major weakness in an otherwise extremely useful volume. Several authors (Hill and Hawkes, Werner, Stocks, Beckerman, Gross, Vickers) use optimal foraging theory—a theory borrowed from biology to describe the workings out of natural selection—to “explain” (or to model or describe) the subsistence practices of Amazonian groups. Yet optimization theory is not without its problems. As West-Eberhard (*Quarterly Review of Biology*, Dec. 1979) clearly argues, this theory confuses the best “possible” alternative with the best “feasible” (of all available) alternatives; moreover, it assumes that optimization is synonymous with adaptation. Among tropical forest Amerindians, the resources that are available to each group depend on highly variable and contingent factors. What is available depends not only on what nature has to offer in the way of soils, waterways, and vegetational and faunal characteristics but, most important, it also depends on cultural attitudes and social arrangements. The social organizational factors and cultural mechanisms filtering what humans perceive to be resources transform what is best into what is feasible. To say that individuals adapt is simply to say that they act in an environmentally appropriate way; whether they always act “optimally” is another matter.

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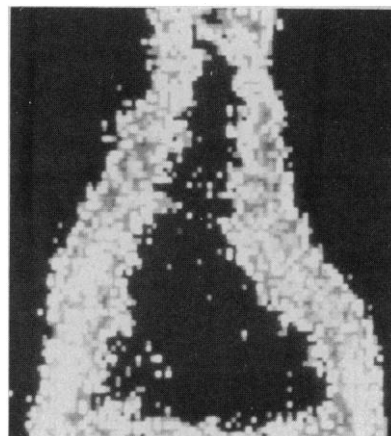
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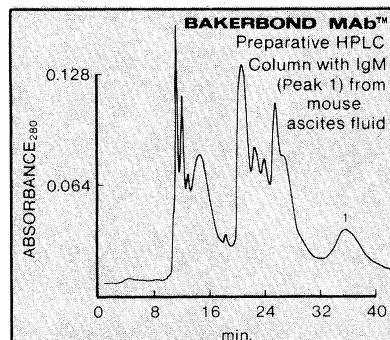
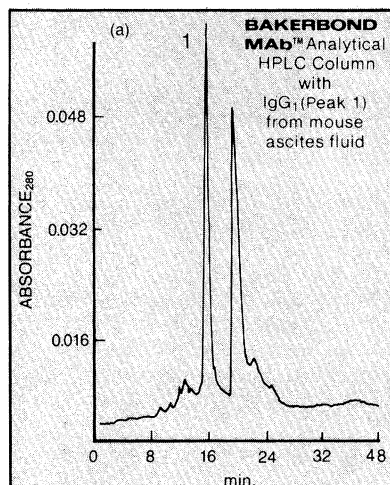
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Medical Mycologist: B.S.; 22 years of experience in medical diagnostic laboratory as research assistant, supervisor, instructor at graduate and postgraduate level. Recent work in immunology. Desires challenging position. Box 272, SCIENCE. X

B.A. Medical Physicist seeks graduate assistantship. Familiar with biomedical and biophysical laboratory techniques. Heavy emphasis in electronics and instrumentation. Résumé and references available upon request. Box 274, SCIENCE. X

Recent Graduate with biochemistry and management degrees seeks employment and investment opportunity in a biochemically based firm. Reply to: Laurence Seenath, Number 7-5500 Rosedale Avenue, Cote St. Luc, Quebec, Canada H4V 2J1. Telephone: 514-486-7100. 11/23, 30; 12/7

POSITIONS WANTED

Technical Writing/Editing. Doctorate with writing and editing experience in engineering and physical sciences. Will author or edit articles, manuals, or books. RMA, Box 17512, Raleigh, N.C. 27619. X

POSITIONS OPEN

AGRICULTURAL/ENVIRONMENTAL SCIENTISTS

Dynamac Corporation has immediate program needs that require experienced senior and junior level scientists (Ph.D., M.S.) with backgrounds in one or more of the following areas:

PESTICIDE PLANT SCIENCE ENVIRONMENTAL SCIENCES **CHEMISTRY BIOCHEMISTRY SOIL SCIENCE**

The successful applicant will be required to critically review and analyze published and unpublished pesticide data for their scientific validity and usefulness in meeting regulatory data requirements for pesticide registration. They will also prepare written reports based on their analysis. Strong writing skills absolutely essential. Knowledge of pesticide and pesticide regulation/registration is especially helpful. Dynamac Corporation offers competitive salary and a fully paid employee benefits package. To apply, please send résumé in confidence to:

Personnel Department
DYNAMAC CORPORATION
11140 Rockville Pike
Rockville, Md. 20852

ASSISTANT PROFESSOR, BIOCHEMISTRY/MOLECULAR BIOLOGY

The Department of Biochemistry and Biophysics at Iowa State University anticipates availability of a tenure-track assistant professorship in **MOLECULAR BIOLOGY** or related areas, starting fall 1985. Candidates must have a record of research productivity and interest in teaching graduate and undergraduate students. This is an excellent opportunity to develop a strong independent research program in the growing molecular biology and biotechnology research community at Iowa State University. Applications, which should include a résumé, bibliography, and brief description of research plans, must be received by 7 January 1985. Arrange to have three letters of reference sent to: **Dr. Jack Horowitz, Chairman, Faculty Recruitment Committee, Department of Biochemistry and Biophysics, Iowa State University, Ames, Iowa 50011.**

ASSISTANT/ASSOCIATE PROFESSOR—PHYSIOLOGIST

Applications are invited for a tenure-track position at the assistant or associate professor level, available 1 September 1985. Postdoctoral experience is required. The successful candidate will be expected to develop a strong research program as well as to teach at the undergraduate level and to participate in the Graduate Physiology Program. Please send curriculum vitae, reprints, a statement of research interests including equipment needs, and the names of three references to: **Dr. Roland M. Bagby, Department of Zoology, University of Tennessee, Knoxville, Tenn. 37916**, by 1 March 1985. *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR, RADIATION BIOLOGY

Radiation Research Laboratory
University of Iowa College of Medicine
Department of Radiology

Applications for a tenure-track position, available 1 July 1985, are invited from individuals with doctoral and postdoctoral experience in cellular radiation biology. The individual should have strong interest in the Graduate Program in Radiation Biology at the University of Iowa, credentials for teaching cellular radiation biology to graduate students, and the ability to teach the biological effects of radiation to diagnostic and therapeutic radiology residents. Research interests should encompass cellular and molecular radiation biology with special interest in repair mechanisms. Applications should include complete curriculum vitae, a statement of research interests, and the names of three scientists willing to write letters of recommendation. Applications should be sent to: **J. W. Osborne, Radiation Research Laboratory, 14 Medical Laboratories, University of Iowa, Iowa City, Iowa 52242.**

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

POSITIONS OPEN

DEPARTMENT OF BIOLOGY UNIVERSITY OF CALIFORNIA LOS ANGELES

Applications are invited for a tenure-track position, preferably at the **ASSISTANT PROFESSOR** level, beginning 1 July 1985. We are seeking someone with research interests in the area of paleobiology, broadly defined. Teaching ability in vertebrate morphology is necessary.

Candidates should submit curriculum vitae (including a list of publications and a summary of research and teaching objectives) and names and addresses of at least three references. Send materials to:

Chair, Paleobiology Search Committee
Department of Biology
University of California
Los Angeles, California 90024

Deadline for receipt of applications is 1 February 1985.

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

ASSISTANT PROFESSOR University of Wisconsin-Madison

The school of Pharmacy, University of Wisconsin-Madison, has an opening on the tenure-track faculty at the assistant professor level in the area of pharmaceuticals. Applicants preferably should hold a degree in physical pharmacy or physical chemistry with an interest in basic physical chemical research involving drugs, pharmaceutical dosage forms, or drug delivery. A background in pharmacy is preferred but not required. Individuals with formal education or experience in related areas of physical science are encouraged to apply. The successful candidate will be expected to develop an independent research program and to participate in undergraduate and graduate teaching. Please submit, by 31 January 1985, curriculum vitae, including the names of at least three references, to: **Dr. George Zografi, School of Pharmacy, University of Wisconsin-Madison, 425 North Charter Street, Madison Wis. 53706.**

The University of Wisconsin-Madison is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF BIOCHEMISTRY

A tenure-track position will become available in September 1985. Preference will be given to candidates with two or more years of postdoctoral experience and established record of productivity. Candidates conducting research in any area of biochemistry and molecular biology will be considered. Duties will involve teaching graduate and/or introductory level biochemistry and molecular biology courses. The appointment is for 9 months at an excellent salary level. Please submit curriculum vitae, research synopsis (two to three pages), and letters of recommendation from three references by 1 January 1985. Send material to: **Dr. Leaf Huang, Chairman, Search Committee, Department of Biochemistry, University of Tennessee, Knoxville, Tenn. 37996-0840.**

ASSISTANT PROFESSOR OF BIOCHEMISTRY

A molecular biologist is sought to fill a tenure-track position which will become available in September 1985. Preference will be given to candidates with two or more years of postdoctoral experience and established record of productivity. Candidates conducting research in an area which involves the use of recombinant DNA techniques are encouraged to apply. Duties will involve teaching graduate and/or introductory level biochemistry and molecular biology courses. The appointment is for 9 months at an excellent salary level. Please submit curriculum vitae, research synopsis (two to three pages) and letters of recommendation from three references by 1 January 1985. Send material to: **Dr. Leaf Huang, Chairman, Search Committee, Department of Biochemistry, University of Tennessee, Knoxville, Tenn. 37996-0840.**

UNIVERSITY OF CALIFORNIA, IRVINE, seeks individual at the level of **ASSISTANT PROFESSOR OF MEDICINE** in the Division of Basic and Clinical Immunology. Applicant should hold M.D. and Ph.D. degrees and have at least 4 years of postdoctoral research experience in immunology. Candidates with research interest in basic immunology preferred. Send curriculum vitae, list of publications, and at least three letters of reference by 20 December to: **Sudhir Gupta, M.D., Professor and Chief, Basic and Clinical Immunology, Med Sci I, C264A, University of California, Irvine, Calif. 92717.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CORRECTED VERSION DEPARTMENT OF BIOLOGY UNIVERSITY OF CALIFORNIA LOS ANGELES

Applications are invited for a position as a tenure-track ASSISTANT PROFESSOR beginning 1 July 1985. We are seeking a person who studies the behavioral biology of vertebrates. Preference will be given to a candidate who emphasizes physiological or evolutionary mechanisms.

Candidates should submit curriculum vitae (including a list of publications and a summary of research and teaching objectives) and names and addresses of at least three references. Send materials to:

Chair, Behavioral Search Committee
Department of Biology
University of California, Los Angeles
Los Angeles, California 90024

Deadline for receipt of applications is 1 February 1985.

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

ASSISTANT PROFESSOR OF BIOLOGY INDIANA UNIVERSITY, BLOOMINGTON

Applications are invited for a tenure-track position at the level of assistant professor. We are seeking an individual with research interests in the area of molecular biology of eukaryotic gene expression. Preference will be shown for individuals utilizing yeast as an experimental system. The successful candidate will also be expected to contribute to teaching at the undergraduate and graduate levels.

Submit curriculum vitae, summary of past and present research, a statement of research objectives, and a set of recent publications, and have three letters of reference sent to: Molecular Biology Search Committee, Department of Biology, Indiana University, Bloomington, Ind. 47405. Applications should be received before 21 December 1984. *Applications from minorities and women are especially welcome.*

ASSISTANT PROFESSOR OF MICROBIOLOGY. Search reopened for a tenure-track position in the Department of Microbiology, effective September 1985. Applications are invited from individuals with postdoctoral experience in immunology, virology, or infectious disease microbiology. Successful candidate required to teach undergraduate microbiology and a graduate course in professional specialty plus develop a strong, competitive research program. Submit curriculum vitae, a résumé of past and present research, and four letters of reference by 10 February 1985 to: Search Committee, Department of Microbiology, University of Georgia, Athens, Ga. 30602.

The University of Georgia is an Equal Opportunity/Affirmative Action Institution.

ASSISTANT/ASSOCIATE PROFESSOR OF PHYSIOLOGY. Applications are invited for tenure-track appointment in the following disciplines of specific interest: cardiovascular, respiratory, and/or renal. Applicants with Ph.D., postdoctoral experience, and a record of productivity in research should submit curriculum vitae, statement of research goals and support, a statement of teaching experience and abilities in the listed areas, and four letters of reference to: Benjamin R. Walker, Ph.D., Search Committee, Department of Physiology, Tulane University School of Medicine, New Orleans, La. 70012, by 15 December 1984. (Early application is encouraged.)

An Equal Opportunity/Affirmative Action Employer

INDIANA UNIVERSITY, BLOOMINGTON CELL/DEVELOPMENTAL BIOLOGY

Applications are invited for a position at a junior or senior level. We are seeking an individual to establish a research program utilizing cytological, molecular and/or genetic techniques to study fundamental cellular processes. The successful candidate will also be expected to contribute to teaching in the undergraduate program and to develop a graduate course suitable for inclusion in one of our graduate program areas.

Submit curriculum vitae, summary of past and present research, a statement of research objectives, and a set of recent publications, and have three letters of reference sent to: Cell/Development Search Committee, Department of Biology, Indiana University, Bloomington, Ind. 47405. Applications received before 7 January 1985 will be assured of consideration. *Applications from minorities and women are especially welcome.*

POSITIONS OPEN

The Department of Animal Science, Oregon State University, is seeking applicants for an ASSISTANT PROFESSOR in the area of GROWTH AND DEVELOPMENTAL BIOLOGY. Position will involve teaching (50 percent) and research (50 percent). The individual will teach an undergraduate course in growth and developmental biology and have opportunity to develop a course at the graduate and/or undergraduate level commensurate with his/her research program. The successful candidate will be expected to develop a productive research program in his/her area of interest and attract competitive research grant funds and high caliber graduate students. The department is particularly interested in fundamental research on factors that regulate muscle protein synthesis and/or degradation.

Qualifications include: Ph.D. in a discipline of animal science or closely related field with demonstrated ability to conduct research in muscle or developmental biology. The candidate should possess a strong background in biochemistry and postdoctoral experience is preferred. Position will be available 1 June 1985 or before. Application deadline is 28 February 1985. Appointment is for 12 months and is tenure-track. Salary is commensurate with qualifications and experience. Other benefits include state retirement, group health insurance, and 1 month of annual leave. Applicants should submit complete biographical data, transcripts, and arrange for three letters of recommendation to be sent directly to: Dr. Steven L. Davis, Head, Department of Animal Science, Oregon State University, Corvallis, Oregon 97331-6702. Telephone: 503-754-3431. *Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

DEPARTMENT OF ANATOMY

Positions are available at the ASSISTANT PROFESSOR level in research areas related to MEMBRANE BIOLOGY and CELL MOTILITY. Candidates should have postdoctoral experience, a record of research accomplishment in cell, molecular, or membrane biology, and an interest in teaching medical and graduate students in the anatomical sciences. Applicants should submit curriculum vitae, a brief description of future research plans, and three letters of recommendation to: Chairman, Department of Anatomy, ALBERT EINSTEIN COLLEGE OF MEDICINE, 1300 Morris Park Avenue, Bronx, New York 10461. *An Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR OF PHARMACOLOGY

The Department of Pharmacology at the University of Tennessee Center for the Health Sciences invites applications from individuals with strong research credentials in regulatory aspects of neurobiology for two tenure-track appointments available immediately as an assistant or associate professor of pharmacology, depending on qualifications. Applicants must have a Ph.D. and/or M.D. degree, have completed not less than 2 years of postdoctoral training, and have a demonstrated ability to conduct independent research. Preference will be given to applicants who apply modern constructs of biochemistry, immunology, or genetics, to the solution of research problems in neurobiology. The appointee is expected to develop a strong research program and to participate in departmental teaching activities. Submit résumé, and statement of research interests, and arrange for three letters of reference to be sent to: Dr. Murray Heimberg, Chairman, Department of Pharmacology, The University of Tennessee, Center for the Health Sciences, Memphis, Tennessee 38163. *Equal Opportunity/Affirmative Action Employer.*

ASSISTANT/ASSOCIATE PROFESSOR OF ZOOLOGY in area of neurobiology and electrophysiology; tenure-track. Teaching responsibilities: participation (approximately 50 percent) in large one-semester introductory biology course; upper division/graduate course in candidate's specialty. Requirements: Doctorate in biological (rather than psychological) sciences, postdoctoral experience, and ability to develop an active program of independent research. Interaction with faculty in the department's areas of strength (comparative and cellular physiology, genetics, ecology, behavior) is encouraged. Send application, including curriculum vitae, statements of research interests and teaching philosophy, and names and addresses of three referees to: Dr. William G. Valleau, Chairman, Department of Zoology, 100 Murray Hall, University of Maine, Orono, Maine 04469. Deadline for receipt of applications: 1 February 1985. *The University of Maine is an Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR, SCIENCE, TECHNOLOGY, AND PUBLIC POLICY. Applicants should have some firsthand involvement with policy problems that raise important scientific issues or have substantial technological content. Candidates will be considered who have Ph.D. degrees in the life sciences, the physical or social sciences, engineering, or the history of science and technology. The appointment might be made jointly with another academic department. Applications with curriculum vitae and references should be made to: Dean, Woodrow Wilson School of Public and International Affairs, Princeton University, Princeton, N.J. 08544. *Princeton University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR OF ZOOLOGY

The Department of Zoology, University of Florida, invites applications for a tenure-track assistant professor (9 months) whose research is COMPARATIVE DEVELOPMENTAL ZOOLOGY or related disciplines (for example, embryology, organogenesis, regeneration, reproduction). We seek a zoologist whose research relates to departmental programs in physiology, behavior, ecology, and evolutionary biology. The successful candidate is expected to establish a productive research program and to teach undergraduate courses, including comparative developmental biology, and a graduate course in his/her specialty. Qualified applicants should submit curriculum vitae, a succinct statement of research interests, a course outline for comparative developmental biology, representative publications, and names, addresses, and telephone numbers of three referees by 28 December 1984 to:

Chair, Search Committee
Department of Zoology
University of Florida
Gainesville, Florida 32611

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

ASSISTANT RESEARCH BIOCHEMIST to engage in contractility research at the Cardiovascular Research Institute, University of California, San Francisco, Calif. 94143. Applicants should have postdoctoral experience in muscle biochemistry, and fluorescence, and fluctuation analysis. Salary: \$29,600. Apply to: M. F. Morales at above address. *The University of California is an Equal Opportunity/Affirmative Action Employer. Women and minorities encouraged to apply.*

ASSOCIATE OR FULL PROFESSOR. Physiology of exercise. Teach and do research at graduate level, supervise laboratory. Doctoral degree in PE or related field. National eminence desirable. Start 16 September 1985. Send résumé and three letters of reference to: Jan Broekhoff, Ph.D., Head, Search Committee, Department of Physical Education and Human Movement Studies, Esslinger Hall, University of Oregon, Eugene, Oregon 97403. Closing date: 15 February 1985. *An Equal Opportunity/Affirmative Action Employer.*

BIOCHEMISTS-MOLECULAR BIOLOGISTS

Tenure-track faculty positions at assistant and associate professor levels. Candidates should be interested in developing strong and independent research with long-term growth potential on the mechanisms of gene expression at the molecular level in either prokaryotic or eukaryotic systems which may be interpreted broadly. Teaching includes medical, dental, and graduate students at sizable medical complex. Biochemistry department with excellent new facilities is undergoing substantial expansion. Salary commensurate with experience and competitive. Curriculum vitae, brief statement of present and future research interests, and three letters of recommendation should be sent to: Dr. Robert D. Wells, Chairman, Department of Biochemistry, University of Alabama in Birmingham Schools of Medicine and Dentistry, University Station, Birmingham, Alabama 35294. *An Equal Opportunity/Affirmative Action Employer.*

BIOLOGY. Genetics, molecular/cell biology, microbiology, and general biology. Tenure-track position at small college with strong premedical program. Assistant professor rank. Salary commensurate with qualifications and experience. Fall 1985 appointment. Ph.D., demonstrated excellence in teaching and research required. Send résumé, three letters of reference, and evidence of scholarship and teaching ability to: Dr. T. H. Mortenson, Department of Biology/Health Sciences, Chapman College, Orange, Calif. 92666. Deadline: 7 January 1985. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSOCIATE RESEARCH SCIENTIST. Department of Applied Physics. To investigate ultraviolet and soft x-ray population inversions in laser-produced plasmas and in laser-initiated vacuum arcs. Candidates must have prior experience in high power, vacuum arc discharges; high power lasers; fast particle detection; x-ray and ultraviolet diagnostics; and high speed photography. Ph.D. in physics or plasma physics is required. Full-time position with annual salary of \$20,000. Interested applicants should send their résumés to: **Professor M. Krishnan, Mason Laboratory, Yale University, P.O. Box 2159, Yale Station, New Haven, Conn. 06520.** *Yale University is an Equal Opportunity/Affirmative Action Employer.*

BIOMEDICAL ENGINEER B.S., M.S., or Ph.D.

Eastern manufacturer seeks a biomedical engineer for new product development and project management. Experience in respiratory therapy, anesthesiology, pulmonary function, or allied is preferred. We offer an excellent salary, many attractive benefits, and full paid relocation expenses to the East. To arrange a local interview, send résumé to: **Box 300, 1800 Market Street, San Francisco, Calif. 94102**, or telephone: 800-421-8889, 9 a.m. to 5 p.m., PST, or in California: 800-282-4888, **William E. Hunter**.

BOTANIST

CONCORDIA COLLEGE OF MOORHEAD, MINNESOTA, invites applications for a tenure-track position in plant science at the rank of instructor or assistant professor beginning August 1985. Successful candidate will be expected to teach general botany, plant physiology, and upper division botany course in the area of the appointee's expertise, and assist in introductory biology courses. The Ph.D. degree is preferred. Concordia College is a coeducational liberal arts college affiliated with the American Lutheran Church. Submit letter of application, résumé, and four current letters of recommendation by 15 December 1984 to: **Dr. Gerald L. VanAmburg, Department of Biology, Concordia College, Moorhead, Minn. 56560.**

Concordia College is an Equal Opportunity Employer.

POSITIONS OPEN

CELLULAR/MOLECULAR NEUROBIOLOGIST. University of Massachusetts Medical Center, Department of Neurology. An established investigator with a background and interest in studying mechanisms or neuronal death and selective vulnerability in Alzheimer's disease and related disorders is sought to join an expanding Neurology Department and interdisciplinary neurobiology program. Initial appointment will be made at the associate professor level (tenure-track). Applications should include curriculum vitae, relevant reprints, a statement of research interests, and names of at least three references. Salary is commensurate with experience. Appointment effective 1 July 1985. Applications should be sent to: **Dr. David A. Drachman, Chairman, C/MN Search Committee, Department of Neurology, University of Massachusetts Medical School, Worcester, Mass. 01605.** *An Affirmative Action/Equal Opportunity Employer.*

LOUISIANA STATE UNIVERSITY IN SHREVEPORT (LSU-S) seeks dynamic and innovative applicants for the position of **DEAN OF THE COLLEGE OF SCIENCES** to assume leadership of its development. The college, which occupies one of six major buildings on a 200-acre campus, currently consists of 1028 students and 36 faculty in four departments: Biological Sciences, Chemistry, Mathematics and Computer Science, and Physics. LSU-S is a public urban university in a community of 300,000 enrolling 4690 students (589 graduate students). Candidates must have an earned doctorate and be eligible for appointment as a full professor within the College, and should provide evidence of sustained scholarly achievement in teaching and research, and have a record of successful administrative performance. The position is available 2 July 1985. Salary is negotiable. Applicants should submit a complete résumé with cover letter, a statement of professional interest and objectives, and a list of at least four references by 15 December 1984. Applications, nominations, and requests for additional information should be addressed to: **Dr. Ronald A. Martin, Chair, Sciences Dean Search Committee, Office of Academic Affairs, SC 119, LSU in Shreveport, 8515 Youree Drive, Shreveport, Louisiana 71115.** *LSU-S is an Affirmative Action/Equal Opportunity Employer. Minorities and women are encouraged to apply.*

POSITIONS OPEN

BASIC RESEARCH RELATED TO ATHEROSCLEROSIS

A postdoctoral position is available at The Hormel Institute, University of Minnesota, through a training grant awarded by the U.S. PHS, National Heart, Lung and Blood Institute. The program is intended to provide research training in areas of lipid biochemistry, membrane biophysics, and cell biology related to cardiovascular disease. Participating faculty members are: **Doctors W. J. Baumann, H. L. Brockman, M. P. Cleary, R. T. Holman, D. R. Pfeiffer, O. S. Privett, H. Schlenk, and H. H. O. Schmid.** Applicants select a faculty sponsor specialized in their area of research interest. Collaboration with other faculty members is encouraged.

Appointments are annually renewable and currently provide a minimum stipend of \$17,384. Applicants must be U.S. citizens, noncitizen nationals, or permanent U.S. residents with a Ph.D., M.D., or equivalent degree. Applications should include curriculum vitae, list of publications, and the names of three references. Submission deadline: 15 January 1985. For further information or to apply, write to: **Dr. R. T. Holman, Professor and Director, The Hormel Institute, University of Minnesota, Austin, Minn. 55912.** Telephone: 507-433-8804. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages women and minority applicants.*

CHAIRPERSON, DEPARTMENT OF ANATOMY.

Loyola University of Chicago, Stritch School of Medicine, invites applications from distinguished anatomists for the position of chairperson of the Department of Anatomy. Applicants must have a record of accomplishment in research with a history of extramural funding, and experience in medical and graduate education and administration. Applications, including curriculum vitae, bibliography, and the names of three references, should be sent by 1 January 1985 to: **Dr. James P. Filkins, Chairman of Anatomy Search Committee, Department of Physiology, Loyola University, Stritch School of Medicine, 2160 South First Avenue, Maywood, Illinois 60153.**

Loyola University of Chicago is an Equal Opportunity/Affirmative Action Employer.

CHAIRPERSON Medical Research Center Brookhaven National Laboratory

Brookhaven National Laboratory, a multiprogram laboratory managed by Associated Universities, Inc. under contract with the U.S. Department of Energy, invites applications and nominations for Chairperson of the Medical Research Center. The Medical Research Center currently has approximately fifty basic and/or clinical research investigators, with active research programs in medical applications of nuclear technology, nuclear medicine, pulmonary sciences, experimental hematology, neurosciences, metabolic bone diseases, host-defense mechanisms, radiation biology, cytogenetics, and biochemical sciences. Unique laboratory resources for biomedical research include a Medical Research Reactor, the Brookhaven Linac Isotope Producer and associated Hot Laboratory, a Medical Cyclotron-Positron Emission Tomography Facility, a National Synchrotron Light Source, and Inhalation Toxicology Laboratory. Support facilities include a research outpatient clinic and accredited laboratory animal facility.

The Chairperson of the Medical Research Center must have an M.D. or Ph.D. degree and must be nationally recognized in a field of research which enhances the cur-

rent activities of the Medical Research Center. This individual must be capable of providing scientific leadership and assuming departmental administrative responsibilities. The Chairperson is encouraged to maintain an active research program, and initiate and facilitate collaborative research programs which make use of the high technology facilities at Brookhaven. A demonstrated ability to interact with federal funding agencies such as the Department of Energy, the National Institutes of Health, and the Environmental Protection Agency is essential.

Brookhaven National Laboratory employs about 3000 research and support staff, and serves as host to several hundred scientific visitors each year, and is located on Long Island near excellent academic, cultural, and recreational resources.

Applications and nominations should be sent to the Chairman of the Search Committee, **Dr. A.D. Chanana**, by December 7, 1984. Applications should include a curriculum vitae and the names of four references. **Brookhaven National Laboratory, Associated Universities, Inc., Upton, LI, New York 11973-5000.**

An Equal Opportunity Employer



Brookhaven National Laboratory
Associated Universities, Inc.

POSITIONS OPEN

ASSOCIATE RESEARCH SCIENTIST

Excellent opportunity for a person with an M.S. in biochemistry or equivalent experience in an academic or industrial setting. The successful candidate should have excellent laboratory skills and have familiarity with receptor binding methodology and the kinetic and statistical evaluation of binding data. Should have ability to develop new laboratory procedures and to work independently with minimal supervision. The successful candidate will be responsible for the development of bioassay systems for hormones in cell culture. We offer a competitive salary, comprehensive benefit package, and relocation allowance. To explore this outstanding opportunity, please send résumé in confidence to:

M. G. Ray
International Minerals &
Chemical Corporation
P.O. Box 207
Terre Haute, Ind. 47808



An Equal Opportunity/Affirmative Action Employer

CHAIRMAN DEPARTMENT OF INTERNAL MEDICINE HENRY FORD HOSPITAL DETROIT, MICHIGAN (Affiliated with the University of Michigan)

Qualified candidates are invited to apply for the position as chairman of the Department of Internal Medicine at Henry Ford Hospital.

Applicants should submit curriculum vitae, bibliography, and the names of three references to:

Fred W. Whitehouse, M.D., Chairman
Search Committee for
Department of Internal Medicine Chairman
c/o Janet L. Arnfield, Administration
Henry Ford Hospital, CFP-239
2799 West Grand Boulevard
Detroit, Michigan 48202

Henry Ford Hospital is an Affirmative Action/Equal Opportunity Employer. Women and minorities are urged to apply. Applications should be received by 15 December 1984.

CHAIRMAN, DEPARTMENT OF PHYSIOLOGY: Kirksville College of Osteopathic Medicine invites applications and nominations for the position of chairman, available after 1 July 1985. Applications will be accepted through 31 January 1985.

Qualifications include: Ph.D. or equivalent degree in physiology or related basic science discipline; a sincere commitment to excellence in medical education; established research program; success in attracting extramural funding; previous administrative experience desired; leadership ability.

Prospective applicants should submit a letter, current curriculum vitae, and the names of three professional references. Applications, nominations, or requests for additional information should be submitted to:

Allen W. Jacobs, D.O., Ph.D.
Associate Dean for Academic Affairs
Kirksville College of Osteopathic Medicine
Kirksville, Mo. 63501

Kirksville College of Osteopathic Medicine is an Affirmative Action/Equal Opportunity Employer.

CHAIR, MICROBIOLOGY EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Nominations and applications invited for chair, Department of Microbiology, East Carolina University School of Medicine. Accomplished scientist to lead the department with responsibilities in teaching and research. Excellent facilities, equipment, and budget. Currently there are ten faculty members. Candidates should hold M.D., M.D.-Ph.D., or Ph.D. degree; should have record of excellence in research, teaching, and administration. Applications accepted until position is filled. Screening to begin January 1985. Address inquiries to: Dr. H. Thomas Norris, Chairman, Search Committee in Microbiology, Room 1F 79, Brody Building, East Carolina University School of Medicine, Greenville, North Carolina 27834-9990. An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

TWO POSITIONS IN BOTANY. The Department of Botany and Microbiology of the University of Oklahoma invites applications for two tenure-track positions at the assistant professor level, beginning the fall semester 1985. The successful applicants must: (i) establish an active research program; (ii) teach in the graduate and undergraduate programs of the department; and (iii) direct graduate students. Applicants must have earned a Ph.D. in an appropriate field and provide evidence of their ability to conduct an independent and productive research program and to communicate effectively.

MOLECULAR BIOLOGIST. A research specialty in eukaryotic plants or fungi. Expertise in eukaryotic genetics and postdoctoral experience are desirable. Preferred areas of research include gene expression, gene transfer, or genome characterization. For information, contact: John Fletcher (telephone: 405-325-3174).

PLANT TAXONOMIST. Broadly trained plant taxonomist with a research specialty in molecular or biochemical taxonomy to include comparative and evolutionary aspects of the biology of macromolecules or secondary metabolites. Both vascular and non-vascular plant taxonomists are urged to apply. For information, contact: James R. Estes (telephone: 405-325-6443).

Letter of application, curriculum vitae, transcripts, list of publications, reprints, brief description of research and career goals, and three letters of reference must be received by 15 January 1985. Address to: Molecular Biology or Plant Taxonomy Search Committee, Department of Botany and Microbiology, University of Oklahoma, Norman, Okla. 73019.

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

CLINICAL CHEMIST

Pathology Associates, Inc., is seeking a clinical chemist for a 5-year position at the National Center for Toxicological Research (NCTR), Jefferson, Arkansas. The incumbent will join a professional staff of eight to provide complete pathology service to support research in carcinogenesis and toxicology. The incumbent will head a clinical pathology section responsible for hematological and biochemical examination of rodents. Doctoral degree and experience in animal clinical chemistry are required. Applicants should send curriculum vitae and two letters of recommendation to: Project Manager, Pathology Services (NCTR), P.O. Box 26, Jefferson, Ark. 72079; telephone: 501-541-4401. Applications close 15 December 1984. Equal Opportunity Employer.

FACULTY POSITIONS IN MOLECULAR GENETICS

Applications are invited for a senior and a junior tenure-track faculty position in the Department of Microbiology. Candidates should have made significant accomplishments in research and should be prepared to maintain an active, independent research program in molecular genetics. It is anticipated that at least one of the positions will be filled by a person working in the prokaryotic area. Teaching responsibilities are limited, and include participation in courses for graduate and professional students. The department provides a stimulating scientific environment, and administers several NIH Institutional Fellowship programs that will be available to provide stipend support for predoctoral and postdoctoral students.

Applicants should submit curriculum vitae, a statement of research plans, and the names of three people from whom letters of recommendation can be requested. Applications should be sent to: Gillian Air, Chairman, Molecular Genetics Search Committee, Department of Microbiology, University of Alabama in Birmingham, Birmingham, Alabama 35294. An Equal Opportunity/Affirmative Action Employer

VETERINARY PATHOLOGIST

Pathology Associates, Inc., is seeking a veterinary pathologist for a 5-year position at the National Center for Toxicological Research (NCTR), Jefferson, Arkansas. The incumbent will join a professional staff of eight to provide complete pathology service to support research in carcinogenesis and toxicology. Board-certification and experience in rodent histopathology are highly desirable. Applicants should send curriculum vitae and two letters of recommendation to: Project Manager, Pathology Services (NCTR), P.O. Box 26, Jefferson, Ark. 72079; telephone: 501-541-4401. Applications close 15 December 1984. Equal Opportunity Employer.

POSITIONS OPEN

SENIOR FACULTY POSITION IN CHEMICAL ENGINEERING

The G. W. C. Whiting School of Engineering of the Johns Hopkins University invites applications for the position of professor with tenure in the Department of Chemical Engineering. A candidate should have a commitment to teaching, have exceptional research accomplishments, and should be recognized as a leader in the chemical engineering community. Research specialty is open but should be in an area central to chemical engineering. Established in 1979, the department now has eight faculty members and a strong emphasis on graduate education and research. Applicants should send a résumé to the chairman of the search committee: Professor Jared Cohon, Associate Dean, Whiting School of Engineering, The Johns Hopkins University, Baltimore, Maryland 21218. The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.

CYTOGENETICIST for full-time academic position at assistant professor level in the Department of Pediatrics of the University of Illinois at Chicago. We are seeking a well-qualified individual for a tenure-track appointment. Applicants should have a Ph.D. with at least 2 years of postdoctoral experience in cytogenetics. Responsibilities will include day-to-day supervision of the Cytogenetics Laboratory, teaching, and research. Contact:

George R. Honig, M.D., Ph.D.
Professor and Head
Department of Pediatrics
University of Illinois
College of Medicine
840 South Wood Street
Chicago, Illinois 60612

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

DEVELOPMENTAL BIOLOGIST

Applications are invited for a tenure-track ASSISTANT PROFESSORSHIP effective 1 September 1985. Preference will be given to individuals with postdoctoral experience whose research interests and experience are in molecular biology. Successful candidates will be expected to participate in the undergraduate program, supervise graduate students, and develop a research program with extramural support. Submit curriculum vitae, description of research plans, and the names of three references to: Dr. P. Dennis Smith, Chairman, Department of Biology, Southern Methodist University (SMU), Dallas, Texas 75275. SMU is an Equal Opportunity/Title IX/Affirmative Action Employer.

MICROBIOLOGIST

Applications are invited for a tenure-track ENDOSED ASSISTANT PROFESSORSHIP effective 1 September 1985. Preference will be given to individuals with postdoctoral experience whose research interests and experience involve recombinant DNA technology. Successful candidates will be expected to participate in the undergraduate program, supervise graduate students, and develop a research program with extramural support. Submit curriculum vitae, description of research plans, and the names of three references to: Dr. P. Dennis Smith, Chairman, Department of Biology, Southern Methodist University (SMU), Dallas, Texas 75275. SMU is an Equal Opportunity/Title IX/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately to study biochemistry and molecular genetics of DNA repair in *Drosophila*. Experience in biochemistry and recombinant DNA essential, \$20,000 to \$25,000 per year, depending on qualifications. Send curriculum vitae and names of three references to: Dr. P. Dennis Smith, Department of Biology, Southern Methodist University (SMU), Dallas, Texas 75275. SMU is an Equal Opportunity/Title IX/Affirmative Action Employer.

YEAST MOLECULAR GENETICS

Applications are invited for a tenure-track ASSISTANT PROFESSORSHIP effective 1 September 1985. Preference will be given to individuals with postdoctoral experience. Successful candidates will be expected to participate in the undergraduate program, supervise graduate students, and develop a research program with extramural support. Submit curriculum vitae, description of research plans, and the names of three references to: Dr. P. Dennis Smith, Chairman, Department of Biology, Southern Methodist University (SMU), Dallas, Texas 75275. SMU is an Equal Opportunity/Title IX/Affirmative Action Employer.

POSITIONS OPEN

CELL BIOLOGY/HISTOLOGY UCR/UCLA PROGRAM IN BIOMEDICAL SCIENCES

The UCR/UCLA Program in Biomedical Sciences, which offers an accelerated M.D. curriculum jointly between the University of California, Riverside (UCR), and the University of California, Los Angeles (UCLA), School of Medicine, has a **tenure-track faculty opening** in the Division of Biomedical Sciences at UCR. The prospective level of appointment is assistant professor, although an exceptionally qualified candidate may be considered for appointment at higher rank. Primary teaching responsibilities will be one-half of a 10-week course in medical histology and cell biology taught to 24 first-year medical students. Prior medical school teaching experience is strongly preferred. Applicants should have postdoctoral research experience, and should be able to develop or continue a strong independent research program. The area of research is open. *The University of California is an Affirmative Action/Equal Opportunity Employer.* Applications, including curriculum vitae, bibliography, a statement of research goals, and the names of three references, should be sent to:

Richard A. Luben, Chair
Cell Biology/Histology Search Committee
Division of Biomedical Sciences
University of California, Riverside
Riverside, California 92521

FACULTY POSITION. ACS-accredited department. Immediate opening for Ph.D. in analytical chemistry with expertise in environmental chemistry. Background in the life sciences desirable. Candidates should have a strong commitment to undergraduate teaching. Send résumé and three letters of recommendation to: **Dr. Sheila Morehouse, Chairman, Department of Chemistry, Manhattanville College, Purchase, N.Y. 10577.**

POSITIONS OPEN

ASSISTANT RESEARCH ECOLOGIST BODEGA MARINE LABORATORY UNIVERSITY OF CALIFORNIA

Assistant research ecologist position to act as project manager for an ongoing experimental eelgrass transplantation in Bodega Harbor, California. Position is half time or less with an ending date of February 1986. Applicants should have experience in marine botany, marine zoology, and field ecology techniques. Prior administrative experience is essential. Send curriculum vitae and names of three references to: **Dr. Cadet Hand, Bodega Marine Laboratory, University of California, P.O. Box 247, Bodega Bay, Calif. 94923, by 21 December 1984. An Equal Opportunity/Affirmative Action Employer.**

ENVIRONMENTAL SCIENTIST/ENGINEERS

Dynamac Corporation is an environmental and engineering research firm located in suburban Washington, D.C., with immediate staffing requirements for qualified candidates in one or more of the following areas:

EPIDEMIOLOGY/BIOSTATISTICS (exposure assessment)
QUANTITATIVE RISK ASSESSMENT (health effects)
TOXICOLOGY/PHARMACOLOGY
ANALYTICAL AND ENVIRONMENTAL CHEMISTRY (fate of pollutants in the environment)
CHEMICAL ENGINEERING (hazardous waste)
ENVIRONMENTAL ENGINEERING (hazardous waste)

Applicants should have a Ph.D. degree and 2 to 3 years of experience, or an M.S. degree with 6 to 8 years of experience.

Dynamac Corporation offers competitive salaries, excellent growth opportunities, and a fully paid employee benefits package.

To apply, send résumé in confidence to:

DYNAMAC CORPORATION
Personnel Department
11140 Rockville Pike
Rockville, Md. 20852

POSITIONS OPEN

FACULTY or POSTDOCTORAL. Position available with the **DIVISION OF NEPHROLOGY, UNIVERSITY OF WASHINGTON**, for Ph.D. with expertise in complement technology. Candidate would join seven investigators studying the mechanisms of experimental renal disease and participate in funded ongoing complement projects and plan and conduct new studies of complement in renal disease. Applicants should send curriculum vitae, a statement describing qualifications and interests, and the names of three references to: **Dr. William G. Couser, Professor and Head, Division of Nephrology, RM-11, University of Washington, Seattle, Wash. 98195.**

Search Reopened FACULTY POSITION IN PLANT NEMATOLOGY

A position in plant nematology is available beginning 1 July or 1 September 1985. Major responsibility will be for research on plant disease problems caused by nematodes. Population dynamics, pathogen-vector-host interactions, or other aspects of nematode-caused diseases are potential areas of emphasis.

This is a tenure-track, 12-month type of appointment at the assistant professor level. Teaching will consist of a graduate course in nematology and limited participation in a course in general plant pathology. A Ph.D. degree is required, and postdoctoral experience is strongly preferred. Closing date for applications is 15 February 1985.

Applications and inquiries should be addressed to:

Dr. Thomas C. Moore, Chairman
Department of Botany and Plant Pathology
Oregon State University
Corvallis, Oregon 97331
Telephone: 503-754-3451

Applications should include curriculum vitae, reprints of research papers, transcripts of all academic records, three letters of recommendation, and any other information considered pertinent by the applicant.

Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.

Postdoctoral Scientists/ Medicinal Chemistry

The Department of Medicinal Chemistry of Smith Kline & French Laboratories is seeking Postdoctoral Scientists to work in an environment designed to foster innovative research and promote personal and professional growth. Publication of research findings in leading journals and full interaction with the scientific community are strongly encouraged.

Our postdoctoral appointments are for one year and with mutual agreement are renewable for a second year.

The successful candidates will:

- Participate in the design and synthesis of agents that modulate drug and neurotransmitter receptors particularly those in the cardiovascular and gastrointestinal systems.
- Interact closely with scientists of various disciplines involved in the drug discovery process.
- Apply the principles of organic chemistry and molecular modeling to derive structure-activity correlations.

Candidates are required to have:

- A Ph.D. in Medicinal or Organic Chemistry with 0 to 2 years postdoctoral experience.
- Practical knowledge of modern spectral and chromatographic techniques.
- Excellent oral and written communication skills.

Preference will be given to those with some formal training in pharmacology, physiology or related biological sciences. An interest in the relationship between chemical structure and biological activity is essential.

We offer an excellent salary, benefits and relocation package. Please forward your C.V. to George P. Kissell Jr., Senior Employment Consultant, Smith Kline & French Laboratories, 1560 Spring Garden Street, Philadelphia, PA 19101.

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ORGANIC SYNTHESIS

We seek an innovative Chemist with substantial expertise in organic synthesis to join a multi-disciplinary research team in the chemistry and biochemistry department of our Fundamental Research Laboratory. You will direct the synthesis aspects of a research effort which is aimed at creating complex supramolecular assemblies from both synthetic and natural substances. This effort is oriented towards organic systems with electro chemical, electro-optical and non-linear optical properties. You will need a substantial background in the synthesis of both polymeric and smaller molecular weight systems and in the characterization of these systems. You will play a key role in defining the specific assemblies toward which our efforts will be focused as well as in providing the synthesis capabilities needed to create those assemblies.

A Ph.D. in Chemistry is required with expertise in the synthesis of polymer and other organic systems. Research experience in the structural and physical chemical characterization of complex organic systems is a definite plus.

GTE Laboratories is the corporate research facility supporting 60 GTE subsidiaries around the world. Located outside Boston on Rte. 128, "America's Technology Highway", the Laboratories provides a well-supported research environment set in a campus-like atmosphere. Opportunities for professional growth and interactions abound. Our location also offers proximity to a variety of leisure and cultural activities.

Send your resume to Paul Houle, Human Resources Department, GTE Laboratories, Box SM1123, 40 Sylvan Road, Waltham, MA 02254. An equal opportunity employer, M/F.

GTE Laboratories

POSITIONS OPEN

CARDIAC MECHANICS/BIOENGINEERING—Postdoctoral laboratory position studying global left ventricular pump properties. Ph.D. in either physiology or bioengineering. Laboratory experience in cardiac measurement is required. Background in system identification techniques desirable. Annual salary: \$22,000 to \$25,000. Send résumé by 15 January 1985 to: **Dr. Kenneth Campbell, Department of Veterinary and Comparative Anatomy, Pharmacology, and Physiology, Washington State University, Pullman, Wash. 99164-6520. Equal Opportunity/Affirmative Action Employer.**

CHAIRMAN OF COMPUTER SCIENCE DEPARTMENT THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

The University of North Carolina at Chapel Hill invites nominations and applications for the chairmanship of its Department of Computer Science. The position is a tenured professorship, and the department chairmanship is initially for a 5-year term.

Application materials, including curriculum vitae and publications list, and the names, addresses, and telephone numbers of at least four references should be sent to the chairman of the search committee: **Professor Eugen Merzbacher, Department of Physics and Astronomy, University of North Carolina, Chapel Hill, N.C. 27514; telephone: 919-962-3021.** The deadline date is 1 January 1985.

The University of North Carolina at Chapel Hill is an Affirmative Action/Equal Opportunity Employer.

DEAN, VETERINARY MEDICINE

The University of Maryland and Virginia Polytechnic Institute and State University (Virginia Tech) seek applicants for the position of dean of the Virginia/Maryland Regional College of Veterinary Medicine. A D.V.M. is required, and a Ph.D. or equivalent, specialty certification, or other graduate study is desirable. Applicants should also have significant administrative experience, including major responsibility for a program in veterinary medical education (or equivalent). Applications and nominations should be sent to: **Dr. David Roselle, Provost, Virginia Tech, Blacksburg, Va. 24061.** Completed applications must include a résumé and three letters of recommendation. Applications will be received until 15 December 1984 or until the position has been filled.

Virginia Tech is an Equal Opportunity/Affirmative Action Employer.

The Comprehensive Cancer Center Department of Oncology of Howard University has a vacancy for a **DIRECTOR**. A successful applicant shall have a M.D. or Ph.D. degree and be qualified for appointment as professor. The applicant must also be knowledgeable of the methods of care of cancer patients, experienced in cancer-related research, and have documented administrative skills. The deadline for receipt of application is 15 December 1984. Please send applications and the names and addresses of three references.

**The Search Committee for Oncology
c/o Dr. Thomas E. Smith, Chairman
Department of Biochemistry
Howard University College of Medicine
520 W Street, NW
Washington, D.C. 20059**

Howard University is an Equal Opportunity Employer.

HONORS PROGRAM DIRECTOR MONTANA STATE UNIVERSITY

Guide academic progress of approximately 150 academically superior students. Duties include recruitment and advising of students, liaison with other university programs, program development, and administration. Full-time, fiscal-year appointment includes half-time faculty position in field of academic expertise. Tenure-track. Rank and salary negotiable, depending on qualifications and experience. Terminal degree at time of application, demonstrable excellence in teaching, and established record of creativity and scholarship required. Send letter of interest, statement of philosophy of and commitment to honors, curriculum vitae and three letters of reference by 1 February 1985 to: **Josiah Ober, Chairman of Honors Director Search Committee, Office of the Vice President for Academic Affairs, 211 Montana Hall, Montana State University, Bozeman, Montana 59717.**

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

POSITIONS OPEN

EXCELLENT OPPORTUNITY

The University of Tennessee College of Medicine—Knoxville Unit at the University of Tennessee Memorial Research Center and Hospital announces a search for **DIRECTOR OF RESEARCH/CHAIRPERSON OF MEDICAL BIOLOGY**. A unique position with opportunity for both basic research and close interaction with clinical departments. Work is centered in an established research center with ongoing scientific endeavors. Contact:

**George E. Shacklett, M.D.
Chairman of Advisory Committee
University of Tennessee
Memorial Research Center and Hospital
1924 Alcoa Highway, U67
Knoxville, Tennessee 37920**

An Affirmative Action/Title IX/Section 504 Employer

UNIVERSITY OF ARIZONA, FACULTY POSITIONS IN PLANT MOLECULAR BIOLOGY. The University of Arizona is expanding its research in plant molecular biology. Applications are invited from scientists who have demonstrated originality and productivity in the general area of plant molecular biology. We especially encourage colleagues who wish to interact with the groups already established and with groups working in plant breeding, pathology, and physiology. Appointments may be either in the Departments of Biochemistry or Molecular and Cellular Biology. The successful candidate will participate in graduate/undergraduate teaching. Appointments will be made as soon as appropriate candidates are found. Applicants should submit curriculum vitae, bibliography, a short outline of research objectives, and arrange for three letters of reference by 15 January 1985 to: **Dr. Hans J. Bohner, University of Arizona, Department of Biochemistry, BioSciences West, Tucson, Ariz. 85721.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS IN GENETICS/MOLECULAR BIOLOGY

The Division of Biological Sciences of The University of Michigan invites applications for two tenure-track faculty positions in genetics/molecular biology. Applicants at both the junior and senior levels will be considered. Primary duties will be the establishment of a strong program of basic research and participation in the teaching of undergraduate and graduate students. No specific area of research is mandated, and excellence of the candidates will be the primary consideration in making appointments. However, it is hoped to make two coordinated appointments and/or to add individuals in areas where the division already has some strength. Applications from individuals using genetic and molecular biological techniques to attack significant problems at the cellular or developmental levels (in animal, plant, or microbial systems) will be especially welcome. Applicants should submit curriculum vitae, reprints and preprints of selected publications, a statement of future research plans, and four letters of recommendation (applicants at the senior level may submit instead the names of prospective referees) to: **Professor John Pringle, Chairman, Genetics Search Committee, Division of Biological Sciences, The University of Michigan, Ann Arbor, Michigan 48109.** Applications should be submitted as soon as possible but no later than 4 January 1985. *The University of Michigan is an Affirmative Action/Equal Opportunity Employer.*

Mississippi State University (MSU) is seeking a **HEAD OF THE DEPARTMENT OF BIOLOGICAL SCIENCES**. The department, consisting of 22 Ph.D. faculty, offers bachelor's degrees in biology, microbiology, and medical technology, master's degrees in biological sciences and medical technology, and the Ph.D. in biological sciences. The department head will be expected to take strong leadership in undergraduate and graduate program development and research activities. Applicants should have a distinguished record in both teaching and funded research. Professional accomplishments and background should be consistent with the rank of professor in the department. Applicants should provide curriculum vitae, three letters of reference, and a statement of current research interests and basic teaching philosophy. Deadline for receipt of applications and nominations is 1 February 1985. Send all materials to:

**Search Committee, Biological Sciences
Drawer AS
Mississippi State University
Mississippi State, Miss. 39762**

MSU is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN



GENERAL PHARMACOLOGIST/ PHYSIOLOGIST

Nova Pharmaceutical Corporation, a newly formed company dedicated to the discovery of novel therapeutic entities using the most current techniques, has an immediate opening for a general pharmacologist/physiologist with at least 2 years of postdoctoral training. The ideal candidate would be familiar with organ bath and in vivo techniques. The ability to initiate and conduct, or to direct, goal-oriented research within a team framework, and a proven publication record, are essential. Pharmaceutical industry experience is preferred.

Nova occupies new facilities at the Francis Scott Key Medical Center in Baltimore, and has strong intra-campus links with The Johns Hopkins University, NIDA, and NIA. Nova has a full complement of chemical, biochemical, and pharmacological support personnel.

Nova offers competitive salaries and an excellent benefits package. For further information, please submit a current résumé with salary requirements to:

**Lydia Cumor
Administrative Assistant
Nova Pharmaceutical Corporation
5210 Eastern Avenue
Baltimore, Md. 21224-2788**

An Equal Opportunity/Affirmative Action Employer

GENETICIST. Cleveland State University, anticipated assistant professor position (tenure-track) for fall 1985 for broadly trained geneticist whose research is concerned with basic problems in genetics. Candidates must have at least 1 year of postdoctoral experience and must show evidence of continued research productivity. Principle teaching duties will include introductory genetics courses and a graduate course in genetics. Send current curriculum vitae, reprints of recent publications, and a statement of research goals, and arrange to have three letters of recommendation forwarded by 15 December 1984 directly to: **Dr. Ronald Clise, Chairman, Genetics Search Committee, Department of Biology, 1983 East 24 Street, Cleveland, Ohio 44115.** *Equal Opportunity Employer, M/F/H.*

DIVISION HEAD FOR HEMATOLOGY/ONCOLOGY

The Department of Pediatrics, University of Washington/Children's Orthopedic Hospital, Seattle, Washington, is recruiting for a director of its Hematology Division. The division has an active clinical, research, and teaching program with the University of Washington, The Children's Orthopedic Hospital, and the Fred Hutchinson Research Center. Candidates must have strong academic credentials.

Interested candidates should send curriculum vitae to: **C. Ronald Scott, M.D., Hematology Search Committee, Department of Pediatrics, RD-20, University of Washington, Seattle, Wash. 98195.**

The University of Washington/Children's Orthopedic Hospital is an Affirmative Action/Equal Opportunity Employer.

IMMUNOLOGIST with biochemistry background and significant experience in the development of enzyme immunoassays. Contact:

**Arden A. Kelton, Ph.D.
Environmental Diagnostics, Inc.
17935 Sky Park Circle, Suite D
Irvine, Calif. 92714**

IMMUNOLOGIST—U.S. subsidiary of international biological products company is inviting applications for Ph.D. immunologist to participate in the development of vaccines of viral and bacterial origin. The successful candidate will have a broad background in immunology and immunochemistry with experience relating to antigen enhancement and the development of evaluation methods in appropriate animal test systems. Connaught is located in the Pocono Mountain region of northeastern Pennsylvania. We offer a competitive starting salary and comprehensive benefits package. To apply, submit résumé, including current salary, to: **D. H. Gattone, Director, Human Resources, CONNAUGHT LABORATORIES, INC., Swiftwater, Pa. 18370.** *An Equal Opportunity Employer, M/F.*

New Opportunities On The Frontier Of Genetic Research

We are breaking new ground in the use of monoclonal antibodies to develop the next generation of products for the diagnosis and treatment of disease. An expanded commitment to research has opened the following professional positions in Seattle:

Project Leader

This position requires experience in the characterization of microbiological antigens, mammalian cell cultures, and related biochemical procedures. A recent PhD and experience with virology, bacteriology or molecular biology preferred.

Biochemist

This position requires expertise in carbohydrate chemistry and lipopolysaccharide structure of gram negative bacteria. A PhD and 3 years of postdoctoral experience are required.

Both positions offer a competitive salary, full benefits and excellent potential for recognition and advancement. For prompt consideration, send your resume to: **Karen L. Hedine, Personnel Manager.** EOE.



Genetic Systems

3005 First Ave., Seattle, WA 98121

PHD SCIENTISTS & ENGINEERS! APPLY FOR RESEARCH AWARDS!

Unique opportunities offered for independent research in the fields of

- chemistry
- earth and atmospheric sciences
- engineering, mathematics and applied sciences
- life and medical sciences
- space and planetary sciences
- physics

The National Research Council in cooperation with selected Federal laboratories will offer approximately 250 awards in 1985 for independent scientific research. Recipients will be free to work on problems of their own choice as guest investigators at the participating Federal laboratories. Many of the 22 programs are open to experienced senior scientists as well as to recent PhD's. Stipends begin at \$26,350 for recent graduates and are appropriately higher for seniors. Relocation reimbursement and funds for professional travel on tenure are available, and a health insurance program is offered.

For further information and application materials please write to:

Associateship Programs (JH608/S-4)

National Research Council

2101 Constitution Avenue, N.W.
Washington, D.C. 20418

**Deadlines for application are January 15,
April 15 and August 15.**

Research Scientist

**Department of Gynecology
and Obstetrics**

**The Johns Hopkins University
School of Medicine**

A tenured or tenure-track position as research scientist in the Department of Gynecology and Obstetrics is available. Qualifications for the position include the Ph.D. degree and a strong background in biochemical/biological research in reproductive biology. Responsibilities will consist of participating in ongoing research projects as well as developing independent research programs. Curriculum vitae and names of three references should be submitted to: **Reproductive Biology Search Committee, Department of Gynecology and Obstetrics, Harvey 310, The Johns Hopkins Hospital, Baltimore, Maryland 21205.**

The Johns Hopkins University is an Equal Opportunity Employer

Senior Scientist

We are the Research and Development Division of the Revlon Health Care Group, a worldwide group of diversified companies providing products and services in the field of human health.

Our Department of Immunobiology, based at our lower Westchester county location, currently has an opportunity for a Senior Scientist with a PhD in Biochemistry or Cellular Immunology. The ideal candidate will have a strong working knowledge of enzymology, as well as the ability to supervise BS/MS level scientist. Experience with the oxidative metabolism of arachidonic acid in cells as well as exposure to HPLC methods and computer programming are highly desirable.

We offer a competitive salary and excellent fringe benefits. Please send resume including salary history, in complete confidence, to: Manager, Selection and Placement, Research and Development Division, Revlon Health Care Group, Dept. 5862, 1 Scarsdale Road, Tuckahoe, NY 10707.

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REVLON Health Care Group

VICE PRESIDENT FOR RESEARCH

The University of Michigan is seeking nominations and applications for the position of Vice President for Research.

The Vice President is responsible for providing leadership in stimulating and administering research at the University.

Nominees and applicants must have an understanding of the national and international environment in which research is conducted and the ability to work within that environment; the ability to develop and maintain effective relationships between the research office and other units of the University, especially academic affairs, and to serve The University of Michigan as an Executive Officer; a commitment to excellence in teaching and scholarship, and to affirmative action and equal educational opportunity.

The search committee will begin reviewing credentials December 14, 1984. Those arriving by this date will receive first consideration.

Nominations and applications should include a curriculum vitae and be sent to: Dr. Arnold S. Monto, Chairman, V.P. for Research Search Committee, 2074 Fleming Administration Building, Ann Arbor, Michigan 48109-1340.



The University of Michigan

An equal opportunity/affirmative action employer.
Women and minorities are encouraged to apply.

POSITIONS OPEN

The Pennsylvania State University, Department of Anthropology, seeks applicants for **HEAD, DEPARTMENT OF ANTHROPOLOGY**. Duties include responsibility for supervision of graduate education and administration of department of 15 faculty. An excellent record of research and publication is essential. Preference will be given to applicants with research interests in archeology, biological anthropology, demography, and other quantitative approaches to human evolution and ecology. Applications should be submitted by 15 January 1985, but later applications will be considered until a suitable candidate is selected. Send curriculum vitae and names of three referees to: **W. T. Morrill, Chairman, Search Committee, Box S, 409 Carpenter Building, The Pennsylvania State University, University Park, Pa. 16802**. Do not submit letters of reference at this time.

The Pennsylvania State University is an Equal Opportunity/Affirmative Action Employer.

THE JACKSON LABORATORY Bar Harbor, Maine

The Jackson Laboratory is an independent research institution whose major focus is mammalian genetics and developmental biology. We invite applications from **MAMMALIAN GENETICISTS AND MOLECULAR GENETICISTS** with postdoctoral or more senior experience. Level of appointment will be commensurate with experience. Preference will be given to candidates with research interests in immunology, neurobiology, developmental biology, or experimental hematology. Candidates are expected to carry on an independent research program. Closing date: 15 January 1985. Please send curriculum vitae, description of research interests, and the names of three professional references to: **Dr. Eva Eichler, Chairperson, Search Committee, The Jackson Laboratory, Bar Harbor, Maine 04609**. *The Jackson Laboratory is an Affirmative Action/Equal Opportunity Employer.*

MOLECULAR GENETICISTS/MOLECULAR BIOLOGISTS

The Department of Biological Sciences at Dartmouth College is seeking to fill two positions in **MOLECULAR GENETICS/MOLECULAR BIOLOGY**, one at the senior level (associate or full professor) and one at the junior level (tenure-track). The successful candidates will be expected to establish productive research programs, to teach undergraduate and graduate courses, and to participate in the development of a university-wide program in molecular genetics. To complement the department's interests and expertise, we seek individuals working on gene structure, function, and/or regulation as applied to (i) cellular or developmental processes, (ii) neurobiology, or (iii) molecular evolution. Applicants should submit curriculum vitae, copies of their most recent publications, and names and addresses of four references by 15 January 1985 to: **Secretary, Search Committee, Department of Biological Sciences, Dartmouth College, Hanover, New Hampshire 03755**. *Affirmative Action/Equal Opportunity Employer.*

NEUROANATOMY

Postdoctoral positions. Available both immediately and for July 1985. Positions supported by an NINCDS Training Grant. Various aspects of the nervous system, peripheral and central, are being studied by the faculty involved. For further information, write to: **Dr. Alan Peters, Chairman and Professor, Department of Anatomy, Boston University School of Medicine, 80 East Concord Street, Boston, Mass. 02118**. *An Equal Opportunity Employer, M/F.*

OCCUPATIONAL TOXICOLOGY AND MEDICINE

Columbia University School of Public Health invites applications for tenure-track appointments as professor and assistant professor of public health (environmental sciences) to assist establishment of program in occupational medicine research and training. M.D. degree required, and Board-certification in occupational medicine preferred. Professor must have extensive clinical and science credentials. Management experience in industrial medicine preferred. Assistant professor must have exceptional research competence and credentials in molecular toxicology and similar advanced biomedical fields. Send curriculum vitae, research interests, and at least three references (telephone numbers) by 15 December 1984 to: **Dr. G. Sewell, Columbia University, 60 Haven Avenue, New York, N.Y. 10032**. *Columbia University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSITIONS OPEN

THE UNIVERSITY OF CALGARY DEPARTMENT OF BIOLOGY MAMMALIAN PHYSIOLOGIST

The University of Calgary invites applications for a 3-year limited term appointment (in the first instance) at the assistant professor level in the Department of Biology. The successful candidate will teach a portion of and coordinate a full year course in mammalian physiology for undergraduates, teach cellular physiology to graduate students, and develop an active research programme. Funding for this position is available as of 1 July 1985, with an expected starting salary in the range of \$29,741 to \$36,000. *All qualified individuals are encouraged to apply, but preference will be given to Canadian citizens and permanent residents.* Applicants are requested to submit complete curriculum vitae and to have three letters of academic reference forwarded by 1 March 1985 to: **Dr. R. W. Davies, Head, Department of Biology, The University of Calgary, Calgary, Alberta, Canada T2N 1N4**.

MOLECULAR BIOLOGISTS IN PLANT AND OTHER EUKARYOTIC SYSTEMS

The Department of Biological Sciences seeks applicants for two tenure-track assistant professorships, to begin September 1985. One position will be in plant molecular biology and the other may be in some other area of eukaryotic molecular biology. Appointees will join the department's expanding Laboratory for Cell, Molecular, and Developmental Biology, which currently includes 15 faculty. Appointees are expected to establish research programs with extramural funding and to participate in training graduate and undergraduate students. Send curriculum vitae, research plans, and three letters of reference by 14 December 1984 to: **Dr. S. K. Shapiro, Head, Department of Biological Sciences, University of Illinois at Chicago, Box 4348, Chicago, Ill. 60680**. Final approval of these appointments is contingent upon expected budgetary allocation. *The University of Illinois at Chicago is an Equal Opportunity/Affirmative Action Employer.*

MOLECULAR BIOLOGIST/GENETICIST. Tenure-track assistant/associate professorship. Potential vacancy of funded position for September 1985, in an undergraduate department offering biochemistry as well as biology programs. Teaching duties will include courses in molecular biology, genetics, and introductory biology. Applicants must demonstrate a strong interest in teaching and an ability to initiate and carry out a productive research program. Ph.D. required; postdoctoral experience preferred. Submit curriculum vitae, names of three references, and transcripts to: **Biology Faculty Search Secretary, Department of Natural Sciences, University of Michigan-Dearborn, Dearborn, Mich. 48128**. Review of applications will begin 2 January 1985. *A non-discriminatory, Affirmative Action Employer.*

NEUROSCIENCES UCR/UCLA PROGRAM IN BIOMEDICAL SCIENCES

The UCR/UCLA Program in Biomedical Sciences, which offers an accelerated M.D. curriculum jointly between the University of California, Riverside (UCR), and the University of California, Los Angeles (UCLA), School of Medicine, has a **tenure-track faculty opening** in the Division of Biomedical Sciences at UCR. The prospective level of appointment is assistant professor, although an exceptionally qualified candidate may be considered for appointment at higher rank. Primary teaching responsibilities will be in a 10-week course in neuroanatomy/neurophysiology taught to 24 first-year medical students. Prior medical school teaching experience is strongly preferred. Applicants should have postdoctoral research experience, and should be able to develop or continue a strong independent research program. The area of research is open. *The University of California is an Affirmative Action/Equal Opportunity Employer.* Applications, including curriculum vitae, bibliography, a statement of research goals, and the names of three references, should be sent to:

**Mary Ann Baker, Chair
Neurosciences Search Committee
Division of Biomedical Sciences
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MOLECULAR GENETICS FACULTY POSITION

The Department of Microbiology of the Boston University School of Medicine is seeking a molecular geneticist with an ongoing, funded research project and a strong commitment to education of students. Responsibilities will include graduate and medical student teaching in the area of microbial genetics. Research interests should involve animal viruses or the genetics of bacteria and bacteriophages. Faculty rank will be commensurate with experience. Applicants should provide curriculum vitae, a short description of their research, and the names of three scientists willing to write letters of recommendation. The position will become available 1 July 1985. For prompt consideration, please reply before 1 January 1985 to: **Paul H. Black, M.D., Chairman, Department of Microbiology, Boston University School of Medicine, 80 East Concord Street, Boston, Mass. 02118**.

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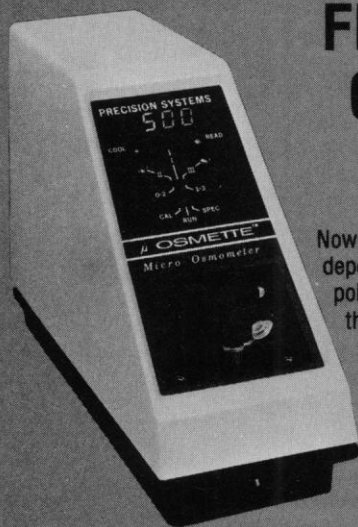
PARASITOLOGIST/IMMUNOLOGIST. Assistant professor, tenure-track position. Available fall 1985. Teach in area of specialty, direct graduate students, and maintain active research program. Postdoctoral experience desired. Salary commensurate with qualifications. By 1 May submit curriculum vitae, statement of research goals, and three letters of recommendation to: **Dr. Gary W. Childers, Chairman, Search Committee, Box 814, Southeastern Louisiana University, Hammond, La. 70402**. *Equal Opportunity Employer.*

PHARMACOLOGIST, BIOLOGIST, OR GENETICIST. The Agricultural Research Service, Berkeley, California, has a temporary, 1-year position in genetic toxicology to investigate micronuclei in peripheral blood erythrocytes as an indicator of *in vivo* chromosome breakage. Research will focus on: (i) automation of the detection of micronuclei, (ii) the fate of micronucleated cells in the peripheral circulation, and (iii) the utility of micronuclei as an index of chromosome breakage during chronic exposures in mammalian species. *This federal position is open to U.S. citizens only.* Salary: \$25,489 to \$30,549. For application procedures, telephone: **Rita Millard, at 301-344-3138**. *An Equal Opportunity Employer.*

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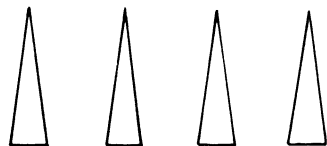
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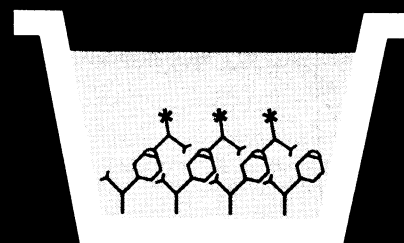
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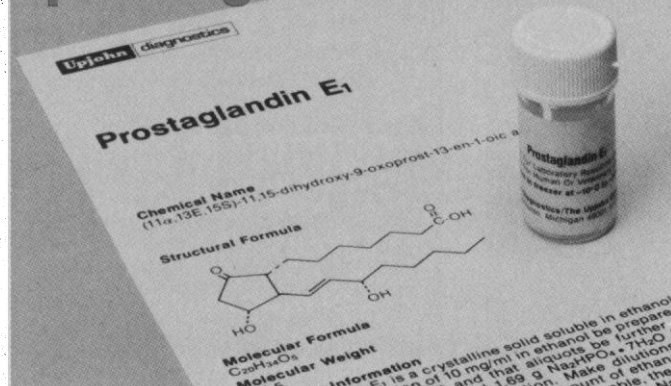
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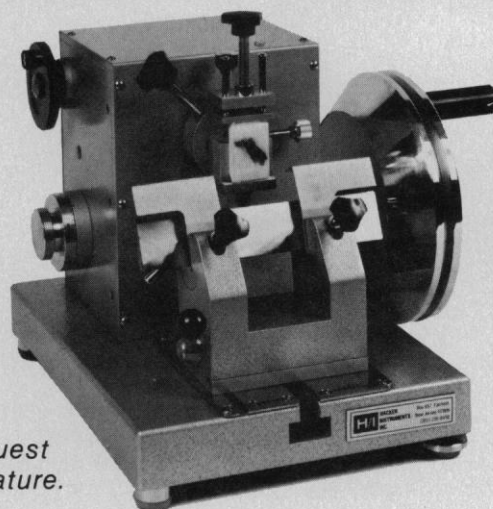
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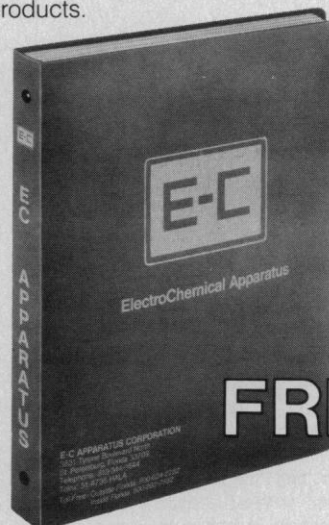
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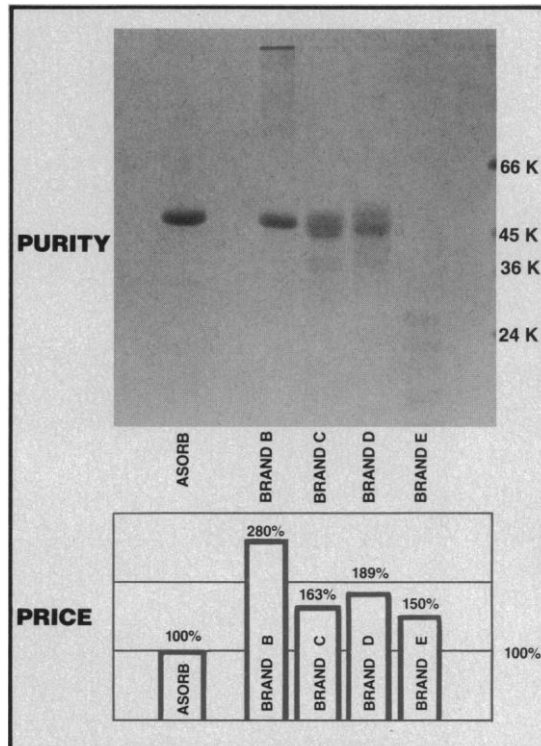
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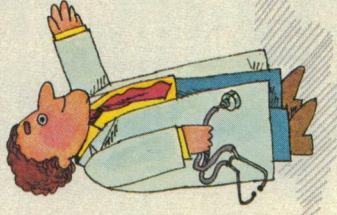
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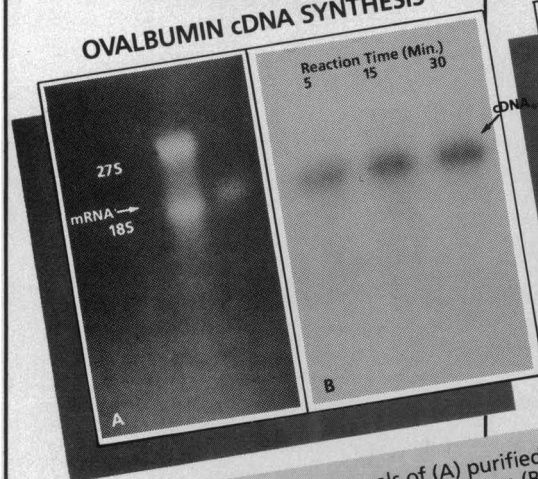
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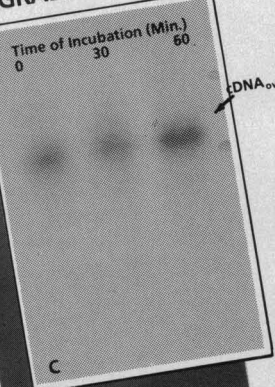
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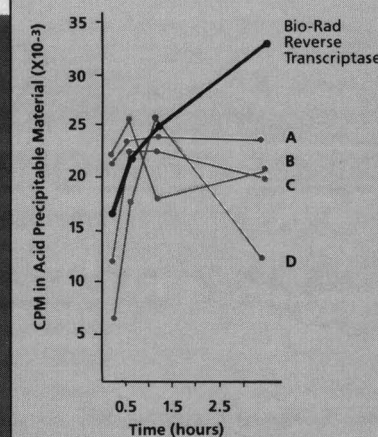
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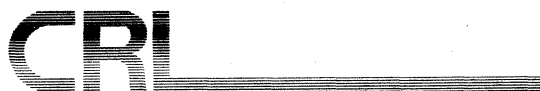
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Applications should include curriculum vitae and the names of three references and be submitted by 15 December 1984 to: **Dr. D. Robertshaw, Head, Department of Physiology and Biophysics, Colorado State University, Ft. Collins, Colorado 80523. Telephone: 303-491-6187.**

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Applications are invited for a tenure-track position beginning 15 August 1985. Ph.D. required; postdoctoral experience desirable. Candidates must have a specialty in **PHYSICAL CHEMISTRY OR PHYSICAL BIOCHEMISTRY**. Appointment will be at the level of assistant professor. Position involves teaching courses offered by Chemistry Department including, but not limited to, general chemistry and advanced undergraduate courses in area of expertise. Appointee is expected to conduct an active research program with the participation of qualified undergraduates. Other duties include student advising and participation on College committees. Applicants should send résumé, transcripts from all post-secondary institutions attended, a statement of professional objectives and research interests, and the names of at least three references to:

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POSITIONS OPEN

PHYSIOLOGISTS ENDOCRINOLOGY or NEUROBIOLOGY

The Department of Biological Sciences invites applications for two tenure-track assistant professorships, to begin September 1985; one in endocrinology, one in neurobiology. Appointees will be expected to participate in the department's programs in mammalian or comparative physiology. The neurobiologist will interact with the campus program in the neurosciences. Appointees are expected to establish vigorous research programs and to participate in training graduate and undergraduate students. Send curriculum vitae, research plans, and three letters of reference to: **Dr. S. K. Shapiro, Head, Department of Biological Sciences, University of Illinois at Chicago, Box 4348, Chicago, Ill. 60680.** Closing date: 14 December 1984. Final approval of these appointments is contingent upon expected budgetary allocation. *The University of Illinois at Chicago is an Equal Opportunity/Affirmative Action Employer.*

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PHYSIOLOGIST. A full-time position for a physiologist at the assistant professor level will be available beginning 1 September 1985 in the biology department of Coe College, a small liberal arts college. A Ph.D. or satisfactory progress toward its completion with teaching experience in human physiology and general physiology is desired. Other teaching responsibilities will include semester courses in human anatomy and kinesiology and human anatomy and physiology for nurses, physical education majors and general science students as well as assisting through laboratory supervision in the general biology course. Applicants should send curriculum vitae with emphasis on content of courses taught and evidence of laboratory expertise and have three letters of recommendation forwarded to: **Dr. J. Preston Cole, Vice President and Dean of the College, Coe College, Cedar Rapids, Iowa 52402.** The deadline for applications is 15 January 1985.

PLANT STRUCTURAL BIOLOGIST

The Department of Biological Sciences invites applications for a tenure-track assistant professorship, to begin September 1985. Preference will be given to candidates who use experimental approaches in their research program. Appointees will be expected to participate in training graduate and undergraduate students. Send curriculum vitae, research plans, and three letters of reference by 14 December 1984 to: **Dr. S. K. Shapiro, Head, Department of Biological Sciences, University of Illinois at Chicago, Box 4348, Chicago, Ill. 60680.** Final approval of these appointments is contingent upon expected budgetary allocation. *The University of Illinois at Chicago is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL ASSOCIATE: PLANT PHYSIOLOGY. The Environmental Biology Program at Boyce Thompson Institute (BTI) invites applications for a 3-year postdoctoral position in plant physiology/biochemistry. Project involves an examination of the consequences of exposure to acid rain, SO₂ and O₃ for guard cell metabolism. Submit letter of application, résumé, and names of three references to: **Dr. Ruth Alscher, Boyce Thompson Institute for Plant Research at Cornell University, Ithaca, N.Y. 14853.** *BTI is an Equal Opportunity/Affirmative Action Employer. Applications from women and minorities are encouraged.*

POSITIONS OPEN

POSTDOCTORAL FELLOW to participate in metabolic studies with isolated hepatocytes in 3-year project on the regulation of conventional and novel pathways for ammonia detoxification. Starts 1 February 1985 at \$19,000 per calendar year. Submit résumé, statement of research interests, and names of three references to: **Dr. George C. Tremblay, Department of Biochemistry and Biophysics, THE UNIVERSITY OF RHODE ISLAND, Kingston, R.I. 02881-0812.** *An Affirmative Action/Equal Opportunity Employer, M/F.*

POSTDOCTORAL POSITION

Available early 1985 to study the specificity of DNA mismatch repair in *Escherichia coli* using DNA sequencing and other molecular genetic techniques. Background in microbiology/genetics/molecular biology an advantage. Send curriculum vitae to: **Dr. M. G. Marinus, Department of Pharmacology, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, Mass. 01605.** *The University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS

Positions are available for research in the following areas: Cellular and molecular studies of resistance to anticancer agents; DNA damage and repair following combination chemotherapy or radiation-chemotherapy treatment, hyperthermia research; experimental chemotherapy, Phase I clinical pharmacokinetics, human tumor stem cell studies; and biochemical pharmacology of anticancer agents. Stipends are \$18,000 per year. Apply to: **Dr. Fred Valeriote, Division of Oncology, Department of Medicine, Wayne State University School of Medicine, P.O. Box 02188, Detroit, Mich. 48201.** *Wayne State University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available on NIH-sponsored project to investigate the mechanism of action of polypeptide growth factors. Successful applicant must have Ph.D. degree and proficiency in cell culture and molecular biochemical techniques. Experience in monoclonal antibody production is desirable. Candidate must be able to function independently. Please send résumé and the names of three references to: **Dr. R. W. Furlanetto, Division of Endocrinology, Children's Hospital of Philadelphia, 34th and Civic Center Boulevard, Philadelphia, Pa. 19104.**

POSTDOCTORAL POSITIONS in laboratory interested in transcriptional regulation of immune response (HLA class II) genes. Other interests include the nature of spontaneous mutations in somatic cells, gene mapping using somatic cell deletion mutants and cloned gene probes, and mapping of functional sites on HLA molecules. Experience in recombinant DNA methodology desirable. Send statement of interests and experience, curriculum vitae, and names of three references to: **Dr. Donald Pious, Department of Pediatrics and Genetics, RD-20, University of Washington, Seattle, Wash. 98195.**

POSTDOCTORAL POSITION available immediately to study phospholipid and arachidonic acid metabolism in hormonal regulation and inflammatory processes. Candidates should have a Ph.D. in biochemistry, molecular pharmacology, cell biology, or immunology. Send curriculum vitae and names of three references to: **Dr. Detlef Schlondorff, Department of Medicine, ALBERT EINSTEIN COLLEGE OF MEDICINE, 1300 Morris Park Avenue, Bronx, New York 10461.** *An Equal Opportunity Employer.*

POSTDOCTORAL POSITION available for the study of ribosome structure and function. Techniques in current use include electron microscopy, synthesis of oligonucleotide probes, and simple immunology. Experience in electron microscopy is helpful but not required. Send curriculum vitae and names of references to: **Dohn Glitz, Department of Biological Chemistry, University of California, Los Angeles, School of Medicine, Los Angeles, Calif. 90024.** *An Affirmative Action/Equal Opportunity Employer.*

A POSTDOCTORAL POSITION IN CYTOGENETICS is available to study chromosomal rearrangements and cellular oncogene alterations in human malignancies. Studies involve the use of high-resolution banding and *in situ* hybridization techniques. Previous experience in the analysis of banded chromosome preparations is required. Appointment is available for 2 to 3 years. Applicants should submit curriculum vitae to: **Dr. Joseph R. Testa, University of Maryland Cancer Center, Room 9-031, 655 West Baltimore Street, Baltimore, Md. 21201.**

National Institute of Environmental Health Sciences
National Institutes of Health
Public Health Service
Department of Health and Human Services

CHIEF

Laboratory of Behavioral and Neurological Toxicology

The National Institute of Environmental Health Sciences has an opening for Chief, Laboratory of Behavioral and Neurological Toxicology. Current research areas in the laboratory include: the biophysical and molecular properties of excitable cells; afferent and feedback mechanisms which influence neuronal plasticity; neurobehavioral mechanisms involved in plasticity and adaptive responses to environmental agents; peptides and their effects on biological systems; identification of vulnerable neuronal circuits by study of neurotransmitter translocations and enzyme analysis; and the functional roles of neurotransmitters and neuromodulators in CNS adaptation following chemical or physical insult. Duties of the Lab Chief include the scientific and administrative supervision of the laboratory research program and development of a research effort in the basic neurosciences.

This is a Civil Service career-conditional appointment under the Merit Pay System at the GS-15 level with a salary range from \$50,495 to \$65,642 per annum, depending on qualifications. Minimum educational requirements are a four year course of study in an accredited college or university leading to a bachelor's degree with major study in chemistry, psychology, biochemistry, or a related discipline and a doctorate in the specialty area. Applicants must have a demonstrable record of research achievement in molecular neurobiology or a related area. Some experience in research program planning and implementation is desirable. U.S. citizenship is required. (Candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.) This is a supervisory position and may require the incumbent to serve a one year probationary period.

Applications consisting of a Personal Qualifications Statement, SF-171 (available in all Federal Job Information Centers and Federal Personnel Offices), a curriculum vitae and names of three references should be submitted to the following address and postmarked not later than November 30, 1984:

Mr. Bruce Wiggins, Code: HN-V2K
National Institute of Environmental Health Sciences
P.O. Box 12233 (MD 1-01), Research Triangle Park, NC 27709
(919) 541-3317

An Equal Opportunity Employer

ELECTRON MICROSCOPIST

An Electron Microscopist Postdoctoral Research position is available to study the cell surface (SEM) and subcellular organelle changes (SEM) induced in glioma-derived tissue culture cell lines. The qualitative and quantitative *in vitro* effects of chemotherapy and differentiating agents are to be studied to assess mechanisms of action on nuclear and cytoplasmic constituents. Immunocytochemistry (monoclonal antibody labels) and cytochemistry of tissue culture cells is desirable.

Collaboration with immunologists, immunochemists and tumor biochemists is essential. Microcinematography, fluorescent microscopy, quantitative morphometrics, image analysis and processing and SEM-EDX (microanalysis) are tools available for further development to study the oncogenetic changes of brain tumors.

This position will be in the Surgical Neurology Branch, NINCDS, National Institutes of Health, Public Health Service. Salary range for this Staff Fellowship position is \$17,000-\$35,467 per year commensurate with experience. Send curriculum vitae and three references to: **Janet E. Follin, Personnel Department, NINCDS, National Institutes of Health, Building 31, Room 8A23, 9000 Rockville Pike, Bethesda, Maryland 20205. For more information, call Ms. Follin at (301) 496-6334.**

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SCIENCE

News Department Reprint Series

European Missile Deployment

No defense decision has so strained the Western alliance and awakened the average citizen to the risks of nuclear destruction as the decision made by NATO in 1979 to install new nuclear missiles in Western Europe. Although the initial phase of the deployment has been successfully carried out, it has left in its wake an unforeseen series of painful and potentially lasting military and political consequences.

In a compelling 4-part series in *Science*, R. Jeffrey Smith describes the genesis of the deployment decision, the course of arms negotiations that followed, and the choices that lie ahead for NATO—choices that may influence the direction of future U.S. military expenditures as well as the potential risk of a superpower conflict. This reprint collection is available now.

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SCIENCE

News Department Reprint Series

Artificial Intelligence

This collection of articles from *Science* by M. Mitchell Waldrop explores the newly emerging field of artificial intelligence, AI. What AI has really accomplished, where might it plausibly be expected to go, and what are its limits? In particular, the articles focus on the foundations of AI—the effort to understand the phenomenon of intelligence. Included are such topics as expert systems, natural language understanding, computer vision, and parallel processing. This series is available now.

Single copies \$2.00; twenty or more \$1.00 each.
Orders must be prepaid.

Write to AAAS, Dept. AI, 1515 Massachusetts Ave., N.W., Washington, D.C. 20005.

POSITIONS OPEN

POSTDOCTORAL POSITION available to study the lipid biochemistry and biophysics of leukocytes and platelets. Ph.D. with experience in phospholipid/fatty acids or M.D. with relevant basic research credentials. Position involves interactions with a large number of chemists, biochemists, cellular physiologists, and research oriented physicians. Send curriculum vitae to: **Dr. Joseph T. O'Flaherty, Department of Medicine, Bowman Gray School of Medicine, Winston-Salem, North Carolina 27103.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION for recent Ph.D. in biochemistry or pharmacology to study the transport of nucleosides and their cytotoxic analogs in neoplastic and normal cells. Send curriculum vitae, description of research experience, and names of three references to: **Judith A. Belt, Ph.D., Division of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, P.O. Box 318, Memphis, Tenn. 38101. An Equal Opportunity/Affirmative Action Institution.**

POSTDOCTORAL POSITION. Biomedical research scientist in oncology needed in leading research institution in the Philadelphia area. The successful candidate will be hired to perform experiments designed to elucidate the molecular mechanisms of oncogenesis in both human and animal models. Required qualifications include: M.D. degree, relevant postdoctoral experience, a strong background in endocrinology and in the biology of cancer, and expertise in molecular biology and recombinant DNA technology. Fluency in at least one foreign language strongly desired. Annual salary is \$18,000. Qualified applicants should submit curriculum vitae to: **THE PHILADELPHIA JOB BANK OFFICE, 444 North 3rd Street, Philadelphia, Pa. 19123.** Please refer to Order Number: 3706525. *An Equal Opportunity Employer.*

TWO POSTDOCTORAL POSITIONS available immediately: (i) To study cardiac electrophysiology in mammalian working hearts and tissue preparations using voltage-sensitive dyes. (ii) To do studies on Ca^{2+} release, membrane potential, and ionic fluxes across sarcoplasmic reticulum. Experiments will involve optical techniques, on-line computer assisted data analysis, and rapid scan spectroscopy. Send curriculum vitae and three letters of reference to: **Dr. Guy Salama, Department of Physiology, University of Pittsburgh School of Medicine, Pittsburgh, Pa. 15261.**

POSTDOCTORAL POSITION IN MOLECULAR IMMUNOGENETICS

Ph.D. or M.D. to study genetic and molecular mechanisms of histocompatibility linked disease susceptibility. Candidates with experience in recombinant DNA technology and molecular genetics preferred. Send curriculum vitae and names and addresses of three references to: **Dr. Frances E. Ward, Division of Immunology, Duke University Medical Center, P.O. Box 3010, Durham, North Carolina 27710. Duke University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION Regulation of Cell Growth

A position is available to join a group carrying out ongoing studies on the regulation of mammalian cell growth in culture. Candidates should have experience in either protein purification, preferably kinases and phosphatases, or in recombinant DNA techniques. The position will be initially for a period of 1 year and maybe extended for a period of up to 3 years. Depending on the candidate's postdoctoral experience, the salary will be between 45,000 and 55,000 SFrs. per year. All interested candidates should contact:

**Dr. George Thomas
Friedrich Miescher-Institut
Postfach 2543
CH-4002 Basel, Switzerland**

POSTDOCTORAL RESEARCH ASSOCIATE POSITION available immediately to conduct systematic studies of coordinate gene regulation in the developing wheat seed. Knowledge of recombinant DNA technology and molecular biology essential. This federal position is open to U.S. citizens only and is expected to last 2 years. Salary: \$25,489 to \$30,549. Send résumé and list of publications to: **Rita Millard, U.S. Department of Agriculture, ARS, Personnel Division, Building 003, Room 107, BARC-WEST, Beltsville, Maryland 20705, or telephone: 301-344-3138.** Applications accepted through 20 January 1985, or until filled. *An Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS CELLULAR IMMUNOLOGY

Associate scientist (postdoctoral) positions available after 1 December 1984. Laboratory research interests are in various aspects of murine T-cell immunology including the etiology and pathogenesis of graft-versus-host disease, experimental allergic encephalomyelitis, interferon effect on lymphocyte recirculation, and cell-mediated immunity to viral infections. Two positions are available from 1 to 3 years in duration. Salary is commensurate with qualifications and experience. Send curriculum vitae to either:

**Dr. Robert Korngold
or
Dr. Jack Bennink
The Wistar Institute
36th Street at Spruce
Philadelphia, Pa. 19104**

POSTDOCTORAL POSITION available immediately on 4-year NIH grant for structural/functional studies on the carbohydrate moieties of the lysosomal enzyme α -L-fucosidase. Experience in glycoconjugate structural analysis methodology preferred. Send résumé and names of three references to: **Dr. Jack Alhadeff, Department of Chemistry, Lehigh University, Bethlehem, Pa. 18015. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available 1 December 1984. For recent Ph.D. with molecular biology/protein chemistry background to investigate the function of adenovirus early proteins and their effect on eukaryotic cellular processes. Minimum starting salary of \$20,000. Send curriculum vitae and research interests to: **Dr. M. I. Harter, Department of Microbiology, University of Medicine and Dentistry of New Jersey, 100 Bergen Street, Newark, N.J. 07103; telephone: 201-456-5218. Equal Opportunity/Affirmative Action Employer, M/F/H/V.**

POSTDOCTORAL POSITION IN VISION RESEARCH, supported by a training grant from the National Eye Institute. This position will involve physiological studies of interactions between the retina and pigment epithelium (for example, intercellular movements of retinoids, and relationship to light/dark adaptation in the photoreceptors). Submit application letter, including curriculum vitae and the names of three references, by 21 December 1984 to: **Dr. David R. Pepperberg, Department of Ophthalmology, University of Illinois College of Medicine, 1855 West Taylor Street, Chicago, Ill. 60612.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION available immediately to study maternal effect genes in *Drosophila*. Project involves molecular analysis of genes and the temporal and spatial distribution of their products in the early embryo. Candidates should have prior experience in either molecular biology or *Drosophila* genetics. Send curriculum vitae and names of three references to: **Edwin C. Stephenson, Department of Biology, University of Rochester, Rochester, N.Y. 14627.**

POSTDOCTORAL POSITION. This position available immediately to investigate role of redox proteins in denitrification processes. Experience in protein purification and rapid kinetics spectroscopy is highly desirable. Send curriculum vitae and names of three references to: **W. J. Payne, Department of Microbiology, 814 Biological Sciences Building, University of Georgia, Athens, Ga. 30602.**

The University of Georgia is an Equal Opportunity/Affirmative Action Institution.

PROFESSOR OR ASSOCIATE PROFESSOR OF TOXICOLOGY/PHARMACOLOGY

The Department of Pharmacology, University of Tennessee Center for the Health Sciences, is inviting applications for a tenure-track position available immediately. The applicant should possess the Ph.D. or M.D. degree and should be an established scientist with demonstrated experience in the application of biochemical, molecular, and/or immunological knowledge in the study of basic toxicology problems. The applicant would be expected to maintain an active, independent research program and participate in undergraduate and graduate teaching. Please submit complete curriculum vitae and three letters of reference before 31 December 1984 to: **Dr. K. U. Malik, Chairman Ad Hoc Search Committee, Department of Pharmacology, University of Tennessee Center for the Health Sciences, Memphis, Tennessee 38163. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION in molecular biology and immunology of streptococcal diseases, available early 1985. Studies concern interactions of bacterial surface antigens with animal tissues. Experience preferred in recombinant DNA technology, protein chemistry, immunology, or bacterial physiology. Send résumé and three letters of reference to: **Dr. Murray W. Stinson, Department of Microbiology, Schools of Medicine and Dentistry, State University of New York at Buffalo, Buffalo, New York 14214. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION—Reproductive Biology Laboratory, Case Western Reserve University. Laboratory focused upon receptor binding, protein kinases and phosphorylation in placenta, myometrium, and amnion with correlation to hormone release and muscle contraction. Background in this area, experience with tissue culture and gel electrophoresis desirable. Salary: \$18,000 per year, minimum. By 1 January 1985, send curriculum vitae and three references to: **Dr. John J. Moore, Department of Pediatrics, Cleveland Metropolitan General Hospital, Cleveland, Ohio 44109. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION

Available immediately. Development of a bacterial assay to detect priority pollutants in water. Project is funded and research associate provided. Knowledge of bacterial genetics and organic chemistry highly desirable. Salary very competitive. Research will be through Louisiana State University Medical Center and the Louisiana Department of Health and Human Resources, Division of Laboratory Services. Send curriculum vitae and three letters of recommendation to: **Henry B. Bradford, Jr., Ph.D., Director, Division of Laboratory Services, 325 Loyola Avenue, Room 709, New Orleans, Louisiana 70112. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE. Available immediately for a biochemist and molecular biologist to study the role of two recently identified human intestinal tissue-specific glycoproteins in disease process; to develop and use the monoclonal antibodies against the proteins clinically and for cloning. Send résumé and names of three references to: **Dr. Kiron Das, M.D., Ph.D., ALBERT EINSTEIN COLLEGE OF MEDICINE, 1300 Morris Park Avenue, Bronx, New York 10461. An Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH OPPORTUNITIES.

Postdoctoral openings are available in the following areas: (i) Development and applications of ultra-high (0.01 Hz) resolution carbon-13 NMR; (ii) NMR studies of glycoproteins, glycopeptides, oligosaccharides, and polysaccharides; and (iii) NMR studies of nonenzymatic *in vivo* reactions pertinent to diabetes and aging. Send curriculum vitae and names of at least three references to: **Professor Adam Allerhand, Department of Chemistry, Indiana University, Bloomington, Ind. 47405. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

AGRIGENETICS CORPORATION POSTDOCTORAL RESEARCH APPOINTMENTS

The Advanced Research Division of Agrigenetics Corporation, at Madison, Wisconsin, has several positions available for 1 to 3 years in the areas of:

- 1) Transformation and regeneration of crop plants.
- 2) Molecular biology of viruses.
- 3) Protein chemistry.

A Ph.D. and relevant experience in one of these areas is required, and the successful candidate will work in one or more of the existing research programs utilizing molecular biological approaches to improve plant production. Agrigenetics Corporation is a broadly based plant science company contributing to America's agricultural productivity by supplying improved genetic material to plant breeders and producing and marketing seed from more than 50 crop species. The salary will be in the range of \$22,000 to \$25,000 annually.

Send résumé and names of three references by 15 December 1984 to: **Dr. John Ingle, Director, Agrigenetics Advanced Research Division, 5649 East Buckeye Road, Madison, Wis. 53716.**

Search Reopened and Deadline Extended to January 1, 1985

**PROFESSOR/DIRECTOR
DEPARTMENT OF ENVIRONMENTAL HEALTH
KETTERING LABORATORY
University of Cincinnati Medical Center
Cincinnati, Ohio 45267**

The University of Cincinnati invites nominations and applications for the position of Director, Department of Environmental Health.

Qualified candidates should have a terminal degree with documented scholarly accomplishments and demonstrated experience in the field. Candidates are expected to have a clear understanding of the national aspects of environmental health and to provide strong leadership for the Department. Administrative skills are a requirement, also.

The Department of Environmental Health at the University of Cincinnati is a multidisciplinary effort devoted to the study of problems of public health significance whose origins lie in man's physical, chemical or biological environment. The program encompasses a wide range of scientific endeavors. The major goal of the Department of Environmental Health and its research center is to enhance the understanding of environmental hazards affecting human health and components of man's ecosystem so that detrimental effects may be prevented and controlled. Specific activities include: a large basic research effort, training of scientific and professional personnel for research in the environmental health sciences, training of medical students and occupational medicine residents, and mission-oriented studies devoted to the management of environmental and clinical problems. Many of the Department's activities involve other units in the Medical Center, the College of Engineering, and Urban and National Communities.

Applicants trained in basic disciplines, such as: Chemistry, Immunology, Epidemiology, Genetics, Internal Medicine, Molecular Biology, Oncology, Pharmacology, Toxicology, and the like are encouraged to apply.

Salary will be commensurate with experience.

All nominations and applications, accompanied with a curriculum vitae, should be submitted by January 1, 1985, to:

**Search Committee for Director,
Environmental Health
Office of the Senior Vice President
for the Medical Center
University of Cincinnati Medical Center
Cincinnati, OH 45267-0555**



THE UNIVERSITY OF CINCINNATI IS AN EQUAL OPPORTUNITY EMPLOYER



The University
of
British Columbia

FACULTY OF AGRICULTURAL SCIENCES

DEAN

Applications and nominations are invited for the position of Dean of the Faculty of Agricultural Sciences, **effective July 1, 1985**. The Faculty includes seven departments (Agricultural Economics, Agricultural Mechanics, Animal Science, Food Science, Plant Science, Poultry Science, and Soil Science), with a total of 60 full-time faculty members and a large number of part-time faculty members. The Faculty offers the degrees of Bachelor of Science in Agriculture (current enrolment 300 students), Bachelor of Landscape Architecture (current enrolment 75 students), and the graduate degrees of Master of Science and Doctor of Philosophy (total of 150 graduate students). Bachelors and Masters degrees in Bio-Resource Engineering (B.A.Sc. and M.A.Sc.) are offered through the Department of Agricultural Mechanics.

The successful candidate must be recognized internationally in a field of research that enhances the activities of the Faculty and will provide research leadership for the Faculty. The Dean will have proven administrative ability and will be dedicated to excellence in teaching. In addition, the Dean must maintain active links with the professions represented in the Faculty, as well as with industry. The salary for this senior academic position is negotiable.

Applications and nominations should be directed to **Dr. Robert H. T. Smith, Vice President, Academic, The University of British Columbia, 6328 Memorial Road, Vancouver, British Columbia, V6T 2B3, no later than December 15, 1984**, and must include a curriculum vitae, a list of publications and the names of three referees.

In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. The University of British Columbia offers equal opportunity for employment to qualified female and male applicants.

BIOCHEMIST ADME

BOEHRINGER INGELHEIM Ltd., a highly respected and rapidly growing pharmaceutical company is currently seeking to add a qualified individual to its Research and Development staff.

The candidate we seek will perform in vivo studies on drug absorption, distribution and excretion. Skill in small animal surgery is essential. A Masters degree or equivalent experience in a biomedical discipline is desirable. Practical knowledge of analytical methods such as chromatography, scintillation counting, and statistics is preferred. The candidate will also assist in studies on drug absorption using various in vitro experimental models.

Our state-of-the-art research facility, combined with a congenial atmosphere and a highly competitive compensation/benefits package, including generous relocation assistance makes this an excellent opportunity for an individual interested in developing a career in pharmaceutical research.

Please send resume and salary history to: Dept. MAL, R&D, BOEHRINGER INGELHEIM Ltd., 90 East Ridge, P.O. Box 368, Ridgefield, Connecticut 06877. We are an equal opportunity employer m/f/h.



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POSITIONS OPEN

POSTDOCTORAL POSITION

Work with university research group on the study of single channels in artificial bilayers. Experience with channel electrophysiology is preferred and experience with bilayers is helpful. The project concerns the synthesis and characterization of ion channels which are linked to receptors and can be made to respond to specified agonists. The position is located at a major university in western New York and is available immediately. Salary: \$19,000 to \$23,000. Send curriculum vitae and references to: **Box 275, SCIENCE.**

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately to supervise Gastroenterology Research Laboratory. Current research focuses on biochemical basis of gastric acid secretion and cytoprotection. Research will involve application of NMR to isolated gastric cells. Ph.D. in biochemistry preferred. Salary is \$25,000 plus, based on qualifications, with excellent benefits funded by State University of New York. This position is potentially permanent. The deadline for receipt of résumé is 15 February 1985. Send curriculum vitae and names of three references and statement of research interest to: **Dr. Robert A. Levine, Department of Medicine, State University Hospital, 750 East Adams Street, Syracuse, New York 13210.**

PRODUCT MANAGER

We are interested in hiring a product manager to help us develop new instruments for the biological sciences; must be familiar with the needs of the biological scientist and must have prior experience in product development and in researching the market for new instruments. The product manager will be responsible for the detailed specification of a new product or products which will then be given to our engineering department to develop. This person will also be responsible for testing the new product in various stages of its development. If you are innovative and want to join a company that is progressive-minded and desirous of meeting the needs of the research scientist, then we are very interested in talking with you. Please send your résumé in absolute confidence or telephone collect: **Alex Meshbane, President, SAVANT INSTRUMENTS, INC., 221 Park Avenue, Hicksville, N.Y. 11801; telephone: 516-935-8774. An Equal Opportunity/Affirmative Action Employer.**

PROFESSOR AND DIRECTOR

**McDermott Center for Growth and Development
The University of Texas
Health Science Center at Dallas**

Applications are invited for the position of McDermott Professor and Director of the McDermott Center for Human Growth and Development. Candidates must have a doctorate in medicine or in a biomedical science. Candidates should have an outstanding record of research accomplishments and be dedicated to the provision of leadership in research and teaching in the field of human developmental biology. Nominations and applications will be received until the position is filled and should be addressed to: **Kern Wildenthal, M.D., Ph.D., Chairman of McDermott Center Search Committee, Southwestern Medical School, The University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235. An Equal Opportunity Employer.**

PROKARYOTE BIOLOGIST INDIANA UNIVERSITY, BLOOMINGTON

The Microbiology Program of the Department of Biology will appoint an assistant professor during the 1985-1986 academic year. We seek a microbiologist with interest in the general area of prokaryotic biology. Areas of research might include, but are not limited to, comparative physiology/biochemistry, biogeochemical ecology, molecular evolution, host-parasite interactions, or microbial development. The successful candidate will be expected to contribute to undergraduate and graduate teaching, to maintain a vigorous research program, and to interact with faculty and students in other departmental programs such as cell and molecular biology. Preference will be shown for candidates who have postdoctoral research and teaching experience. Applicants should submit curriculum vitae, a statement of research interests, and a set of recent publications, and arrange for at least three letters of reference to be sent to: **Dr. Norman Pace, Search Committee, Department of Biology, Indiana University, Bloomington, Ind. 47405.** Applications received before 15 January 1985 will be assured of consideration. *Indiana University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

PROFESSOR AND CHAIRMAN

The University of Louisville School of Medicine is seeking a chairperson for its Department of Anatomy. Applicants should have a Ph.D. or equivalent degree in anatomy or a related area, teaching experience in an anatomical discipline, administrative ability, and a vigorous program of scholarly research. In addition, candidates should have a history of major grant funding and experience in graduate education. The successful candidate will be eligible for an appointment as full professor with tenure.

Interested individuals should submit curriculum vitae to: **Clifford C. Kuhn, M.D., Acting Chairman, Department of Psychiatry and Behavioral Sciences, School of Medicine, University of Louisville, Louisville, Ky. 40292. The University of Louisville is an Affirmative Action/Equal Opportunity Employer.**

Deadline for applications is 1 February 1985.

SOUTHERN ILLINOIS UNIVERSITY (SIU) SCHOOL OF MEDICINE SPRINGFIELD, ILLINOIS

An expanding program of the Department of Psychiatry has created seven faculty positions for Board-eligible or Board-certified **PSYCHIATRISTS** who demonstrate an interest in clinical and research aspects of mental illness. Positions include Director of Outpatient Services, Division Chief of Child Psychiatry, Director of the Inpatient Schizophrenia Research Unit, two inpatient-service psychiatrists, Chief of the Consultation-Liaison Service, and a psychiatrist to direct gerontology and dementia research. A faculty position is also open in biochemistry research which may be filled by an M.D. or Ph.D.

Appointment level for these positions will be commensurate with qualifications. Both tenure and non-tenure-track positions are included. Some positions are currently open and available; other positions will be available in the near future or await funding approval for the next fiscal year.

Interested applicants should submit curriculum vitae and statement of clinical and research interests to: **Robert E. Becker, M.D., Professor and Chairman, Department of Psychiatry, SIU School of Medicine, P.O. Box 3926, Springfield, Ill. 62708. SIU is an Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSISTANT PROFESSOR. Applications requested for appointment to study developmental aspects of respiratory control physiology. Experience in vertebrate neurophysiology an asset. Applicants should possess Ph.D., have several years of relevant postdoctoral experience, and show creativity in research. Respond with curriculum vitae to: **Dr. Edward E. Lawson, Department of Pediatrics, University of North Carolina, Chapel Hill, N.C. 27514. Women and minorities are encouraged to apply. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE. Synthesize organic nitrogen compounds having near zero hydrogen content. Prepare high energy compounds as synthetic fuels. Investigate the generation and reactions of nitrocarbenes. Study the synthesis and decomposition of stable nitrolydes. Use analytical chemistry and appropriate research tools such as IR, UV, NMR spectrometers, and chromatographic techniques. Requires Ph.D. degree in chemistry. Must have sufficient knowledge to perform job described. Hours: 9 a.m. to 5 p.m., 40 hours per week at \$20,000 per year salary. University position. Please send résumé to:

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MAYO CLINIC ROCHESTER, MINNESOTA RESEARCH ASSOCIATE CELL BIOLOGY/PHARMACOLOGY

Applications are invited from scientists with a Ph.D. in cell biology, pharmacology, or related disciplines for a position as a research associate in the oncology research laboratory of Dr. Michael Lieber at the Mayo Clinic. Main focus of research is in the use of in vitro tumor cell model systems to identify new anticancer agents and in technical modifications to improve the culture of human tumor cells in vitro. Inquiries should be directed to: **Dr. Michael M. Lieber, Mayo Clinic, Rochester, Minn. 55905.**

POSITIONS OPEN

PROFESSOR OF MOLECULAR PLANT BIOLOGY, UNIVERSITY OF CALIFORNIA, BERKELEY (UCB), AND PROGRAM LEADER, SENIOR SCIENTIST, U.S. DEPARTMENT OF AGRICULTURE/UCB, PLANT GENE EXPRESSION CENTER

The University of California at Berkeley and the U.S. Department of Agriculture announce an unusual opportunity for a senior plant molecular biologist. The appointee will hold a regular tenured faculty appointment in the Division of Molecular Plant Biology and also serve as a senior scientist, program leader at the Plant Gene Expression Center. This individual will participate in the teaching program at the graduate and undergraduate levels and also provide scientific leadership for developing the research program of the new Center. Candidates should have an established reputation in plant molecular biology, a record of providing scientific leadership, and a commitment to teaching. Position available 1 July 1985.

Applicants should submit curriculum vitae, a bibliography, and the names of three references by 15 February 1985 to: **A. R. Weinhold, Acting Dean, College of Natural Resources, 101 Giannini Hall, University of California, Berkeley, Calif. 94720. The University of California is an Equal Opportunity/Affirmative Action Employer.**

Positions for research university graduates with a bachelor's degree in the biological sciences to do **RESEARCH** in the areas of **CELLULAR AND MOLECULAR BIOLOGY** with the W. Alton Jones Cell Science Center, for a period of 3 years. Salary ranges from \$8,000 to \$10,000, depending on experience. Send curriculum vitae to: **The Personnel Office, W. Alton Jones Cell Science Center, 10 Old Barn Road, Lake Placid, New York 12946. Refer to: Job SA-201. An Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE, position available immediately for 2 to 2½ years, to take part in the isolation of antibodies to enzymes which process substance P. A Ph.D. and experience in the production, assay, and purification of both monoclonal and polyclonal antibodies are required. Salary: \$20,000 to \$24,000, depending upon experience. Send curriculum vitae and three letters of reference before 1 February 1985 to: **Dr. Robert S. Lasher, Department of Anatomy, B111, University of Colorado Medical School, 4200 East Ninth Avenue, Denver, Colo. 80262. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH SCIENTIST

Position for a Ph.D. with training in lipoprotein biochemistry and tissue culture. Postdoctoral experience and strong research career interest necessary. Salary will be commensurate with experience and training. Please send curriculum vitae and names of three referees to: **Dr. S. Moorjani, Lipid Research Unit, Laval University Hospital Center, 2705 Boulevard Laurier, Sainte-Foy, Québec, Canada G1V 4G2. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and residents.**

NATIONAL SCIENCE FOUNDATION (NSF)

NSF is accepting Intergovernmental Personnel Act Mobility Program (IPA) nominations from colleges/universities, state and local government for an assignment as **RESEARCH SCIENTIST/POLICY ANALYST**, Productivity Improvement Research Section, Division of Industrial Science and Technological Innovation. This assignment is for approximately 2 years. The applicant should have a Ph.D. or equivalent experience, training preferably in economics, although we will consider applicants with training in other social and behavioral sciences who have significant training in economics. The applicant should also have experience participating in field research as part of an interdisciplinary team.

The individual selected for the assignment will remain an employee of his/her institution, which will be reimbursed by NSF for a portion of his/her salary and other costs related to the assignment. Nominations should be forwarded by the applicant's institution (not by the individual applicant) to: **The National Science Foundation, Personnel Administration Branch, Room 212, 1800 G Street NW, Washington, D.C. 20550. Attention: Catherine Handle. For further information, telephone: William Hetzner, Acting Section Head, at: 202-357-9804. Hearing-impaired individuals should telephone: 202-357-7492. NSF is an Equal Opportunity Employer.**

SCIENCE

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"There is no area in chemistry today more exciting than catalysis." [George Pimentel, chairman of the National Academy of Sciences/National Research Council Committee to Survey Opportunities in the Chemical Sciences]

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POSTDOCTORAL POSITIONS

Molecular Biology of Carcinogenesis and/or
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Battelle Columbus Laboratories, a world leader in contract research and development has an immediate need for post-doctoral candidates to work on one or more of the following: (a) molecular genetics of carcinogenesis and tumor-related peptide factors; (b) development of recombinant DNA and/or synthetic peptide vaccines for human and/or animal viruses; (c) biotransformation. For the first two positions, experience in animal cell culture, tumor cell biology or virology, peptide purification or synthesis, gene cloning/sequencing, and/or microcomputers is desirable. For the third position, applicants should possess a PhD in either Microbiology or Biochemistry and have a working knowledge of microbial physiology and biochemistry; experience in biotransformation is desirable. The successful candidate will conduct research directed toward novel biotransformations and the elucidation of transformation mechanisms.

The positions are one year initial appointments, potentially renewable, with the possibility of a permanent position with Battelle's multi-disciplinary, industrial contract research operations in biotechnology. Salary range will be \$18-24,000/yr. U.S. citizenship or permanent residency required. Interested individuals should send resume with reference to: **Estella E. Brown, Employment Department N-4.**



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SCIENCE

News Department Reprint Series

Tumor Viruses and Oncogenes

During the past 2 to 3 years interest in oncogenes—genes that can cause cells to become cancerous—has surged. A series of discoveries is providing important clues to the origins of cancer and to the normal mechanisms that regulate the growth and development of cells.

This collection of articles from *Science* by Jean L. Marx, Gina Kolata, and Roger Lewin covers many of those discoveries, including: Recent advances in understanding how oncogenes might work; the relation of oncogenes to naturally occurring growth factors; a description of the discovery of human T-cell leukemia virus—one of the best candidates for a viral cause of human cancer. This series is available now.

Single copies \$2.00, twenty or more \$1.00 each.
Orders must be prepaid.

Write to AAAS, Dept. TVO, 1515 Massachusetts Ave., N.W., Washington, D.C. 20005.

POSITIONS OPEN

STAFF FELLOW position available immediately to Ph.D. graduates to investigate oncogene-linked cell surface antigens using immunochemical and biochemical techniques. Applicants should have a strong background in gene transfer and recombinant DNA technology. Send résumé and three references to: **Jack A. Roth, M.D., Surgery Branch, National Cancer Institute, Building 10, Room 2B07, Bethesda, Md. 20205.**

Full-time **TEACHER** needed for a course in physical sciences given to first-year students under a General Education Program. The course is based on the nature of scientific knowledge. A minimum of a master's degree in science is required. Teaching experience is required and the candidate must be completely bilingual (English-Spanish). Send résumé and professional references to: **Professor Iván Bonilla, Chairman, Physical Sciences Department, Faculty of General Studies, University of Puerto Rico, Río Piedras Campus, Río Piedras, Puerto Rico 00931.**

TEACHING LABORATORY SUPERVISOR. Duties include working with faculty and supervision of GTA's in planning laboratory exercises, organizing teaching schedules, ordering supplies and equipment, and maintaining microbial culture collections. Applicants should have an M.S. degree in microbiology with experience in teaching, planning, and organizing laboratory courses. Salary: \$17,000 to \$17,500. Deadline for applications is 1 February 1985. Send résumé and two letters of reference to: **Dr. Raymond W. Beck, Department of Microbiology, University of Tennessee, Knoxville, Tenn. 37996. An Equal Opportunity/Affirmative Action Employer.**

VISUAL SCIENCES. Tenure-track, state-supported faculty position at the assistant professor level. Emphasis is on graduate teaching and independent high-quality research. Preferred specialties: membrane biophysics, neurotransmitters, ultrastructural studies. Other areas in visual sciences considered. Send curriculum vitae and names of two references within 30 days to: **H. G. Sperling, Ph.D., Sensory Sciences Center, The University of Texas Health Science Center at Houston, 6420 Lamar Fleming Avenue, Room 316, Houston, Texas 77030. An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.**

REQUEST FOR PREPROPOSALS

The U.S. Environmental Protection Agency (EPA), Environmental Research Laboratory, Corvallis, is seeking **PREPROPOSALS** for interdisciplinary research on terrestrial processes which contribute to, or mitigate, surface water acidification. The intent of this research is to develop integrated biogeochemical process studies at sites representative of areas sensitive to acidification, with the ultimate objective of characterizing geochemical, biological, and hydrologic processes (and their interactions) which control regional surface water response to acidic deposition. Research may be focused on watershed, plot, or greenhouse/laboratory scale projects; integrated process studies are strongly encouraged.

Written requests for information on proposal submission must be received by 7 December 1984, and should be forwarded to: **Dr. Raymond G. Wilhour, Chief, Air Pollution Effects Branch, U.S. EPA, 200 Southwest 35 Street, Corvallis, Oregon 97333.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP at the University of Chicago to conduct research in ecology, organismal biology, or evolutionary biology and to provide half-time assistance for three quarters in the design, coordination, and teaching of introductory biology laboratories. Twelve-month position beginning 1 September 1985; renewable for 1 year. Salary: \$18,000. Submit curriculum vitae, three letters of reference, a brief research proposal, and a letter which discusses your teaching interests and identifies a University of Chicago faculty sponsor for your proposed research. Applications should be sent before 1 February 1985 to:

**Postdoctoral Search Committee
Dr. Douglas W. Schemske
Department of Biology
The University of Chicago
5630 South Ingleside
Chicago, Illinois 60637**

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FELLOWSHIPS

POSTDOCTORAL RESEARCH FELLOWSHIP. A 2-year postdoctoral position is immediately available to study the mechanism of ethanol-induced hypertension. The appropriate applicant should be a recent Ph.D. in pharmacology or physiology with experience in electrophysiology. Send curriculum vitae and names and addresses of three references to: **Dr. W. R. Wooles, Department of Pharmacology, East Carolina University, Greenville, North Carolina 27834. An Affirmative Action/Equal Opportunity Employer.**

PREDOCTORAL FELLOWSHIPS IN MOLECULAR PHARMACOLOGY

Student fellowships are available for predoctoral study in the Pharmacology Graduate Program of the Grace Cancer Drug Center, Roswell Park Memorial Institute, a Graduate Division of the State University of New York at Buffalo. Stipends and tuition waivers are available for eligible students. The program offers diversified training related to the pharmacological and biochemical basis for drug action with emphasis on cancer therapeutics as related to: Inhibition or alteration of nucleic acid, protein and membrane components, cellular differentiation, cellular ultrastructure, oncogenes, drug resistance, pharmacokinetics and drug metabolism, medicinal chemistry, immunotherapy, mechanisms of carcinogenesis, toxicology, genetic basis for drug action, molecular pharmacology, endocrine pharmacology and metabolic regulators, hematology, preclinical and clinical pharmacology. U.S. citizens and permanent residents may send applications to:

**E. Mihich, M.D., Chairman
Graduate Pharmacology Program
Roswell Park Memorial Institute
666 Elm Street
Buffalo, N.Y. 14263**

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The Division of Geological and Planetary Sciences at the California Institute of Technology expects to offer **POSTDOCTORAL RESEARCH FELLOWSHIPS** in one or more of the following areas: geology, geophysics, geochemistry, and planetary science. Interested persons are asked to send their résumés to: **Dr. Peter Wyllie, Chairman, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, Calif. 91125. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH POSITIONS U.S. ARMY MEDICAL RESEARCH INSTITUTE OF INFECTIOUS DISEASES (USAMRIID)

POSTDOCTORAL FELLOWSHIPS administered by the National Research Council are available in 1985. Basic and applied research opportunities exist in the area of low molecular weight toxins of biological origin. Research areas available are on metabolism, basic toxicology at the whole animal to subcellular level, development of means of identification of toxins and metabolites and prophylaxis/therapy. Annual stipends for regular research associates begin at \$26,350 and are higher for senior research associates. For further information, contact: **David L. Bunner, M.D., Chief, Pathophysiology Division, USAMRIID, Fort Detrick, Frederick, Maryland 21701-5011, or telephone: 301-663-7181.** Obtain applications from: **National Research Council (JH608), 2101 Constitution Avenue, NW, Washington, D.C. 20418.** Deadline for application submission is 15 January 1985 for spring awards and 15 August 1985 for fall awards.

FELLOWSHIPS

National Research Council **POSTDOCTORAL FELLOWSHIPS** at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) to study bacterial toxins such as the *B. anthracis* calmodulin-dependent adenylate cyclase [PNAS 79, 3162; *Cell* 34, 693] (S. Leppla) and the effects of bacterial virulence factors, including toxins and capsules, on macrophage cell biology (A. Friedlander). Possible projects: (i) receptors and internalization mechanisms, (ii) biochemical lesions in toxin-treated cultured cells, (iii) functional and immunogenic domain analysis using monoclonal antibodies, (iv) regulation of toxin gene expression, (v) effect of virulence factors on endosome-phagosome-lysosome function, and (vi) macrophage processing of protein antigens. Annual stipend: \$26,350 minimum. Contact one of the above at: **Bacteriology Division, USAMRIID, Frederick, Md. 21701; telephone: 301-663-7341.** Obtain applications from: **National Research Council, JH 608-N4, 2101 Constitution Avenue, NW, Washington, D.C. 20418.** Deadline for application is 15 January 1985.

FELLOWSHIPS

GENETICS POSTDOCTORAL FELLOWSHIP, THE UNIVERSITY OF FLORIDA. Opportunity for M.D. and/or Ph.D. for predominantly clinical or research program. Research areas include isolation of genes for male sexual determination and fertility, linkage studies in human genetic diseases, pathogenesis of neural tube defects, and clinical genetics/cytogenetics. Send letter of inquiry and curriculum vitae to: **Dr. Harry Ostrer, Box J296, JHMH, Department of Pediatrics, Division of Genetics, University of Florida, Gainesville, Fla. 32610. The University of Florida is an Equal Opportunity/Affirmative Action Employer.**

PLANT BIOTECHNOLOGY PREDOCTORAL FELLOWSHIPS University of California, Riverside

U.S. Department of Agriculture—Agricultural Research Service Food and Agricultural Sciences National Needs Graduate Fellowship Program—The Department of Plant Pathology and the Department of Botany and Plant Sciences, University of California, Riverside, invite applications for **eight predoctoral fellowships** for study in the area of the application of biotechnology to improvement of crop disease resistance and management of plant pathogens. Applicants for the fellowships can be admitted to either department depending on specific research interests. Each fellowship is initially for 1 year, with an annual award of \$15,000, with expected annual reward. In addition, out-of-state tuition waivers will be made available. U.S. citizens with a B.S. and/or M.S. degree in any area of biological, microbiological, biochemical, or agricultural sciences are welcome to apply. Direct initial inquiries to: **Dr. John V. Leary, Department of Plant Pathology, University of California, Riverside, Calif. 92521.**


POSTDOCTORAL FELLOWSHIPS

The John D. and Catherine T. MacArthur Transition Network announces postdoctoral fellowships available July 1985 (limited predoctoral opportunities may also be available). Training is in a collaborative scientist mode and focuses on developmental issues from 1 to 3 years. Candidates should have an M.D. or Ph.D. Multiple sites for fellowships include institutions affiliated with the Network "nodes" in Colorado, New England, NIMH, San Diego, and Seattle. Stipends follow NRA schedule with additional benefits. For further details about each site and application instructions, write to: **Dr. Robert Emde, Network Chair, Box C268, University of Colorado Health Sciences Center, 4200 East 9 Avenue, Denver, Colo. 80262.** Application deadline: 15 January 1985. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH POSITIONS U.S. ARMY MEDICAL RESEARCH INSTITUTE OF INFECTIOUS DISEASES (USAMRIID)

POSTDOCTORAL FELLOWSHIPS administered by the National Research Council are available in 1985. Basic and applied research opportunities exist for airborne infections, rickettsial pathogenesis and molecular biology, mucosal immunity, bacterial toxins, endocrinology, bacterial pathogenesis, viral pathogenesis (including physiology), molecular arbovirology, entomology, cell biology/pharmacology, antiviral activity of immunopotentiating compounds, pathophysiology of toxemias and/or infectious diseases, and rapid detection and identification of microorganisms and naturally occurring toxins. Annual stipends for regular research associates begin at \$26,350 and are higher for senior research associates. For further information contact: **Robert W. Wannemacher, Jr., Ph.D., Senior Biochemist, USAMRIID, Fort Detrick, Frederick, Maryland 21701-5011, or telephone: 301-663-7181.** Obtain applications from: **The National Research Council (JH608-N4), 2101 Constitution Avenue, NW, Washington, D.C. 20418.** Deadline for application submission is 15 January 1985 for spring awards.

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THE U.S. ARMY MEDICAL RESEARCH ACQUISITION ACTIVITY IS ACCEPTING PROPOSALS FOR RESEARCH IN CARE OF THE COMBAT CASUALTY

DAMD17-85-R-0016

Studies to reduce morbidity and mortality from the consequences of battlefield trauma are sought. Program emphasis is on development of comprehensive medical treatment of battlefield casualties with particular application to *front-line* areas. Research areas of interest include:

Shock: Traumatic hypovolemia is the most frequent cause of death in severely injured soldiers. Means are requested to limit volume loss, to extend the interval between loss and replacement without permanently affecting organ function, to assess the role and value of different types of asanguinous fluid replacement and asanguinous oxygen-carrying fluids, to identify specific indications and limitations of oral resuscitation and to identify various pharmacologic agents which might be useful. While "septic" shock is not a frontline problem, in those soldiers who live to be evacuated sepsis can occur, and comprehensive means are required for early identification, prevention, and treatment of this problem to include immune system alteration, pharmacological stabilization, and assessment of microbial and host factors important in sepsis.

Organ Specific Response to Injury: The two most common acute problems resulting from severe trauma are the respiratory distress syndrome and acute renal failure. However, other systems of importance to recovery of the injured soldier are the hemopoietic systems, endocrine system, central nervous system, reticuloendothelial and immune systems, and gastrointestinal system. Means are required to identify, prevent, and treat early and late alterations in these systems which are detrimental to recovery.

Wound Management and Healing: The assessment of tissue viability from all types of battlefield trauma to guide surgical excision of necrotic tissue yet conserve all viable tissue and to limit tissue and function loss is imperfect and requires a solution. The role of inflammatory factors in both initial and secondary tissue reactions to injury and infection require clarification. Both topical and systemic hemostatic agents to reduce blood loss from wounds and topical or regional anesthetic agents which can be applied at the first echelon of medical care to reduce the secondary systemic stress of pain without aggravating tissue injury or increasing the risk of shock or infection need identification and development. The development of means to accelerate wound healing is a clear research goal. Management of specific organ injury such as cranio-cerebral, liver, kidney, etc. can be considered. The development of means to significantly accelerate wound healing and the development of tissue compatible wound dressings and tissue substitutes are clear research goals.

Metabolic Consequences of Injury: While of limited importance in front-line medical care, eventual recovery depends on effective cellular and organ metabolism. Research is sought in the area of post-injury hypermetabolism, the interaction of metabolic and hemodynamic mechanisms, and neurohormonal interactions resulting from all types of battlefield trauma. Organ specific metabolic effects of injury and infection must be studied in liver, muscle, heart, central nervous system, endocrine, and immune systems. Physiological and pharmacological adjustments that markedly reduce or "suspend" metabolic requirements post-injury are sought.

Blood: The role of blood and blood components in resuscitation is critical. However, the logistical burden of adequate supplies of blood is of great concern. Studies to extend the shelf life of all solid and liquid blood components, preferably in ambient temperatures, are required. For red cell preservation maintenance of normal ATP and normal or augmented DPG would have clear priority. The development of asanguinous reversible oxygen carriers which do not require an enhanced FIO_2 (other than Stroma-Free Hemoglobin) could be useful, especially if transport could be effected in lyophilized form for field reconstitution. Other blood-related areas are diagnostic and testing techniques useful in transfusion and innovative production and harvesting techniques for blood and components.

Proposals may be submitted for one or more of the above topics or a specific portion of one topic. A proposer may submit separate proposals on different topics or different proposals on the same topic.

In accordance with the Federal Acquisition Regulation (FAR), any contracts awarded under this solicitation may be of any type or combination of types which will promote the best interests of the Government. It is anticipated that multiple-year, incrementally-funded, level-of-effort type, cost reimbursement contracts will be awarded. Each increment will be approximately 12 months. Duration of the contract should be commensurate with the proposed scope of work but in no case shall exceed five years.

PROPOSAL PREPARATION INSTRUCTIONS AND REQUIREMENTS

Research proposals shall include a table of contents and should cover the points cited below, insofar as they are applicable.

- Name and Address of Organization.** At least one copy must carry the original signatures of an official authorized to legally bind the organization.
- Title of Proposed Research.**
- Description of Proposed Research.** Submit a detailed description of the research objectives, hypothesis, approach, methods, relationship to the state of knowledge in the field and to comparable work in progress elsewhere, military significance, previous relevant experience, bibliography and pertinent literature citations.
- Research Involving Human Subjects.** USAMRDC policies governing the use of human subjects parallel those contained in 45 CFR 46, 21 CFR 312, and DoD Instruction 3216.2. Submit a copy of completed Form HHS 596 with the proposal.

e. **Research Involving Animals.** Acknowledgement that conduct and reporting of the studies shall adhere to the "Guide for the Care and Use of Laboratory Animals" ((NIH) 78-23, 1978) must be included.

f. **Personnel.** Qualifications of the principal investigator and other senior professional personnel and the time each will devote to the research.

This information, to the extent that it is information about an individual, is subject to the requirements of the Privacy Act of 1974 (5 USC 552(a)). The principal purpose and routine use of the information are for the evaluation of the qualifications of those persons who will perform the research. Disclosure of the information is voluntary, but failure to provide such will prevent evaluation of the proposal.

g. **Facilities and Equipment Available.**

h. **Cost Estimate.** An estimate of the total research project cost with a breakdown of funds by category (direct labor cost, indirect cost, property or equipment cost, travel cost, publication cost, consultant cost, other direct costs, fee or profit) by year must accompany each proposal and must be submitted on SF 1411 with complete supporting information. This must be separate from the technical proposal.

Every effort will be made to protect the confidentiality of the proposal and any evaluations. The submitter may mark the proposal with a legend such as that provided in FAR 52.215-12. Proposals containing a more restrictive legend shall not be considered.

Unnecessarily elaborate brochures or presentations beyond that sufficient to present a complete and effective proposal are not desired.

Any proposal received after the exact time specified for submission of proposals will not be considered unless the circumstances described in FAR 52.215.10 apply.

CONSIDERATIONS

Reports. Quarterly, annual and final progress reports shall be required in accordance with the schedule of any resultant contract. Reprints of any publications resulting from sponsored research shall also be provided to the USAMRDC.

Contract Provisions. Contracts awarded shall contain, where appropriate, detailed special provisions concerning patent rights, rights in technical data and computer software, reporting requirements, equal employment opportunity, care of laboratory animals, use of human subjects, good laboratory practices requirements, acquisition and disposition of equipment, and other requirements. Contracts shall also incorporate all general provisions required by the FAR and DODFAR.

METHOD OF SELECTION AND EVALUATION CRITERIA

Proposals will be evaluated first on their relevance to military and program requirements. Those found to be relevant will then be evaluated on a competitive basis by a collective discussion conducted by review committees composed of scientists knowledgeable in the topic area. Scientific acceptability will be determined by using the criteria listed below:

- Research Objective.** Is it clear, valid and logical?
- Scientific Feasibility.** Are the plans, methods and procedures feasible, clear, valid, adequately referenced, and state-of-the-art?
- Investigator Competence.** Has the investigator demonstrated the scientific and administrative capability to effectively conduct the proposed research?
- Safety Considerations.** Is the investigator cognizant of the requirements for and capable of working with any hazardous materials involved? Has the organization agreed to allow storage and use of such materials in this facility?
- Animal Use/Human Use Consideration.** Are the studies, in which animal models or human subjects to be used, to be conducted in accordance with all appropriate regulations? Are all necessary assurances of compliance and certificates provided? (NOTE: Failure to adequately document compliance will prevent evaluation of the proposal.)

After determination of scientific acceptability, an internal source evaluation board will convene and determination of the competitive range will be established by priority of program requirements, scientific acceptability, and cost to complete the contract. Although cost will be a factor in selection, program relevance and scientific acceptability will be more significant factors in selection for contract award. However, the proposed cost must be realistic and reasonable to be selected for contract award. The government may elect to fund several or none of the proposed approaches to the same topic. There is no commitment by the government to make any awards on any topic, to make a specific number of awards, or to be responsible for any monies expended by the proposer before award of a contract. It should be noted that only a duly appointed Contracting Officer has the authority to enter into a contract on behalf of the U.S. Government.

SUBMISSION OF PROPOSALS

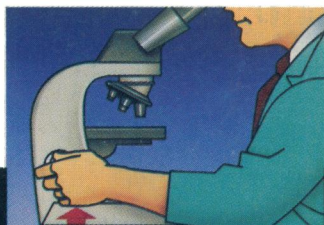
The original and fifteen copies of the complete proposal are required for review and evaluation. Proposals must be received by 4:00 p.m. (EST) on 31 January 1985.

Address:

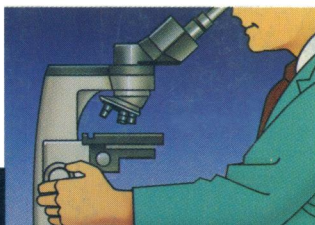
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