

laboratories to which I returned and the new Churchill College in which I stayed are lasting monuments to the efforts that Todd has made on behalf of Cambridge.

Todd is a man of great charm, with a strong interest in other people. Much of this comes through in his book, which is populated with the leading figures of modern chemistry and many friends and associates. This is largely an account of Todd's professional life, however, and in only a few cases is there much personal characterization of the people involved.

In addition to insights into a fascinating career, the author leaves us with some advice of general value to all scientists. On choosing a research field, he suggests that young scientists look for one that is important, that has scope, and in which they will be the principal contributors to the literature. With respect to government support of science, he writes, "In science, the best is infinitely more important than the second best;—a country which ignores or forgets it does so at its peril." The career of Alexander Todd indicates that these principles have indeed guided his life.

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Paleoindian Assemblages

The Agate Basin Site. A Record of the Paleoindian Occupation of the Northwestern High Plains. GEORGE C. FRISON and DENNIS J. STANFORD. Academic Press, New York, 1982. xx, 404 pp., illus. \$74.50. Studies in Archaeology.

Frison and Stanford have done us the great service of bringing the scattered archeological data from a classic Paleoindian locality together with a series of environmental and specialist studies and making the collection available in publication. The Agate Basin "site" is actually a series of Paleoindian activity loci that have been investigated over the years by numerous individuals, beginning with F. H. H. Roberts in 1941. The most recent work by the University of Wyoming and the Smithsonian Institution led up to the present compilation.

The Agate Basin site taken together comprises a classic stratified sequence of Paleoindian occupations, including Clovis, Folsom, Agate Basin, and Hell Gap components. The monograph is primarily a descriptive and analytic presentation of the archeology of these components

and the paleo-environmental-contextual studies associated with them. In addition to the straightforward description of the components and their artifactual content, there are very useful chapters on flaked stone technology and typology by Bruce Bradley, on the production of the famous Folsom point by Bradley and Frison, and on the bone tool assemblage by Frison and Carolyn Craig. Of considerable interest is the detailed technological-typologic similarity between the Folsom and Agate Basin components. The study of Paleoindian core preparation and lithic reduction techniques is particularly useful. One could have wished for a more detailed, more sensitive, or more relevant analysis of the unifacial flake tools than that based on the adoption of Bordes's 1961 *Typologie de Paléolithique Ancien et Moyen*. The experimental reconstruction of the Folsom fluting technique is ingenious and, since it reproduces the evidence exactly, seems highly probable. Of interest is the inference that, since fluting seems to serve no obvious function and is difficult and wasteful of material, it may have had a socio-ceremonial function.

The "anthropologically" oriented portions of the volume focus on the reconstruction of specific Paleoindian activity sets. Of particular value are Frison's analyses and inferences on bison procurement strategies. From the character of the bison dentition and other evidence, he believes that the Clovis hunts may have taken place in the spring, whereas those of the Folsom, Agate Basin, and Hell Gap components represent large-scale communal activities occurring in the winter. In a comparison of the topographic situation at Agate Basin with that at other well-known early kill sites, he concludes that entrapment of bison herds involved a skillful use of a combination of natural and human obstacles. The disposition of the bison remains suggests regularized meat-processing activities and the piling of meat into frozen storage caches. The specific character of the activities represented seems to reflect primarily meat processing rather than actual "kill sites." Bradley's lithic studies document weapon and other tool production and repair. Together the evidence suggests short-term specialized occupation.

The ancillary studies in paleontology (Zeimens, Frison, and Walker), geology (Albanese), soil development (Reider), vegetation (Marlow), pollen (Beiswanger), phytoliths (Lewis), and gastropods (Evanoff) are all competent and add considerably to the general utility of the

volume. The series of soil studies for inferring paleoenvironmental conditions are particularly useful and tend to confirm other reconstructions of late-Pleistocene-early-Holocene climatic conditions for the High Plains.

Frison and Stanford conclude with a summary section and a culture-historical perspective on the relations between the assemblages. As a whole the volume constitutes a very valuable and welcome addition to the literature on the Paleoindian occupation of western North America.

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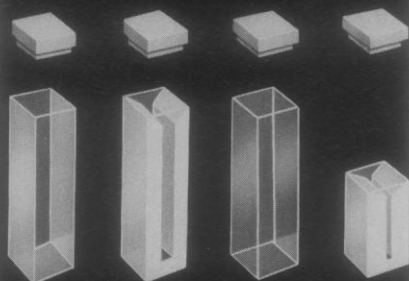
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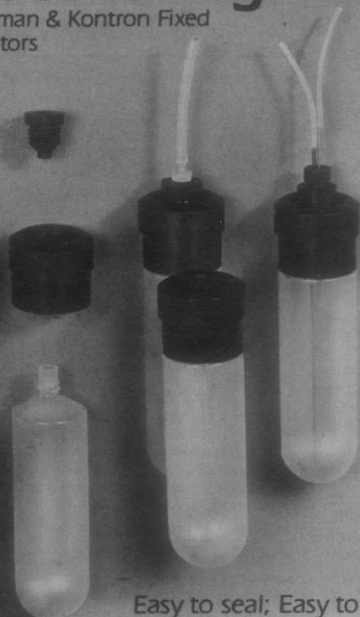
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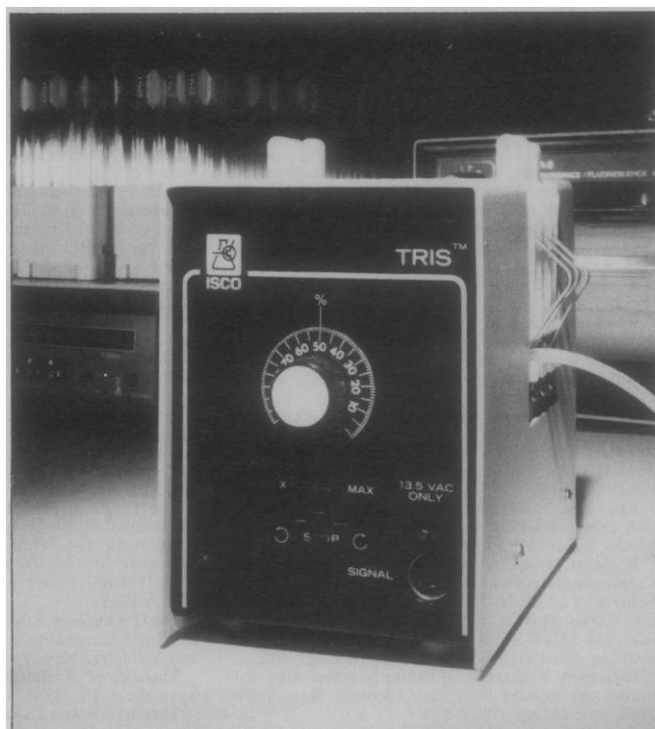
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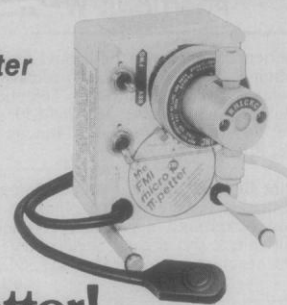
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ANIMAL BEHAVIOR/PSYCHOBIOLOGY. One-year replacement position to teach introduction to animal behavior and a second course in the fall, and animal behavior laboratory and a second course in spring. Research opportunities in developmental psychobiology, neuroanatomy, single cell recording, and psychopharmacology. Send curriculum vitae, references, and publications to: P. C. Brunjes, Department of Psychology, 102 Gilmer Hall, University of Virginia, Charlottesville, Va. 22901.

ASSISTANT IN CARDIOLOGY (research)—Conduct research on the molecular genetics of mammalian contractile apparatus with emphasis on the myosin multigene family.

Requirements include Ph.D. in biochemistry; 3 years of postdoctoral research experience, including at least 1 year of experience in the molecular biology of contractile systems of higher vertebrates; and thorough knowledge of recombinant DNA techniques such as cDNA cloning, construction of genomic libraries, RNA and DNA sequence analysis, in vitro transcription, and expression of cloned genes in muscle cells.

Salary: \$20,000 per year; 40 hours per week.

Send résumé only to: Robert Willis, Job Order Number 4416, Division of Employment Security, Hurley Building, Government Center, Boston, Mass. 02114. An Equal Opportunity Employer, M/F.

ASSISTANT PROFESSOR—Tenure-track position in Anatomy Department. Candidates should have a Ph.D. with postdoctoral research experience and ability to obtain extramural grant support. Research interest in cell biology desired, especially in areas such as membrane structure and function, cell adhesion, cytoskeleton, and extracellular matrix. Individuals will participate in teaching in one of the areas of anatomy. Superb research facilities available in new building. Send curriculum vitae, brief statement of research interests, and names of three references by 30 June to:

Gary E. Wise, Ph.D.
Chairman, Department of Anatomy
Texas College of Osteopathic Medicine
Camp Bowie at Montgomery
Fort Worth, Texas 76107-2690

An Equal Opportunity/Affirmative Action Employer

The Department of Anatomy, Michigan State University, invites applications for a full-time tenure-track **ASSISTANT PROFESSOR** position available fall 1984. Applicants must have postdoctoral experience in some area of cell biology or neurobiology and display strong funding and research potential. Applicants will participate in the department's gross anatomy teaching program. Salary commensurate with qualifications. Send curriculum vitae, reprints, and names of three references by 31 July 1984 to: Dr. Duke Tanaka, Chairperson, Search Committee, Department of Anatomy, A514 East Fee Hall, Michigan State University, East Lansing, Mich. 48824. HM498. An Affirmative Action/Equal Opportunity Institution.

POSITIONS OPEN

The Smithsonian Institution seeks an **ASSISTANT DIRECTOR** for the National Museum of Natural History. The museum maintains the largest scientific reference collections in the nation, serving as the repository for collections of objects of natural history, archeology, and ethnology. As one of the world's major centers in the natural sciences, it conducts scholarly scientific research and develops and presents exhibits that display the earth's history and geology and the evolution and diversity of the earth's biota and cultural systems. Qualifications: scholarly attainment in a field of the sciences represented in the museum (that is, anthropology, botany, entomology, geology, paleobiology, or zoology); and demonstrated administrative and managerial ability. Send application, including a completed Standard Form 171, curriculum vitae, and bibliography, by 31 July 1984 to: Personnel Office, Smithsonian Institution, Washington, D.C. 20560; attention: MPA-EX-01-84. An Equal Opportunity Employer.

ASSISTANT PROFESSOR OF ANATOMY.

Two tenure-track positions available. Excellent opportunity for person enthusiastic about teaching and research. Send résumé to: Lloyd Guth, Anatomy, University of Maryland School of Medicine, Baltimore, Maryland 21201.

BROWN UNIVERSITY ASSISTANT PROFESSOR NEUROANATOMY/NEUROPHYSIOLOGY

The Division of Biology and Medicine of Brown University is seeking a neuroanatomist or neurophysiologist, with a research interest in the vertebrate visual system, for a tenure-track position at the rank of assistant professor. An M.D., Ph.D., or equivalent degree and at least 2 years of postdoctoral experience are required. The successful candidate is expected to participate in the teaching of neuroanatomy or neurophysiology to medical, graduate, and undergraduate students and to develop an independent, externally supported research program. Undergraduate advising is a regular obligation of members of the faculty. This appointment will begin on or about 1 July 1985.

Please send curriculum vitae, a description of research plans and career objectives, and the names of three references before 15 August 1984 to: Dr. James T. McIlwain, Section of Neurobiology, Box G, Brown University, Providence, Rhode Island 02912. We encourage applications from women and minority candidates. Brown University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF PATHOLOGY

The Department of Pathology, Yale University School of Medicine, seeks applicants for a position at the assistant professor level. The candidate will be expected to spend full time in research in the regulation of the immune response, with relatively small commitments to teaching. The applicant should have a Ph.D. and/or M.D. degree, plus at least 3 years of postdoctoral research experience and a proven record of productivity in the analysis of cells and molecules that regulate the immune response. Closing date for receipt of applications is 30 June 1984. Please send complete curriculum vitae, at least two letters of reference, and a statement of future research plans to:

Dr. Charles A. Janeway, Jr.
Chief, Division of Immunology
Department of Pathology
Yale University School of Medicine
New Haven, Connecticut 06510-8023

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR—POULTRY PRODUCTS TECHNOLOGY

Ph.D. in area of further processing. Background in biochemistry, chemistry, microbiology, and/or computer science is required. Position involves both undergraduate and graduate teaching (25 percent), and product research (75 percent).

Applicants must be capable of a research and grants program, publishing in scientific journals, and communicating with Texas poultry industry. Send résumé, transcript bibliography, and reference support to: Dr. F. A. Gardner, Department of Poultry Science, Texas A&M University, College Station, Texas 77843-2472.

Texas A&M University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR OF MARINE BIOLOGY—An exciting opportunity to develop/teach marine science courses for undergraduates. Ph.D. in marine biology preferred with training in marine pollution, physiology, or aquaculture. Applicants should also have necessary interest to provide marine science training for minority students. Position includes excellent opportunity for summer research employment at a National Marine Laboratory. Position available August 1984; nontenure-track with opportunity for annual renewal depending on continued funding. Salary commensurate with qualifications. Send curriculum vitae, transcripts (unofficial), and three letters of recommendation to: Dr. J. H. Arrington, Chairman, Department of Natural Sciences, South Carolina State College, Orangeburg, S.C. 29117. Closing date for applications is 29 June 1984.

South Carolina State College is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR OF PHARMACOLOGY

The Department of Pharmacology at Tulane University School of Medicine invites applications for a tenure-track faculty position at the assistant professor level. Applicants should have at least 2 years of postdoctoral training and hold the Ph.D. and/or M.D. degree(s). They should exhibit potential for developing a strong independent research program in the area of renal pharmacology, toxicology, cardiovascular, or hematopharmacology. Excellence in teaching medical and graduate students is expected. Applicants should send curriculum vitae, list of publications, a brief statement of research interests, and at least three names of references to: James W. Fisher, Ph.D., Professor and Chairman, Department of Pharmacology, Tulane University School of Medicine, 1430 Tulane Avenue, New Orleans, La. 70112. Applications should be received by 1 September 1984 and the position is expected to begin by 1 January 1985.

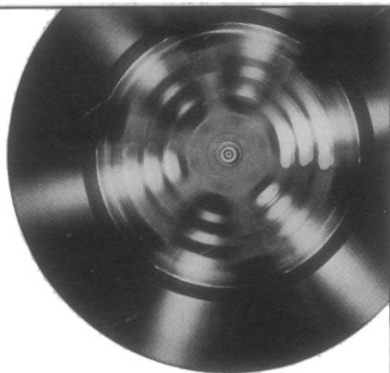
Tulane University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF RESEARCH OPHTHALMOLOGY. The University of Southern California (USC) School of Medicine, Department of Ophthalmology, is seeking a biochemist, medical chemist, or pharmacologist. The individual should have at least two postdoctoral years of training. Applicants must have a strong commitment in chemistry or pharmacology research with publications and work as an independent investigator. Salary and academic rank are commensurate with experience. Send curriculum vitae and supporting materials to: Stephen J. Ryan, M.D., Chairman, Ophthalmology, USC School of Medicine, Doheny Eye Foundation, 1355 San Pablo Street, Los Angeles, Calif. 90033. Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR OF RESEARCH OPHTHALMOLOGY—IMMUNOLOGY. The University of Southern California School (USC) of Medicine, Department of Ophthalmology, is seeking an immunologist. The individual should have at least 3 years of postdoctoral training. Applicants must have experience as an independent investigator and publications. Salary and academic rank are commensurate with experience. Send curriculum vitae and supporting materials to: Stephen J. Ryan, M.D., Chairman, Ophthalmology, USC School of Medicine, Doheny Eye Foundation, 1355 San Pablo Street, Los Angeles, Calif. 90033. Affirmative Action/Equal Opportunity Employer.

AUDIO-TUTORIAL COORDINATOR for the laboratory portion of freshman biology. Master's degree in an appropriate field is required. Previous biology teaching experience and both experience and training in audio-tutorial instruction are desirable. Duties include: (i) designing, in cooperation with faculty, instructional units, including audio-visual materials, (ii) coordination of preparation of each week's examinations and experiments, (iii) supervision of teaching assistants and hourly personnel, (iv) ordering of class materials, and (v) teaching of some laboratory sections. The two laboratory classes to be coordinated have a combined enrollment of nearly 1000 students per semester. Preferred starting date is 1 August 1984, but no later than 1 September 1984. Submit curriculum vitae (with telephone number) and have three letters of recommendation sent to: Dr. William H. Reid, Chairman, Biological Sciences, University of Texas at El Paso, El Paso, Texas 79968. Salary: \$15,792 (increasing to \$16,260 on 1 September 1984) for 12 months. Closing date for applications is 1 July 1984. The University is an Equal Opportunity/Affirmative Action employer.

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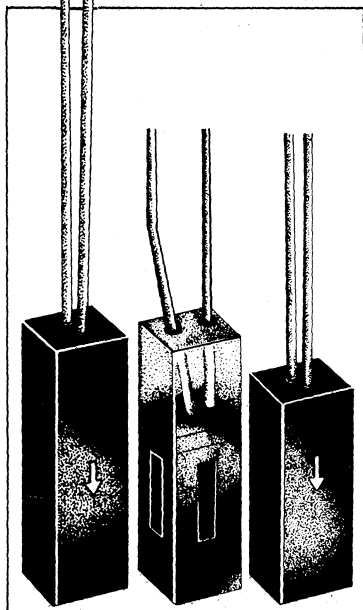
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ABN DNA Synthesis Grade Reagents, the first functional standard of performance for DNA synthesis reagents.

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All reagents are conveniently packaged to be compatible with commercially available DNA synthesizers.
- **The ABN Warranty**
ABN Reagents are fully warranted for use in all automated DNA synthesizers.

Take the worry out of every new lot of reagents you receive. Take the sensible option, DNA Synthesis Grade Reagents...only from ABN.



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Street Address _____
City/State/Zip _____
Telephone (_____) _____

DNA Synthesis Method Used

Phosphoramidite

- ☐ Manual
☐ Automated
☐ Machine Used:
☐ Applied Biosystems
☐ Systec
☐ Beckman
☐ Other _____

Phosphotriester

- ☐ Manual
☐ Automated
☐ Machine Used:
☐ Biosearch
☐ Vega
☐ Systec
☐ Other _____

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AUSTRALIAN INSTITUTE OF MARINE SCIENCE

DIRECTOR

The Australian Institute of Marine Science is a Statutory Body established by Act of Parliament in 1972. The main functions of the Institute are:

- to carry out research in marine science;
- to arrange for the carrying out of research in marine science by any other institution or person;
- to co-operate with the other institutions and persons in carrying out research in marine science;
- to provide any other institution or person with facilities for carrying out research in marine science or otherwise assist any other institution or person in carrying out research in marine science;
- to collect and disseminate information relating to marine science, and in particular to publish reports, periodicals and other papers relating to marine science.

Under the general direction of a Council, the Institute is managed by a Director who holds office for a period not exceeding seven years, although he or she is eligible for re-appointment. The present Director will complete his seventh year in office on August 22, 1985, and expressions of interest in appointment to that position are now sought.

The Institute's headquarters are in a modern and well-equipped laboratory complex in pristine waterfront surroundings 55 km by road from the city of Townsville in North Queensland. The complex itself occupies a floor area of 10,000m² on several levels and incorporates a major library, computer facility, electronic and mechanical workshops and extensive laboratory space with comprehensive scientific instrumentation. In its position facing the Coral Sea, the Institute also has docking for its research vessels which include the 24.4 m R/V Lady Basten, the 13.66 m R/V Sirius, the 21 m R/V Harry Messel, on long term charter, and a number of smaller craft. A fully-equipped dive locker and recompression chamber service the needs of research underwater.

The present staff is 104 full time and 10 part time appointees including 20 research scientists. There are at present five multi-disciplinary programs addressed to coastal wetlands, nearshore physical processes and productivity, coral reef metabolism, coral reef ecology and the physical, chemical and biological processes associated with the shelf and adjacent seas, particularly but not entirely of the Great Barrier Reef. The major thrust of current research is in the environment of the Australian marine tropics.

Considerable emphasis is placed on interaction and collaboration with individuals and research organizations with complementary interests, both within Australia and overseas. The Institute has close and formal affiliations in research with James Cook University in Townsville. For interaction with collaborators further afield, the Institute maintains six fully self-contained cottages and six bachelor apartments, all on site. The accommodations also enable the Institute to host frequent workshops and symposia.

The Institute is fully committed to research. Although its functions do not include teaching, it regularly provides facilities for research by graduate students and it operates its own post-doctoral award scheme to augment in-house research activities.

Qualifications

The office of the Director is one of considerable seniority and responsibility. The successful appointee must have well-recognized academic qualifications and a demonstrable, and firmly established and active international reputation in some field or fields of marine science. Candidates must also have a broad grasp of marine research, and understanding of and enthusiasm for multidisciplinary activity and a depth of understanding and experience in research management in all its aspects including interaction with the agencies of Government. Enquiries in the first instance may be made by writing in confidence to the address given below. Formal applications should include documentation of professional experience and achievement (c.v.) and the names of not more than 5 referees. Applications must be dispatched no later than **September 1, 1984**.

Dr John L. Farrands, CB, FTS
Chairman
Australian Institute of Marine Science
P.M.B. No. 3
Townsville Mail Centre
Queensland 4810
Australia

DNAX Research Institute

Staff Scientist

DNAX Research Institute seeks a molecular biologist to lead a small gene expression group that will emphasize expression in *E. coli*. This group will be the newest of the superbly equipped state-of-the-art technical groups at DNAX.

Applicants should have a PhD degree in molecular biology or biochemistry. In addition, they should have demonstrated skills in recombinant DNA technology and experience with systematic approaches to achieving gene expression in *E. coli*. Preference will be given to applicants who have industrial experience.

The successful candidate will be encouraged to undertake independent research consistent with an interest in gene expression.

DNAX Research Institute, located adjacent to Stanford University in Palo Alto, California, has established a strong program focused on basic research in the areas of molecular biology and immunology. The DNAX research staff provides a stimulating work environment for the dedicated scientist. DNAX encourages free exchange of information with members of the scientific community here and abroad.

Applicants should send a current curriculum vitae, list of publications, and the names of three references to Barbara Harley, DNAX Research Institute, 1450 Page Mill Road, Palo Alto, CA 94304. An equal opportunity employer m/f/h.

POSITIONS OPEN

ASSISTANT PROFESSOR OF PHARMACOLOGY

Two tenure-track positions available. Applicants should have a Ph.D. in pharmacology, appropriate postdoctoral training, teaching abilities, and demonstrated excellence in research. CNS pharmacology background desired. Submit curriculum vitae, names of three references, and a brief statement of teaching and research interests by 15 July 1984 to: Dr. Martin D. Schechter, Chairman, Department of Pharmacology, c/o Office of the Provost, Northeastern Ohio Universities College of Medicine, Rootstown, Ohio 44272. An Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF PSYCHOLOGY

Biopsychologist, Ph.D. Two-year, nontenure-track appointment with possibility of renewal. Prefer persons willing to collaborate in ongoing project assessing prenatal drug effects. Teaching: two courses per semester. Send curriculum vitae, three letters of recommendation, statement of research interest, and evidence of prior teaching experience by 15 July 1984 to: E. Riley, Psychology Department, State University of New York at Albany (SUNYA), 1400 Washington Avenue, Albany, N.Y. 12222. SUNYA is an Equal Opportunity/Affirmative Action Employer. Applications from minority persons, women, handicapped persons, and Vietnam-era veterans are especially welcome.

UNIVERSITY OF HAWAII AT MANOA HONOLULU, HAWAII (96822)

The Kewalo Marine Laboratory of the Pacific Biomedical Research Center is seeking an **ASSOCIATE RESEARCHER** for its program in molecular, cell, and developmental biology of marine invertebrates. A Ph.D. degree in an appropriate discipline with postdoctoral research experience in molecular genetics relating to cell and developmental biology is required. Demonstrated excellence in research is the prime consideration; work in the area of recombinant DNA related to motility and cytoskeletal systems would be most congruent with the research interests of the current faculty. A departmental affiliation is possible at the associate professor level and is dependent upon departmental acceptance and the candidate assuming some teaching responsibilities. This is a tenure-track position and is subject to position clearance. Address inquiries or submit curriculum vitae and names of three referees to: Dr. R. E. Kane, Associate Director, Pacific Biomedical Research Center, Kewalo Marine Laboratory, 41 Ahui Street, Honolulu, Hawaii 96813. Closing date: 9 July 1984.

BIOLOGICAL BASIS OF BEHAVIOR: The Department of Psychology at Yale University expects to make a **TENURED APPOINTMENT** at either the professor or associate professor level in the general area of psychobiology. While applications are invited from all outstanding individuals whose specialization is within the broadest definition of the biological basis of behavior, special consideration will be given to those candidates whose research is of clear relevance to health psychology (for example, concerning the psychobiology of stress, the determinants of addictive behavior, or psychoneuroimmunology). The person appointed must have an exceptional international reputation in research and be able to contribute effectively to the undergraduate and graduate teaching programs of the university. *Yale University is an Equal Opportunity/Affirmative Action Employer, and applications from women and members of minority groups are especially encouraged.* Applicants should send a letter of application, a résumé, and one copy of selected publications, and should arrange for three letters of recommendation to be sent to: Professor Thomas J. Carew, Chair, Biological Search Committee, Department of Psychology, Yale University Box 11A, New Haven, Conn. 06520. Applications should be submitted by 1 December 1984.

CELL BIOLOGIST

The Department of Obstetrics/Gynecology at Brigham and Women's Hospital, Boston, Massachusetts, is seeking a Ph.D. experienced in embryology or cell biology for the Human In Vitro Fertilization Clinical and Research Laboratory. Responsibilities include all aspects of human oocyte culture and fertilization. Selected candidate will be expected to combine research with clinical work. Salary and academic rank dependent on experience and qualifications. Direct résumés to:

Department of Obstetrics/Gynecology
Dr. Dan Tulchinsky
Brigham and Women's Hospital
75 Francis Street
Boston, Mass. 02115

POSITIONS OPEN

DEPARTMENT OF BIOLOGY

Applications are invited for a regular full-time assistant professor position in comparative micro-anatomy effective 1 July 1985 subject to final budgetary approval. Candidates are expected to have a Ph.D., preferably with postdoctoral experience. While the Biology Department is receptive to applicants from a wide range of backgrounds in zoology, preference will be given to a candidate whose interests complement those of present faculty and who would make substantial use of our electron microscope facilities. The successful applicant would be expected to develop a vigorous research program and to supervise graduate students. Participation in appropriate cellular, animal histology, and animal developmental undergraduate courses would be expected. The assistant professor salary floor is \$26,465. Applicants should submit, not later than 31 July 1984, curriculum vitae and personal statement of teaching and research interests, and arrange to have three letters of recommendation sent to:

Dr. J. E. McInerney, Chairman
Department of Biology
University of Victoria

Victoria, British Columbia, Canada V8W 2Y2

Canadian immigration regulations now require the University to assess applications from Canadian citizens and permanent residents of Canada before assessing applications from other persons. *The University of Victoria offers Equal Employment Opportunities to qualified male and female applicants.*

BIOLOGY DEPARTMENT: Kutztown University announces a full-time, tenure-track faculty position available beginning fall 1984. Ph.D. ecologist/aquatic biologist. Three years; full-time college teaching experience required. Rank and salary negotiable. Send résumé, three letters of reference, and official transcripts to: **Professor Albert F. Answini, Chairperson of Search Committee, Biology Department, Kutztown University, Kutztown, Pa. 19530.** Last date for receiving complete applications is 29 June 1984. *Kutztown University is an Affirmative Action/Equal Opportunity Employer and actively solicits application from qualified black candidates.*

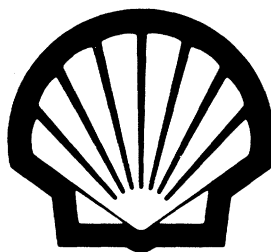
CELL BIOLOGIST wanted to perform independent research as part of a group of biochemists, molecular biologists, and cell biologists interested in the general area of hormone action and male reproduction. Tissue culture experience and 2 to 4 years of postdoctoral training preferred. Excellent support available. M.D., D.V.M., Ph.D., or equivalent postdoctoral degree.

Salary will depend on qualifications and experience. Send résumés to: **Dr. Wayne Bardin, The Population Council, Center for Biomedical Research, Tower Building, 1230 York Avenue, New York, New York 10021.** *An Equal Opportunity Employer.*

CHEMISTRY—Full-time faculty position available starting August 1984. Responsibilities include lecture and laboratory instruction in introductory chemistry; an integrated, interdisciplinary science course, and possibly quantitative analysis. Ph.D. or equivalent required. Rank negotiable according to experience. Commitment to excellence in undergraduate teaching is essential. Send résumé, undergraduate and graduate transcripts, and references immediately to: **Dr. Anne Swanson, Physical Science Department, Edgewood College, 855 Woodrow Street, Madison, Wis. 53711.** *Equal Opportunity Employer, M/F/V/H.* Madison is a center of educational, professional, cultural, and recreational opportunities.

DIRECTOR, DIVISION OF CARDIOLOGY PROFESSOR/ASSOCIATE PROFESSOR THE UNIVERSITY OF VERMONT

Full-time academic appointment in medicine with responsibility for leading, planning, and organizing the commitment of personnel and resources for the division. This experienced cardiologist is expected to teach students, house staff, and postdoctoral fellows and must have demonstrated success in independent research which continues to be active. Interested applicants must have ABIM-certification and Board-eligibility in cardiology. Training and experience for senior faculty rank, excellence in teaching and health care delivery, the ability to conduct fundable research, and demonstrated administrative ability are essential. Send curriculum vitae and inquiries by 1 August 1984 to: **John C. Hoak, M.D., Professor and Chairman, Department of Medicine, Fletcher House, Medical Center Hospital of Vermont, Burlington, Vt. 05401.** *The University of Vermont is an Affirmative Action Employer. Women and minorities are encouraged to apply.*



POSITIONS IN TOXICOLOGY RESEARCH

The following positions are available in Toxicology Research at Shell Development Company.

Genetic Toxicology

Required: PhD in genetics or related field and experience with mammalian or whole animal systems. This is an entry-level laboratory position. The person will function as a study director in the design, conduct and interpretation of experiments, and will be involved in evaluation of genetic toxicology data and program development to access the genotoxicity of selected chemicals.

Experimental Toxicology

Required: PhD in toxicology or pharmacology. Training or experience in neurotoxicology or the neurosciences is preferred. This is an entry-level laboratory position. The person will function as a study director in the laboratory in the design, conduct and interpretation of experiments and in the evaluation of existing toxicological information.

Products/Processes Toxicology

Required: PhD in toxicology or pharmacology. This is an entry-level position. The person will be located in head office and will interact principally with Head Office-Health, Safety and Environment, the business centers and the laboratory staff. Responsibilities include interpreting toxicology data on selected products (detergents, plastics, and selected oil products), evaluating the toxicologic effect of manufacturing processes, and representing Shell at specific trade associations.

Nucleic Acid Biochemistry

Required: PhD in biochemistry, molecular biology or related field with research experience in nucleic acid biochemistry. This is a two-year postdoctoral position. The person will work on a project to determine the extent of interaction of cellular nucleic acids (exposed in vivo and in vitro) with chemicals of interest to Shell.

Pharmacokinetics

Required: PhD in biochemistry or related field with research experience in pharmacokinetics. This is a two-year postdoctoral position. The person will work on a project to determine the pharmacokinetics of chemicals of interest to Shell. Systems used will include in vivo (rodent) and in vitro models.

The positions, located in Houston at Shell's Westhollow Research Center, offer competitive salary and excellent benefits.

Applicants should be U.S. citizens or have permanent resident visa. Interested applicants should send a résumé, in confidence, to: Research Recruitment, Shell Development Company, P.O. Box 1380, Houston, Texas 77001.

Shell Development Company

An Equal Opportunity Employer M/F

POSITIONS OPEN

CHAIRPERSON DEPARTMENT OF ANATOMY

Applications and nominations are invited for the position of **professor and chairperson**, Department of Anatomy, University of South Carolina (USC) School of Medicine, Columbia, South Carolina. Candidates should have a record of scholarly activity, including excellence in teaching, preferably in gross anatomy, active research interests, and administrative and leadership skills. Applications and nominations will be accepted until 30 June 1984. Please submit to: **O'Neill Barrett, Jr., M.D., Chairman, Anatomy Search Committee, USC School of Medicine, c/o Richland Memorial Hospital, ACC Number 2, Columbia, S.C. 29203. An Equal Opportunity/Affirmative Action Employer.**

DIRECTOR—PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

The University of Nevada, Reno, invites applications for a position as director of a newly established graduate program in cellular and molecular biology. Candidates must hold the Ph.D. degree or equivalent, have at least 5 years of experience in academic teaching and/or research, and have an outstanding record of accomplishment in teaching and research in an area of science relevant to cellular or molecular biology.

The director will be responsible for building, developing, and administering a joint program in cellular and molecular biology in the Colleges of Agriculture, Arts and Science, and Medicine at the University of Nevada, Reno.

Send curriculum vitae and three references by 15 July 1984 to: **Thomas R. Kozel, Ph.D., Professor and Chairman of Microbiology, School of Medicine, University of Nevada, Reno, Reno, Nev. 89557. Search will be extended if suitable candidate is not found.**

Affirmative Action/Equal Opportunity Employer

DIRECTOR GOODWIN INSTITUTE FOR CANCER RESEARCH

Applications are invited for the position of director. This chief executive scientist, reporting to a Board of Trustees, is responsible for the development of research programs, supervision of operations, and governmental and industrial relations associated with grants, contracts, and fund raising. The director is encouraged to conduct personal research.

The Institute, chartered in 1959 as a private, non-profit medical research corporation, moved into 30,000 square feet of new, well-equipped laboratories in 1980. The building also houses a Primary Genetic Center for specific pathogen-free rodents operated under contract with the National Cancer Institute. Current staff numbers 40 persons and annual budget is \$2 million.

Candidates should have a Ph.D., D.V.M., or M.D. and be qualified to apply current biotechnology to studies of the molecular nature of experimental cancer induction, growth, and control. Administrative experience is essential, publications and acquired support are desirable, and imagination is useful.

Apply to: **Search Committee, Goodwin Institute for Cancer Research, 1850 Northwest 69 Avenue, Plantation, Fla. 33313.**

FACULTY POSITIONS IN PHARMACOLOGY

The Department of Pharmacology, University of Missouri-Columbia, invites applications for two tenure-track positions at the assistant professor rank beginning 1 September 1984. Under unusual circumstances, appointment at a more senior level may be considered. Candidates must have a Ph.D. or M.D. degree with two or more years of postdoctoral research experience, preferably in a Department of Pharmacology. Applications are encouraged from, but not limited to, those who have experience in the following branches of pharmacology: cardiovascular, chemotherapy, drug metabolism, endocrine, cellular, neuro- and renal pharmacology. Candidates will be evaluated on the basis of research and teaching potential. Successful candidates will be expected to obtain extramural research funding and participate in the teaching of medical and graduate students. Please send a brief description of research plans, curriculum vitae, and the names of three references by 1 July 1984 to: **Dr. Hyun Dju Kim, Professor and Chairman, Department of Pharmacology, University of Missouri-Columbia, School of Medicine, M517B Medical Sciences Building, Columbia, Mo. 65212.**

POSITIONS OPEN

ENTOMOLOGIST: Tenure-track assistant professor, 100 percent extension. About 40 percent insect management on peanuts, 40 percent on turf, and 20 percent on forages and feed grains. Train agents, prepare appropriate literature, provide leadership for cooperative IPM programs in peanuts and turf. Ph.D. in entomology or related field required. Experience in applied entomology, field crops and/or turf preferred. Send résumé, transcripts, Ph.D. thesis summary, reprints, and names of three references by 15 July 1984 to: **Ronald J. Kuhr, Department of Entomology, Box 7613, North Carolina State University, Raleigh, N.C. 27695. North Carolina State University is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITIONS IN BIOMEDICAL ENGINEERING, BOSTON UNIVERSITY COLLEGE OF ENGINEERING. At the assistant/associate/full professor levels in expanding Department of Biomedical Engineering for September 1984 or January 1985. Applicants should have an earned doctorate, be committed to quality teaching at both undergraduate and graduate levels, and have the desire to develop strong research programs. Collaboration with the Boston University School of Medicine or other engineering departments may be facilitated through a joint faculty appointment. Candidates with backgrounds in image processing, computer science, chemical engineering, mechanical design, electronics, computer engineering, biomechanics and materials, or robotics are especially welcome. Opportunities for part-time (adjunct) faculty positions and for collaborative arrangements with nearby institutions involved in biomedical research and development are also available. Candidates should send résumé, list of publications, names and addresses of five references, and a brief statement of teaching and research interests to: **Dr. Eugene Smithberg, Chairman, Engineering Search Committee, College of Engineering, Boston University, 110 Cummington Street, Boston, Mass. 02215. Boston University is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION

MOLECULAR GENETICIST

The Division of Clinical Immunology and Rheumatology is inviting applications for a tenure-track position at the assistant/associate professor level. A strong commitment to research excellence will be the main criterion of selection. Training in molecular biology is required and research interests in the areas of immunology or mechanisms of inflammation preferred. Candidates must have demonstrated research ability and will be expected to establish a strong independent research program. Preference will be given to candidate holding an M.D. degree. Opportunities for participating in graduate programs of basic science departments are available. Curriculum vitae, a statement of research goals and interests, and names of three referees should be sent by 1 August 1984 to: **John E. Volanakis, M.D., Molecular Geneticist Search Committee, Division of Clinical Immunology and Rheumatology, University of Alabama in Birmingham, Birmingham, Alabama 35294. An Equal Opportunity/Affirmative Action Employer.**

GENETICIST. Assistant professor, currently a 1-year position to begin 25 August 1984. To teach general genetics, freshman biology, and advanced course of choice. Should be familiar with Apple-type microcomputers. Ph.D. is required; teaching experience preferred. Send letter stating teaching and research interests, curriculum vitae, reprints, and letters from three references before 13 July 1984 to: **Dr. Richard V. Anderson, Chair, Geneticist Search Committee, Department of Biological Sciences, Western Illinois University (WIU), Macomb, Ill. 61455. WIU is an Affirmative Action/Equal Opportunities Employer.**

GROWTH FACTOR RESEARCH PROGRAM. Several positions available immediately to study the role of polypeptide growth factors in estrogen-responsive tumor growth. Areas of study include purification of tumor cell growth factors from human and other sources, production of monoclonal antibodies to the factors and receptors, growth factor processing and cell surface mechanism of action, molecular biology of growth factor action, and cloning of growth factor genes. Strong biochemical and molecular biology backgrounds preferred. Salary: \$20,000 to \$24,000, depending on experience. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. David A. Sirbasku, Department of Biochemistry and Molecular Biology, The University of Texas Medical School, P.O. Box 20708, Houston, Texas 77225. An Equal Opportunity Employer. Women and minorities are encouraged to apply.**

POSITIONS OPEN

FACULTY POSITIONS IN CYTOGENETICS/ MOLECULAR AND CELL BIOLOGY

Applications are invited for tenure-track faculty appointments in one or more of the following areas: **CYTOGENETICS** in lymphoma-leukemia research; **IMMUNOBIOLOGY** emphasizing hybridoma methodology in cancer research; and **MOLECULAR BIOLOGY** in genetic aspects of neoplasia. Applicants with Ph.D. and/or M.D. and postdoctoral experience should be capable of developing an independent research program and will participate in training graduate students and fellows. Appointments will be at assistant professor level, although the cytogeneticist position may be at a higher level. Applicants should send curriculum vitae, date of availability, and names of three references by 1 September 1984 to: **Dr. Pradip Roy-Burman, Chairman, Search Committee, University of Southern California School of Medicine, Department of Pathology, HMR 204, 2025 Zonal Avenue, Los Angeles, California 90033. An Equal Opportunity/Affirmative Action Employer.**

Tenure-track **FACULTY POSITIONS** in biochemistry, organic chemistry, and analytical chemistry in the Department of Chemistry, Clarkson University. Area, rank, and starting date open. Applications are invited from persons with distinguished research records or, in the case of junior persons, with potential for outstanding research. Excellent teaching skills are required. Nominations are also welcome. Send résumé and names of references to: **Professor Egon Matijevic, Chairman, Department of Chemistry, Clarkson University, Potsdam, N.Y. 13676. Affirmative Action/Equal Opportunity Employer.**

FACULTY POSITION IN HEALTH POLICY: Applications are invited for appointment as assistant/associate/full professor of health policy in the School of Public Health, University of California, Berkeley, beginning fall 1985. Responsibilities include teaching and research in health policy and planning and in providing guidance and consultation in the faculty in this important area. Qualifications include a doctoral degree in an appropriate area such as economics, medicine, political science, sociology, public administration, or public health and relevant experience in either direct conduct of or research in health policy and/or planning. Salary negotiable within the professorial series. Send curriculum vitae and names of references to: **David Starkweather, Dr.P.H., Search Committee, School of Public Health, University of California, Berkeley, Calif. 94720, by 6 September 1984.**

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

IMMUNOLOGIST

We seek an immunologist to join our research group. Our interests are in pulmonary immunology. The candidate should have a record of research productivity. The candidate will interact with three other investigators. We offer a faculty position at The Medical College of Wisconsin, 1000 square feet of research space, and 2 years of support. We are housed at a VA Medical Center which offers additional benefits. Contact: **Dr. N. J. Calvanico, Research Service/151, VA Medical Center, Wood, Wisconsin 53193. An Equal Opportunity Employer.**

NATIONAL SCIENCE FOUNDATION (NSF) International Science and Technology Analyst

NSF is recruiting an **International Science and Technology Analyst** for the Division of Science Resources Studies, to develop and analyze quantitative information on inputs, outputs, and impacts of Japanese science and technology (S&T). The position may be filled by appointment in the General Schedule (Announcement Number 84-82 S) or Excepted Service (Announcement Number EX 84-51 S) at grade 11, 12, or 13 (\$25,366 to \$36,152 per annum). Advanced degree (or equivalent experience) in a field of international studies, economics, science and technology policy, Japanese area studies, natural science, or engineering is required. Familiarity with Japanese organization of S&T; research, analytical, and technical writing skills as well as a penchant for quantitative analysis are required. Must be able to speak and read in Japanese. In applying, by 29 June 1984, refer to the above announcement number and submit a Standard Form 171, Personal Qualifications Statement, and performance appraisal and/or letters of recommendation to: **National Science Foundation, Personnel Administration Branch, 1800 G Street, NW, Room 212, Washington, D.C. 20550; attention: Odessa G. White. For further information, telephone: 202-357-7840. Hearing-impaired individuals should call: TDD 202-357-7492. NSF is an Equal Opportunity Employer.**

**EDWARD HOOD TAPLIN PROFESSOR
OF MEDICAL ENGINEERING
Harvard-MIT Division of Health Sciences and Technology**

The holder of this pioneering CHAIR will have major responsibility for teaching and research directed toward medical innovation deriving from engineering or the basic sciences. The primary faculty appointment will be in the Harvard-Massachusetts Institute of Technology (MIT) Division of Health Sciences and Technology or at MIT, with other appointments in departments at the Harvard Medical School, as appropriate. This professorship will serve as the primary academic link in biomedical engineering with the Massachusetts General Hospital (MGH), with laboratory and office space provided by the MGH in their existing Department of Biomedical Engineering.

Collaboration with existing and development of future junior faculty at the MGH is expected, as well as general and specific supervision of MIT students participating in research or clinical rotations at the MGH. Opportunities abound for interaction with other clinical and research activities within the MGH Department of Biomedical Engineering, but the requirements for an administrative role in that department are minimal. A leadership role is anticipated for the holder of this chair in the development of additional academic links between the Harvard-MIT program and other MGH departments as well as other Harvard hospitals.

A distinguished record of research and teaching accomplishments in biomedical engineering areas is required. Expected academic credentials include a doctoral-level degree in engineering or in a relevant area of physics. Research areas felt to be particularly appropriate for this role include instrumentation, measurement, signal processing, or computer science applied to medical problems.

Research activities which benefit from the special MGH environment are most desirable. Beyond its major role as a teaching hospital, the MGH encompasses a wide spectrum of sponsored research, including many clusters of biomedical engineering, applied physics, and computer science activities within various medical specialties. This professorship will serve as one focus for interaction among many of those activities, as well as for collaboration with other MIT faculty.

Teaching is expected in engineering including biomedical engineering at the undergraduate and graduate levels. The holder of the chair is seen as a critical role model for these students.

All interested parties should forward their curriculum vitae to the chairman of the Search Committee: **Richard J. Kitz, M.D., Henry Isaiah Dorr Professor, Massachusetts General Hospital, Boston, Mass. 02114.**

Harvard, MIT, and the MGH are Equal Opportunity Employers and actively solicit the names of appropriate women and minority candidates.

**U.S. DEPARTMENT
OF AGRICULTURE (USDA)
AGRICULTURAL RESEARCH
SERVICE (ARS)**

National Program Leaders

Highly qualified scientists are needed to assume the duties of national program leaders on the Agricultural Research Service's National Program Staff in the following seven areas:

Plant Physiology	Entomology
Veterinary Medicine	Fiber Technology
Ruminant Nutrition	Weed Science
Forage and Range	

The successful candidates will focus on building broad multi-disciplinary research programs to solve national agricultural problems. ARS's research programs are conducted throughout the United States and in several foreign countries. These positions require sound scientific credentials and a broad knowledge of scientific disciplines involved in ARS's extensive research program in the respective disciplines. Candidates must demonstrate skills for program planning, setting research priorities, allocating resources, and evaluation programs.

These positions are located at Beltsville, Maryland. Grade level is GM-15. Salary range is \$50,252 to \$65,327, based on qualifications and experience. U.S. citizenship is required. *USDA is an Equal Opportunity/Affirmative Action Employer.* Send SF-171 by 16 July to:

**Judi Ruth (Code NPS)
Agricultural Research Service, USDA
Room 318D, Building 003, BARC-West
Beltsville, Maryland 20705
Telephone: 301-344-2701**

Applicants will be informed of eligibility or ineligibility. Eligible candidates will be informed when positions have been filled.

**Drug Metabolism
Scientist**

The Medical Research Division of American Cyanamid Company has a challenging opportunity available in their Pharmacodynamics Department for a Drug Metabolism Scientist. The successful applicant will be responsible for initiating and conducting Metabolism Research in various classes of drugs currently under intensive development.

The requirements include a Ph.D. with 1-4 years' post-doctoral, industrial or academic research experience, a strong drug metabolism background and familiarity with pharmacokinetics and drug analysis.

This position is located at Lederle Laboratories, 30 miles northwest of New York City. We offer professional growth, competitive salary and fringe benefit programs. Please send curriculum vitae (principals only) to: Ms. N. Levine, Professional Employment Coordinator.



American Cyanamid Company
Medical Research Division
Lederle Laboratories
Pearl River, NY 10965
An Equal Opportunity Employer M/F

**NATIONAL INSTITUTE OF ARTHRITIS, DIABETES,
AND DIGESTIVE AND KIDNEY DISEASES
OFFICE OF THE DIRECTOR**

**DIRECTOR
DIVISION OF
DIGESTIVE DISEASES**

**(and Associate Director for
Digestive Diseases) — Dual Position**

Incumbent must be a recognized and respected leader in the field of digestive diseases related research, with experience and expertise in the development of new knowledge and new technology in the digestive diseases. Responsibilities include identifying research needs and opportunities; planning, developing and implementing a high quality extramural research and research training program in the field; and conducting laboratory investigations in digestive diseases related research.

Salary Range—\$58,938 to \$66,400 per annum

Position information, SF-171 (application), and qualifications requirements may be obtained by contacting:

**Mr. Clifford Moss, Executive Secretary
Search Committee for Director,
Division of Digestive Diseases
Building 31, Room 9A34
National Institutes of Health
Bethesda, Maryland 20205
(301) 496-4231**

Applications must be postmarked no later than July 31, 1984.
AN EQUAL OPPORTUNITY EMPLOYER

POSITIONS OPEN

The Department of Biochemistry, Vanderbilt University School of Medicine, has open a **FACULTY POSITION IN PROTEIN CHEMISTRY** at the level of assistant professor (tenure-track) or possibly, at a senior (tenured) rank. The primary requirement is promise of excellence in research and teaching; and preference will be given to applicants with demonstrated competence, including relevant postdoctoral experience and publications, in protein chemistry. The area of particular interest is that of the relationship of spatial organization to function. The position can be filled on or after 1 January 1985. Applications must be received by 1 July 1984, and should include curriculum vitae and statement of proposed research. Please have one letter of recommendation sent directly and send the names and addresses of two additional references together with the other application materials to: **Dr. James V. Staros, Vanderbilt University, Department of Biochemistry, School of Medicine, Nashville, Tenn. 37232. Vanderbilt University is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITIONS IN MATERNAL AND CHILD HEALTH (genetic counseling). Applications for two positions (assistant/associate/full professor) are being accepted until 22 August 1984 for appointment in the School of Public Health, University of California, Berkeley, effective 1 January 1984 (spring semester). Responsibilities include teaching and research in genetic counseling. The appointees will be expected to contribute to the research program of the Department of Social and Administrative Health Sciences. Qualifications include an M.D. degree and Board-certification in an appropriate specialty or an earned doctorate in genetics or counseling and additional training or experience in the other area. A full position description is available upon request. Send curriculum vitae, selected publications, names of references, and a statement indicating how you match the specifications for the specific position you wish to apply for, to: **Chair, Search Committee, Genetic Counseling, 508 Warren Hall, School of Public Health, University of California, Berkeley, California 94720.**

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

MALARIA RESEARCH: Three positions are available immediately for at least a 3-year period. (i) **Postdoctoral research associate** to investigate the antigen structure of malaria parasites and their expression in DNA libraries. Experience in protein chemistry and recombinant DNA techniques including the detection of gene expression using Mabs and antisera is required. (ii) **Research technician** for in vitro culture of malaria parasites. Previous tissue culture experience required. (iii) **Research technician** with experience in recombinant DNA technology.

Send curriculum vitae and letters of reference to: **Dr. J. Werner Zolg, Department of Molecular Biology, Biomedical Research Institute, 12111 Parklawn Drive, Rockville, Md. 20852.**

MEDICAL PHYSIOLOGY

Applications are invited for a tenure-track position starting 1 July 1984. Candidates must have a Ph.D. or equivalent degree with expertise in physiology. A major responsibility will be to teach neurophysiology to osteopathic, podiatric, and physician assistant students. Candidates must be dedicated to excellence in teaching.

Research is encouraged, and area of research is open to the desires of the candidate. Send curriculum vitae and the names of three references to: **William J. Dyche, Ph.D., University of Osteopathic Medicine and Health Sciences, 3200 Grand Avenue, Des Moines, Iowa 50312. An Equal Opportunity Employer.**

MOLECULAR VIROLOGIST

Ph.D. or equivalent degree with an interest in pathobiology of HERPES SIMPLEX latency and reactivation in animal models, using in situ hybridization and related techniques. Assistant professor level research associate with demonstrated ability to carry out independent research and postdoctoral candidates sought for PERMANENTLY ENDOWED, private, non-profit, UCLA-affiliated hospital. Salary and benefits competitive based on qualifications. Send curriculum vitae, letter outlining research interests, and names of three references to:

**Anthony B. Nesburn, M.D.
c/o Research Administration
Cedars-Sinai Medical Center, Room 2211
8700 Beverly Boulevard
Los Angeles, Calif. 90048**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

Permanent position for **MARINE MAMMALOGIST** available 1 September 1984. Ph.D. required. Teaching experience preferred. Ability to attract outside funding desirable. Position requires teaching at undergraduate level and field research as part of a team of marine vertebrate ecologists/oceanographers working in western North Atlantic waters. Salary negotiable. Applicant should submit a résumé, a statement of research interest, and names of three references by 15 July to: **Ocean Research and Education Society, 19 Harbor Loop, Gloucester, Mass. 01930. An Equal Opportunity/Affirmative Action Employer.**

MARINE ORGANIC GEOCHEMIST—The Department of Oceanography, Old Dominion University, seeks candidates for a newly created, tenure-track assistant professor level position in marine organic geochemistry. Specific research interest is open, although the major departmental emphasis is on coastal processes. The successful candidate is expected to pursue a vigorous funded research program, and to teach graduate and/or undergraduate level courses in his/her field. A Ph.D. is required and postdoctoral experience is desirable. The expanding Oceanography Department offers programs leading to the M.S. and Ph.D. degrees. It currently has 15 faculty positions, with three in chemical oceanography, 70 graduate students, and the appropriate facilities for many chemical studies. The position is available immediately. Applicants should submit curriculum vitae, statement of research interests, and the names of three references by 1 August 1984 to: **Gregory A. Cutter, Search Chairman, Department of Oceanography, Old Dominion University, Norfolk, Va. 23508. Telephone: 804-440-4285. Old Dominion University is an Affirmative Action/Equal Opportunity Institution.**

PHARMACOLOGY FACULTY POSITIONS

The University of Southern California (USC), School of Pharmacy, has two tenure-track positions (assistant professor) in pharmacology. A Ph.D. degree in pharmacology, with research interests in neuropharmacology or molecular pharmacology, is desirable. The candidate will be expected to develop a fundable research program and participate in teaching pharmacology courses in the professional (Pharm.D.) and graduate programs. Send curriculum vitae and statement of research goals by 1 September 1984 to: **Jean C. Shih, Ph.D., Chair-Search Committee, USC School of Pharmacy, 1985 Zonal Avenue, Los Angeles, Calif. 90033-1086.**

An Equal Opportunity/Affirmative Action Employer

PLANT BIOCHEMIST AND MICROBIAL BIOCHEMIST

Applications are invited for two new, tenure-track positions. Ranks, starting dates, and salaries are open. Primary responsibilities are basic research and graduate education. These positions will also provide a support base in biochemistry for ongoing research in wood residue biotechnology, forest biotechnology and productivity, and water and wastewater management. Equipment and start-up funds will be provided. Establishment of an extramurally funded research program and direction of M.S. and Ph.D. students are required. Anticipated teaching duties for each position are one-quarter of an upper division biochemistry sequence and a one-quarter graduate course in area of specialty. Send letter of application, résumé, detailed statement of research interests and goals, and names and telephone numbers of three references to: **Biochemistry Search Committee, Department of Biological Sciences, Michigan Technological University, Houghton, Michigan 49931.**

Michigan Technological University is an Equal Opportunity Educational Institution/Equal Opportunity Employer.

PLANT ECOLOGIST—The Institute of Arctic Biology, University of Alaska, invites applications for a 9-month, tenure-track position as assistant professor. Applicants must have a Ph.D. degree and a broad background in chemical interactions with herbivores. The appointee will develop a strong program in individual and collaborative research, advise graduate students, and do some teaching. Submit résumé, statement of research interests, and names of three referees to: **Terry Chapin, Institute of Arctic Biology, University of Alaska, Fairbanks, Alaska 99701. Application deadline: 1 October 1984. The University of Alaska is an Equal Opportunity/Affirmative Action Employer and Educational Institution.** Your application for employment with the University of Alaska may be subject to public disclosure if you are selected as a finalist.

POSITIONS OPEN

Gardner-Webb College

MICROBIOLOGIST—IMMUNOLOGIST

Small liberal arts college has opening for microbiologist-immunologist, beginning either January 1985 or August 1985. Major responsibilities include teaching microbiology to allied health students, and upper level courses in microbiology, immunology, and biochemistry to science majors. *Women and minorities strongly encouraged to apply.* Rank and salary negotiable. Send curriculum vitae, three letters of recommendation, and transcripts of all college work to: **Dr. John Drayer, Vice President for Academic Affairs, Gardner-Webb College, Boiling Springs, N.C. 28017. Deadline: 30 September 1984.**

MOLECULAR BIOLOGIST. Position available at assistant professor level for outstanding person with a doctorate degree and at least 2 to 4 years of postdoctoral training and experience. We seek someone to conduct both collaborative and independent research within the broad framework of Columbia's Arteriosclerosis Research Center, with potential academic appointments in the Departments of Medicine and of Human Genetics. The scientist selected should be able to: (i) establish a new molecular biology laboratory and program in an area of interest to our overall program (for example, retinoids and retinoid-binding proteins); and (ii) collaborate with and help train other investigators with regard to molecular biology approaches and methodology in projects in various areas, including lipoproteins, retinoids, mitogens, blood coagulation and platelets, and endothelial and other arterial wall cells. Salary negotiable. Send curriculum vitae, bibliography and selected reprints, and names of three references to: **DeWitt S. Goodman, Columbia University College of Physicians & Surgeons, 630 West 168 Street, New York, N.Y. 10032. Columbia University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOW to join interdisciplinary research on the morphology, physiology, and neurotransmitter chemistry of the auditory system. Research focuses on the structural basis for signal processing with state-of-the-art and classical neuroanatomical techniques, including Golgi-EM, EM autoradiography, immunocytochemistry, and computer graphics. Electrophysiological and biochemical collaborations with a congenial and stimulating neuroscience faculty. Competitive salary, long-term support available. Strong background in neurobiology required. Contact: **D. K. Morest, Department of Anatomy, University of Connecticut Health Center, Farmington, Conn. 06032.**

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

POSTDOCTORAL FELLOW IN NEUROEMBRYOLOGY to join well-established study of synapse formation in the auditory system. Research focuses on tissue and cellular interactions with state-of-the-art and classical neuroanatomical techniques, including transplantation and cell culture. Interdisciplinary approach involving electrophysiological and biochemical collaborations with a congenial neuroscience faculty. Competitive salary, long-term support. Strong background in neurobiology required. Contact: **D. K. Morest, Department of Anatomy, University of Connecticut Health Center, Farmington, Conn. 06032.**

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

POSTDOCTORAL FELLOW. The Department of Medicine, Uniformed Services University of the Health Sciences, is seeking applicants for a postdoctoral fellow position. Minimum qualifications are a Ph.D. degree with a background in microbiology and immunology. Applicant will be responsible for execution of an investigation into toxic properties of leptospira. Willingness to learn separation and chromatography and monoclonal antibody techniques is important. Salary based on applicant's qualifications. Interested candidates should submit curriculum vitae, bibliography, and names of three references to: **Directorate of Civilian Personnel, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Maryland 20814.** Applications will not be returned. *The Uniformed Services University is an Equal Opportunity/Affirmative Action Employer.*

SCIENCE

Posters

The following posters of *Science* covers are available:

9 February 1979, Locomotive in China;

30 March 1979, Tropical flowering tree;

29 July 1979, Cheetah;

2 December 1983, Snowshoe hare;

23 December 1983, Cathedral window/DNA molecule.

Combination of space covers in scroll format: 1 June 1979, 23 November 1979, 10 April 1981.

Price is \$5 each (prepaid).

Write to AAAS, Department POST, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005.

FERMENTATION MICROBIOLOGIST/ENGINEER #84078

Cetus Madison Corporation is looking for individuals at the M.S. and Ph.D. levels who have experience in small and large scale fermentation. The openings require self-motivating individuals who are willing to be involved in bridging the gap between laboratory advances and commercial production. Novel approaches to plant cell and microbial cultures are being optimized. Cetus Madison Corporation applies biotechnology to agriculture problems.

Positions in this program offer a unique opportunity to participate in an exciting interdisciplinary effort.

Please send resume to:

**Personnel Department
Cetus Madison Corporation
Box SC-078
8520 University Green
Middleton, WI 53562**



An equal opportunity employer
m/f/handicapped

ALBUQUERQUE VETERANS ADMINISTRATION (VA) MEDICAL CENTER AND

LABORATORY SERVICE IN THE DEPARTMENT OF PATHOLOGY UNIVERSITY OF NEW MEXICO

The VA Medical Center and Pathology Department at the University of New Mexico Medical School are seeking an individual who is a physician, Board-eligible or -certified by the American Board of Pathology in clinical pathology and anatomic pathology. This individual must be a well-rounded, **general clinical pathologist** as well as **anatomic pathologist** with special skills in **autopsy pathology**. The incumbent must also have a special interest and expertise in immunopathology. The individual will be expected to cover the following areas of the Laboratory Service at the VA Hospital in Albuquerque: hematology, coagulation, microbiology, serology, blood banking, immunology, surgical pathology, autopsy pathology, immunopathology, and aspects of aging. In addition, the incumbent will have extensive teaching responsibilities with respect to clinical and pathology housestaff, technicians, medical technologists, and medical students. This individual must be an effective communicator with interest in in-depth interactions with clinicians and experience in running and participating in clinical rounds in the Departments of Medicine and Surgery. Finally, some knowledge of cost containment procedures, impact of DRGs, and effective utilization of laboratories is essential. Experience in the use of fluorescence microscopy, imprint examination, frozen section, and electron microscopy are also necessary. Address inquiries to:

**Robert E. Anderson, M.D.
Professor and Chairman
Department of Pathology
University of New Mexico
School of Medicine
Albuquerque, N.M. 87131**

Affirmative Action/Equal Opportunity Employer



VICE PRESIDENT PRODUCT DEVELOPMENT

CENTOCOR, INC., a dynamic, well-financed technology company in the field of biological substances is seeking a Vice President of Product Development. This challenging position offers an opportunity to direct a sizable group with several Ph.D. level scientists. We offer excellent compensation, comprehensive benefits and equity participation.

Qualifications for this position include: industrial experience in the development of in-vitro and in-vivo products as well as strong management and technical capabilities.

For immediate consideration, please send resume to:

**CENTOCOR, INC.
Attn: Sandra L. Faragalli
Personnel Manager
244 Great Valley Parkway
Malvern, PA 19355**

THE FIRST WORD IN ... ADVANCED MEDICAL RESEARCH

Abbott Laboratories' success has been built on a foundation of advanced medical research and sophisticated product development. In addition to enhancing the quality of health care worldwide, this success has increased our commitment to research, creating exceptional opportunities for research oriented scientists.

MOLECULAR BIOLOGISTS

The current expansion of our Molecular Biology Department has created a number of professional level positions in the Viral Genetics, Microbial Genetics and Biochemical Genetics groups. Qualified candidates will have an MS in Molecular Biology, Biochemistry or related discipline, or a BS degree with significant research experience. A proficiency in recombinant DNA technology is required.

Abbott Laboratories is a \$2.9 billion leader in the health care products industry. Headquartered in an attractive suburban setting 30 miles north of Chicago, we provide excellent salaries and a benefits package that includes profit sharing and stock retirement plan. For consideration, send a resume with salary history, in confidence to: **Sue Hart-Wadley/Corporate Placement**. Abbott is an Affirmative Action Employer.

ABBOTT
ABBOTT PARK IL. 60064
"HEALTH CARE WORLDWIDE"

THE FIRST WORD IN ... SUCCESS

POSITIONS OPEN

THE U.S. DEPARTMENT OF AGRICULTURE HUMAN NUTRITION RESEARCH CENTER (HNRC) ON AGING AT TUFTS UNIVERSITY NEUROPSYCHOLOGIST

To participate in research on the role of diets and specific nutrients in brain function of aging humans. The scientist will supervise development and application of methods for carrying out this research. Methodology will include electrophysiological, behavioral, and nutritional assessments of human subjects. Applicants should have an M.D. and/or Ph.D. degree and a demonstrated competence in this field. Expertise in nutrition, biostatistics, and/or computer applications is highly desirable but not essential. Position is available 1 October 1984.

Interested parties should send curriculum vitae, bibliography, three representative reprints, a short description of research experience, names of three references, and salary history to: **Thomas D. Sykes, HNRC Personnel Office, 711 Washington Street, Room 830, Boston, Mass. 02111.** Only candidates selected for interview will receive a response.

TUFTS UNIVERSITY—BOSTON

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL LEVEL PERSON. Salary: \$17,000 plus, 3 years guaranteed. Expertise in molecular biology. Specifically: tissue culture, making and characterization of antisera to peptides, immunoassay, HPLC and gel electrophoresis. Work involves expression of opioid peptides in developing pituitary and brain. Send three recommendations and curriculum vitae to: **Dr. Richard G. Allen, Department of Medicine, The Oregon Health Sciences University, 3181 Southwest Sam Jackson Park Road, Portland, Oregon 97201.**

POSTDOCTORAL POSITION available 1 September 1984 to study the role of the pig major histocompatibility complex (MHC) in reproduction. Studies are in basic molecular genetics, using recombinant DNA technology, but have potentially interesting application to the swine industry as well. Send curriculum vitae and the names of three references to: **Dr. Carol Warner, Department of Biochemistry, Iowa State University, Ames, Iowa 50011.**

An Equal Opportunity/Affirmative Action Employer

The Department of Psychology, Columbia University, announces a 2- or possibly 3-year **POSTDOCTORAL POSITION IN VISUAL PSYCHOPHYSICS** beginning September 1984. We seek a candidate with an interest in simple mathematical models, preferably in the field of adaptation, to work with Professor Donald Hood. Candidates should send a copy of their curriculum vitae and the names of three individuals who are willing to write letters of recommendation to: **Personnel Search Committee (Postdoctoral Search), Department of Psychology, Box 29, Schermerhorn Hall, Columbia University, New York, N.Y. 10027.** *Columbia University is an Affirmative Action/Equal Opportunity Employer.*

TWO POSTDOCTORAL POSITIONS available immediately to join a plant molecular biology group analyzing heat shock of anther cultures and gene structure of cereal storage proteins. Recent Ph.D. in molecular biology or related discipline. Apply to: **Dr. I. Altosaar, Biochemistry Department, University of Ottawa, Ottawa, Ontario, Canada K1N 9B4.** *In accordance with immigration requirements, priority is given to Canadian citizens and permanent residents.*

POSTDOCTORAL POSITION IN MOLECULAR BIOLOGY OF MUSCLE DEVELOPMENT to use recombinant DNA and gene transfer to study developmental regulation of muscle genes. Candidates should have a strong background in either (i) classical chick experimental embryology or cell culture, or (ii) gene cloning and/or gene transfer. Salary commensurate with experience. Submit letter of interest with curriculum vitae and names of three references to: **Dr. Charles P. Ordahl, S-1334, University of California, San Francisco, San Francisco, Calif. 94143.**

SENIOR RESEARCH ASSOCIATE (TECHNICAL) IN MOLECULAR BIOLOGY. Opening is available immediately for experienced individual to work in established laboratory studying muscle gene structure/regulation. Rewarding atmosphere for technical excellence, independence, and creativity. Competitive salary commensurate with level of skill and experience. Interested individuals should submit a letter of interest with curriculum vitae and names of two references who can attest to experience/competence to: **Dr. Charles P. Ordahl, S-1334, University of California, San Francisco, San Francisco, Calif. 94143.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS to participate in ongoing studies of cytochromes and metalloproteins from mammalian and microbial sources. Preference will be given to candidates with a background in biochemistry, biophysics, inorganic chemistry, or microbiology. Salary range: \$17,000 to \$18,000. Send curriculum vitae and names of three references to: **Dr. David C. Wharton, Department of Biology, Northeastern University, 360 Huntington Avenue, Boston, Mass. 02115.** *Northeastern is an Equal Opportunity/Affirmative Action/Title IX University.*

THE UNIVERSITY OF TEXAS AT DALLAS

POSTDOCTORAL POSITION available to study the structural organization of the nucleolus in the lower eukaryote *Physarum polycephalum*. As the work focuses on ribosomal DNA-matrix protein interactions, applicants with a strong background in molecular biology and knowledge of immuno-techniques and/or electron microscopy are encouraged to apply. Submit curriculum vitae with publications list and names of three references (indication of sex and ethnicity for Affirmative Action statistical purposes is requested but not required) to: **Dr. Robert C. Marsh, Biology Programs, The University of Texas at Dallas, P.O. Box 830688, Richardson, Texas 75083-0688.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Two years of support are available for a postdoctoral fellow to work closely with an energetic, superbly trained young investigator in the field of molecular mechanisms of growth factor action. The opportunity has just become available (NIH salary scale) and the person must be appointed (but not necessarily present) by 1 September 1984. Cytoskeletal phosphorylation by growth factors is being studied at the molecular level. Highly qualified applicants with academic career goals seeking their first postdoctoral experience preferred. Send curriculum vitae with references (telephone numbers) to: **Dr. Thomas Sturgill, Assistant Professor of Medicine and Pharmacology, Box 419, University of Virginia, Charlottesville, Virginia 22908.**

POSTDOCTORAL POSITIONS—BIOCHEMICAL GENETICS

Merck Sharp & Dohme Research Laboratories has immediate openings for three postdoctoral scientists in its Department of Biochemical Genetics. Candidates with experience in molecular biology are desired. Positions involve basic research projects in eukaryotic gene expression, cell biology and molecular virology, employing recombinant DNA, DNA-mediated gene transfer, and microinjection techniques. Salaries, benefits, and career growth are excellent. Send curriculum vitae to:

**S. R. Jenkins
P.O. Box 2000
Rahway, N.J. 07065**

An Equal Opportunity Employer, M/F

POSTDOCTORAL POSITION in molecular genetics available immediately for the study of structure/function relationships in viral structural proteins. Research will involve site-directed mutagenesis of cloned structural genes and physical and biochemical analysis of mutant proteins. Ph.D. in biochemistry, molecular biology, or microbiology required. Background in recombinant DNA technologies preferred. Send curriculum vitae and three references to: **Dr. Peter B. Berget, Department of Biochemistry and Molecular Biology, University of Texas Medical School, P.O. Box 20708, Houston, Texas 77225.** *An Equal Opportunity Employer. Women and minorities are encouraged to apply.*

POSTDOCTORAL POSITION

Available September. Postdoctoral position in experimental cancer chemotherapy involving molecular pharmacology and biochemistry. Research will involve basic, mechanistic studies of the natural folates and their influence on the cytotoxicity of antineoplastic agents in human tumors. A strong background in biochemistry or molecular pharmacology is an advantage. Send curriculum vitae and names of three references to:

**Janet A. Houghton, Ph.D.
Division of Biochemical
and Clinical Pharmacology
St. Jude Children's Research Hospital
332 North Lauderdale
Memphis, Tennessee 38101**

An Equal Opportunity Employer

POSITIONS OPEN

POSTDOCTORAL POSITION

Available for 1 to 3 years starting 1 July 1984. Areas of research include high altitude physiology, control of respiration (neurophysiology and sleep), vascular smooth muscle physiology and pharmacology, microcirculation, collateral ventilation, and control of the pulmonary circulation. Send curriculum vitae to: **Dr. Wiltz W. Wagner Jr., Cardiovascular Pulmonary Laboratory, Box B-133, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Denver, Colo. 80262.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS available in neurovirology-neuroimmunology laboratory involved in the study of the interaction of neurotrophic viruses with the central nervous system, both in vivo and in vitro. Position involves utilization of monoclonal antibody probes, immunohistochemistry, and studies of viral receptors on CNS tissue using classic neuropharmacologic approaches. Contact: **Dr. Marc Dichter or Dr. Howard L. Weiner, Department of Neuroscience, Children's Hospital, G-4, Boston, Mass. 02115.** Enclose curriculum vitae and three references.

POSTDOCTORAL POSITION available for recent Ph.D. in biochemistry. Research areas are molecular characterization of a membrane transport protein and membrane biogenesis and differentiated gene expression in a polarized epithelial cell line. Candidates well versed in membrane biochemistry and cell biology and interested in this research opportunity in the vigorous Texas Medical Center scientific environment should send their curriculum vitae and names of three references to: **Dr. J. E. Lever, Associate Professor, Department of Biochemistry and Molecular Biology, University of Texas Medical School, P.O. Box 20708, Houston, Texas 77225.** *An Equal Opportunity Employer. Women and minorities are encouraged to apply.*

POSTDOCTORAL POSITIONS (two) available in a leading research group. One for studying mutations in genes for collagens in human genetic diseases, and the other studying gene expression during mouse embryogenesis. Background in molecular biology helpful but not essential. Interested candidates should send a letter describing research experience with curriculum vitae and three letters of recommendation to: **Dr. D. J. Prockop, M.D., Ph.D., Department of Biochemistry, UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY—Rutgers Medical School, P.O. Box 101, Piscataway, New Jersey 08854.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL NEUROENDOCRINE POSITIONS (two) available immediately for individuals interested in neurotransmitter regulation of neuro-peptide release (LHRH) and modulatory role of sex steroids on these processes. Individuals with experience measuring neurotransmitter membrane receptors who wish to broaden their knowledge of neuroendocrinology are particularly encouraged to apply. Techniques currently in use include radioenzymatic, neuronal steroid receptor and radioimmunoassays, brain dialysis and stimulation methods, HPLC and in vitro cell culture and perfusion techniques. Send curriculum vitae and names of three references to: **Dr. Charles A. Barraclough, Department of Physiology, School of Medicine, University of Maryland, Baltimore, Maryland 21201.** *Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS in drug delivery systems research/membrane biophysics. Positions available in a dynamic group which is developing lipid membrane based drug delivery systems for therapy of infectious diseases and neoplasia. Investigations range from basic biophysics to clinical evaluations. A background in physical biochemistry of lipids or in membrane transport mechanisms would be helpful. Positions available immediately for a 2- to 3-year term. Send curriculum vitae to: **Dr. R. L. Juliano, Department of Pharmacology, University of Texas Medical School, P.O. Box 20708, Houston, Texas 77025.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available to join active group studying control of protein secretion by intracellular calcium in pancreatic acinar cells. Research at the cellular and molecular level. Experience with protein chemistry or immunological techniques desirable. Send curriculum vitae and names of references to: **Dr. John A. Williams, Department of Physiology, University of California, San Francisco, San Francisco, Calif. 94143.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

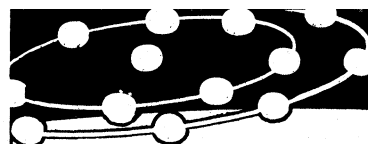
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The European Molecular Biology Laboratory, a research institute situated in Heidelberg, West Germany, invites applicants for the following vacancies at the Laboratory's Outstation at the Deutsches Elektronen-synchrotron (DESY) site in Hamburg.

PROTEIN CRYSTALLOGRAPHER

The Outstation has developed advanced instrumentation for the use of synchrotron X-ray radiation in structural biology Protein Crystallography, fibre and solution diffraction, X-ray spectroscopy (EXAFS). The facilities are used by many groups mainly from the Member States. The successful candidate will be expected to engage in research projects, making use of the outstanding properties of synchrotron radiation (high intensity, wavelength tunability, polarization and time structure) for protein crystallography. Besides these activities, she/he will also assist outside groups with protein crystallographic data collection.

The ideal candidate would be a protein crystallographer with 3-5 years of experience, capable of carrying out the various aspects of a crystallographic project. Fluent knowledge of English is a prerequisite.

The net salary offered will be between DM 3900, - and DM 4700, - monthly. Certain allowances are payable in addition, depending on personal circumstances. An initial contract of 3 years' duration, which can be renewed, will be offered.

Please write briefly for an application form quoting reference N°84/24 to:

EMBL

Personnel Section,
Postfach 10.2209,
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POSITIONS OPEN

POSTDOCTORAL POSITIONS at the University of Miami School of Medicine with the following individuals.

Dr. K. Carraway and Dr. C. Carraway: Role of actin-containing transmembrane complexes in membrane-cytoskeleton interactions.

Dr. L. Bourguignon: Biochemical approaches to study membrane-cytoskeleton interactions, receptor endocytosis, and biosynthesis in human lymphocytes and platelets.

Dr. D. Bruggess: Biochemical study of structure and motility of the cytoskeleton of sea urchin eggs or of intestinal brush borders.

Send curriculum vitae and names of three references to the appropriate individual. **Department of Anatomy and Cell Biology (R-124), University of Miami School of Medicine, P.O. Box 016960, Miami, Fla. 33101.**

POSTDOCTORAL POSITIONS IN NEURO-, PHARMACO-, and BEHAVIORAL GENETICS. Applications are invited from individuals holding a Ph.D. or M.D. with training in genetics, pharmacology, psychiatry, neuroscience, or related field. Emphasis on multidisciplinary approaches to human nervous system disorders. Participating faculty from genetics, psychology, psychiatry, psychopharmacology, neuropsychology, neuroanatomy, cell biology, biochemistry, and statistics. Send curriculum vitae, statement of research and training goals, three letters of reference, and other supporting materials to: **J. R. Sheppard, Dight Institute for Human Genetics, University of Minnesota, Minneapolis, Minn. 55455 or telephone: 612-373-3792.** Applications to be received by 20 July 1984. *The University is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

POSTDOCTORAL RESEARCH NMR APPLIED TO TISSUE METABOLISM

Two positions are available to pursue research in physiology and metabolism using the noninvasive method of high-resolution nuclear magnetic resonance. The laboratory is currently investigating several aspects of cardiac and brain metabolism using NMR techniques. Research projects in both basic studies and in clinical applications are available. The facilities of the NMR Laboratory are extensive and state-of-the-art and include a 1-meter bore system under development for clinical use. The laboratory also has an excellent staff to support various aspects of the research. Candidates should have training in biochemistry or physiology. Additional experience in physical and analytical chemical methods is desirable but not essential. Please send a résumé and three letters of reference to:

Ray L. Nunnally, Ph.D.
Director of Biomedical Magnetic Resonance
Department of Radiology
University of Texas Health Science Center at Dallas
5323 Harry Hines Boulevard
Dallas, Texas 75235
Equal Opportunity University

POSTDOCTORAL RESEARCH ASSOCIATE (Ph.D.). Experience in isolation and purification of lipids from biological tissues. Gas chromatographic identification of fatty acids.

Box 148, SCIENCE

POSTDOCTORAL RESEARCH ASSOCIATE. To study mechanisms of photochemical reactions of drugs and dyes with proteins, lipids, or polynucleotides. Prior experience in photochemistry, protein or DNA chemistry is desirable. Send curriculum vitae and two letters of reference to: **Dr. Irene E. Kochevar, Department of Dermatology, Harvard Medical School, Massachusetts General Hospital, Boston, Mass. 02114.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH POSITION available immediately for recent Ph.D. or M.D. with a strong background in molecular biology/genetics of animal viruses. Candidates with excellent academic records, some experience in DNA technologies, including cloning, and a strong interest in tumor virology will be given preference. Please send résumé, abstract of the thesis along with other evidence of scholarly productivity, and the names and telephone numbers of three referees to: **Nurul H. Sarkar, Ph.D., Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, N.Y. 10021.**

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE. Position available to study metabolism of endocytic membrane and/or processing of pinocytic vesicles in cultured fibroblasts. Strong background in either membrane biochemistry, cell biology, or electron microscopy desired. Position open 1 July 1984. Appointment for 2- to 3-year period. Funded by NIH grant. Key references: Storrie, Dreesen, and Maurey, *Mol. Cell Biol.* 1, 261 (1981); Adams, Maurey, and Storrie, *J. Cell Biol.* 93, 632 (1982); and Storrie et al., *J. Cell Biol.* 98, 108 (1984). Contact: **Dr. Brian Storrie, Department of Biochemistry and Nutrition, Virginia Polytechnic Institute and State University, Blacksburg, Va. 24061.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE position available for study of excitation-contraction coupling in mammalian cardiac muscle. The research will involve the use of various intracellular Ca^{2+} indicators in single and multicellular cardiac preparations in conjunction with electrophysiological or mechanical measurements. Applicants should have a strong background in cellular biophysics. The position is available 1 July 1984 and is renewable for up to 3 years. Send curriculum vitae and names of three references to: **Dr. W. G. Wier, Department of Physiology, University of Maryland at Baltimore, 660 West Redwood Street, Baltimore, Md. 21201.**

RESEARCH ASSISTANT IN MEDICINE to conduct basic research in structure and function of *Clostridium difficile* toxins and their role in disease states. Requirements include M.D. or Ph.D. in biochemistry or related field and 3 years of postdoctoral experience or training with at least 1 year of experience in basic laboratory research in bacterial toxins or related field. Familiarity with the following techniques is required: protein separation and purification, cell and bacterial culture, chromatography and electrophoresis, isotope handling, scintillation counting, autoradiography, bacterial techniques including large scale anaerobic culture, toxin assays, and immunoassays including ELISA and RIA. Salary for this position is \$22,000 per year at 40 hours per week. Applicants please contact: **Dr. J. T. LaMont, University Hospital, 75 East Newton Street, Boston, Mass. 02118.** *University Hospital is an Equal Opportunity/Affirmative Action Employer.*

Reopening search for **RESEARCH ASSOCIATE** with appropriate background in techniques of isolating and purifying peptides. Individual will play key role in major collaborative efforts of three laboratories (Dr. V. L. W. Go, radioimmunoassays; Dr. Ian Jardine, mass spectroscopy; and Dr. T. L. Yaksh, in vivo superfusion of brain and spinal cord) seeking to characterize endorphin-like peptides released from brain and spinal cord. Please submit curriculum vitae and one or two relevant publications along with the names of three references to: **Dr. T. L. Yaksh, Neurosurgical Research, Mayo Clinic, Rochester, Minnesota 55905.** *An Affirmative Action/Equal Opportunity Institution.*

RESEARCH ASSOCIATE. A faculty position is anticipated for a research associate with a doctoral degree and research experience in chemical, instrumental, and statistical analysis. Participate in research projects on low-level radiation waste disposal measurements for fission gases as well as perform routine and nonroutine analysis of radioactivity in biological and environmental media. Salary commensurate with qualifications. Send résumé to: **Dr. W. R. Schell, Department of Radiation Health, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pa. 15261.** *The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer.*

RESEARCH FELLOW DEPARTMENT OF EXPERIMENTAL PATHOLOGY

Merck, Sharp and Dohme Research Laboratories is now seeking a **senior research pathologist/electron microscopist** to join our Experimental Pathology Department located in Rahway, New Jersey.

The successful candidate must have a Ph.D. (or equivalent) and 5 years of postdoctoral experience in experimental pathology, electron microscopy, and histology. Scientists with ongoing programs and publications in experimental hepatocarcinogenesis, immunopathology, or pathology of the extracellular matrix will be given preference.

Salary, benefits, and growth potential are excellent. Send résumé to:

Susan R. Jenkins
Merck & Company, Inc.
P.O. Box 2000
Rahway, N.J. 07065

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POSITIONS OPEN

RESEARCH ASSOCIATE OR ASSISTANT PROFESSOR, Department of Immunology and Infectious Diseases, Johns Hopkins University (JHU) School of Hygiene and Public Health. Applications are invited for this position from candidates who have competence in molecular biological methods and a strong interest in the application of these methods in the study of human disease. The immediate task is to participate in investigations of the pathogenic potential of human papillomaviruses and polyomaviruses. The appointee will be expected to develop his/her own research program in infectious diseases. Curriculum vitae, description of research goals and interests, and the names, addresses, and telephone numbers of three referees should be submitted to: **The Chairman, Immunology and Infectious Diseases, JHU School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, Md. 21205.**

RESEARCH ASSOCIATE

The Academy of Natural Sciences of Philadelphia has a position for a person interested in researching literature and discussing the issues with knowledgeable people for a major new environmental study. Qualifications: Ph.D. or equivalent through experience. Must have basic training in biology and chemistry; training and/or experience in dealing with policy issues. Good oral and written communication skills required. Salary commensurate with experience. Please submit inquiries and curriculum vitae to: **Ruth Patrick, Ph.D., Senior Curator of Limnology, Academy of Natural Science, 19th and Parkway, Philadelphia, Pa. 19103.** *An Equal Opportunity Employer.*

RESEARCH ASSOCIATE POSITION open immediately to study various biochemical and molecular biological aspects of coagulation reactions. Ph.D. in biochemistry or molecular biology desired, but adequately trained M.D. will be considered. Candidate must be highly motivated and fit into hard working group. U.S. citizenship required. Send curriculum vitae and two references to: **H. R. Roberts, M.D., Director, Center for Thrombosis and Hemostasis, 416 Burnett-Womack 229H, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27514.** *The University of North Carolina is an Equal Opportunity Employer.*

RESEARCH INSTRUCTORSHIP available in anesthesiology for a Ph.D. neuropharmacologist with postdoctoral training. Successful candidate must have research experience related to the neurochemical assessment of the interaction of serotonergic and opioid drugs with serotonin nerves, be experienced in the analysis of autoreceptor function and the regulation of transmitter release, be able to conduct and analyze ligand binding assays, and be willing to work in an interdisciplinary team studying drug mechanisms of analgesia. The candidate will be expected to develop an active research program and attract extramural support. Teaching responsibilities will include the direction of research of graduate students and residents. Send curriculum vitae, statement of research interests, selected publications, and three letters of reference to: **D. J. Smith, Ph.D., Professor of Anesthesiology, Department of Anesthesiology, West Virginia University Medical Center, Morgantown, W. Va. 26506,** by 30 June 1984. *West Virginia University is an Affirmative Action/Equal Opportunity Employer.*

VETERINARY EPIDEMIOLOGIST/MICROBIOLOGIST for research and teaching. Opportunities for advancement and tenure consideration after appropriate service. Rank open; salary is competitive and dependent upon qualifications. Requirements: D.V.M. or equivalent and Ph.D. with evidence of recent research productivity and research experience in veterinary epidemiology and microbiology. Duties include teaching a course entitled "Veterinary Medicine and Human Health," developing a collaborative research program, advising graduate students, consulting with Washington Animal Disease Diagnostic Laboratory and faculty on epidemiologic and public health problems, and other duties common to a university professor. An opportunity for a progressive scientist to interact with others in a department with strong interdisciplinary programs in infectious diseases. To apply, send curriculum vitae and names of three references to: **Dr. R. B. Wescott, Chairman, Department of Veterinary Microbiology and Pathology, Washington State University, Pullman, Washington 99164-7040,** by 1 August 1984. *Washington State University is an Equal Opportunity/Affirmative Action Employer. In order to assist our efforts to meet Affirmative Action goals, minority, handicapped, and women candidates are encouraged to identify themselves as such in their applications.*

MANAGER BIOLOGICALS LABORATORY

Wyeth Laboratories, Inc. has an outstanding opportunity available in our Research and Development Department for a manager of the Biologicals Laboratory. This key position will be located at our Radnor facility near Philadelphia.

Primary responsibilities will be to manage and participate in the planning, implementing, monitoring and evaluating of various projects in the field of vaccines and other biologicals.

The successful candidate will be a Ph.D. in molecular biology, virology or microbiology, with at least 5 years of related experience. This individual must possess superior oral and written communication skills. Strong skills in human relations, supervision and ability to interface effectively with our Production Department and Government Regulatory Agencies are absolute requirements.

If interested, send resume including salary history in strict confidence to Personnel Department,

Wyeth Laboratories, Inc.



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Among the areas you could be involved in are fundamental enzymology research, mechanistic approaches to specific microbial studies and the application of biocatalysis to processing systems. To succeed in your duties, you should have postdoctoral experience in the area of microbial enzymology. It's also desirable that your published research documents actual experience in the fields of biochemistry, enzymology or bioenergetics.

*We seek resumes from all qualified individuals. Minority candidates are encouraged to apply. For consideration, send your resume to: **Staffing and Development, (SD-82), P.O. Box 1625, Idaho Falls, Idaho 83415. U.S. Citizenship required. We are an equal opportunity employer. M/F/H/V.***



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Bio-Rad Laboratories, a leading biotechnology company, has as a result of our continuing growth four new positions to work as part of our research team in **Clinical Diagnostics**. We are seeking highly motivated individuals with a commitment to excellence in science who are ready for the next challenging career step.

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You will have major responsibility for integration of cDNA probe technology into our clinical diagnostic products. Requires Ph.D. in Molecular Biology, or related field, and 2 or more years post-doctoral academic or industrial experience. Expertise in the following areas is desirable: cDNA cloning, Southern and Northern blotting restriction mapping, DNA sequencing.

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Your primary responsibility will be the development of novel diagnostic assays for viral pathogens. Qualifications include Ph.D. in Microbiology, or related field, and virology research experience, preferably in diagnostic applications. Expertise in viral immunology and characterization of pathogenic viruses is desirable.

Virologist

Your responsibilities will include virus propagation, purification and detection of viral proteins by immunological methods. Requirements are an advanced degree in Microbiology, or related field, experience in clinical virology methods and 1-2 years academic or industrial research experience.

Biochemist

This position requires an advanced degree in Biochemistry or immunochemistry and knowledge of the following areas: protein/nucleic acid chemistry, purification, mapping, synthesis and sequencing. Familiarity with protein modification techniques, antibody structure and function, and basic immunological techniques related to diagnostic assays is desirable.

Bio-Rad offers a competitive compensation package including comprehensive benefits and relocation assistance. If you would like to be considered for one of these excellent opportunities, please submit your resume, in confidence, to Human Resources Department #268, 2200 Wright Avenue, Richmond, CA 94804. An equal opportunity employer.

BIO-RAD

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POSITIONS OPEN

Massachusetts Institute of Technology (MIT) CHILDREN'S HOSPITAL RESEARCH ASSOCIATE

To study magnetic fields and the control of release from polymeric drug delivery systems. Ph.D. in electrical engineering, biomedical engineering, physics, or related field is desirable. To start as soon as possible. Please send résumés to: **Dr. Robert Langer, MIT, 77 Massachusetts Avenue, E25-342, Cambridge, Mass. 02139.** An Equal Opportunity/Affirmative Action Employer.

RESEARCH POSITION AVAILABLE—Developmental research on monoclonal antibodies in evaluation of tumor cell differentiation. M.S. or Ph.D. in a biological science and a minimum of 2 years of laboratory experience with tissue culture required. A background in immunology would be helpful. Applicants should be available for at least a 2-year appointment. Salary: \$17,000 or more, based on experience. Send résumé and names of three references to: **Dr. John Warren, Department of Pathology, Northwestern Memorial Hospital, 250 East Superior, Chicago, Ill. 60611.**

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RESEARCH SCIENTIST/MICROBIOLOGY

CPC INTERNATIONAL has an opening for a microbiologist in the Research/Development Biotechnology Department.

The successful candidate will have a Ph.D. and a strong background and working experience in microbiology and biochemistry of lower eukaryotes. Knowledge of classical genetics and interest in molecular genetics preferred.

CPC INTERNATIONAL is an established food company with a major research center in suburban Chicago.

Applicants should send résumé in complete confidence to:

**Manager, Personnel Services
Corn Products, a Unit of CPC International
P.O. Box 345
Summit-Argo, Illinois 60501
Equal Opportunity Employer, M/F**

SENIOR RESEARCH ASSISTANT. Applications are invited from individuals wishing to join a 3-year federally funded research project (beginning 1 August 1984) designed to analyze and simulate associative neuronal modifications in *Aplysia*. Prior postdoctoral work and experience with intracellular recording techniques is necessary. Voltage clamp and computer simulation experience desirable. Salary is comparable with that of a starting assistant professor. Applicants should send curriculum vitae and names of three references to: **Dr. John Byrne, Department of Physiology and Cell Biology, University of Texas Medical School, P.O. Box 20708, Houston, Texas 77225.** An Equal Opportunity Employer. Women and minorities are encouraged to apply.

STRUCTURAL CELLULAR/MOLECULAR BIOLOGIST

Small-Angle Neutron Scattering

The University of Missouri-Columbia, Division of Biological Sciences, invites applications for a tenure-track position in the area of structural cellular and molecular biology at the assistant or associate professor level, dependent on qualifications. The position requires undergraduate and graduate teaching in cellular and molecular biology and a biological research emphasis that relies heavily on small-angle neutron scattering. Applicants must have had extensive experience, and demonstrated excellence in small-angle neutron scattering. The small-angle neutron scattering spectrometer at the University of Missouri Research Reactor in Columbia is one of only a few such instruments in the United States and is the highest flux steady-state reactor at any American university. The successful candidate will interact with a strong University faculty with interest in biological structures: nucleic acids, membranes, proteins, protein-nucleic acid complexes, and organelles. Modern biophysical instrumentation already on the Columbia campus include: NMR (300, 200, and 90 MHz); scanning and transmission electron microscopes; mass, fluorescence, atomic absorption, and small-angle x-ray scattering spectrometers. Applicants should submit, by 20 August 1984, curriculum vitae, statement of research and teaching interest, and names of three references to: **Paul F. Agris, Chairman, Search Committee, University of Missouri, Biological Sciences, Tucker Hall, Columbia, Mo. 65211; telephone: 314-882-6426.**

An Affirmative Action/Equal Opportunity Employer

SUMMER PROGRAM

SUMMER COURSE IN CELLULAR NEUROSCIENCE

New York University, Department of Physiology and Biophysics. This course is for advanced undergraduate, graduate, and medical students. Covering all aspects of nerve excitability and synaptic transmission including molecular aspects and the integration of these phenomena to yield higher functions such as learning. The course will be offered 2 July to 6 August; tuition: \$1000. For information and application, contact: **Dr. K. Walton, 550 First Avenue, New York, N.Y. 10016; telephone: 212-340-5410.**

REQUEST FOR PROPOSALS

The EPA/NCSU Acid Deposition Program, a cooperative research program between the U.S. Environmental Protection Agency (EPA) and North Carolina State University (NCSU), is seeking **PROPOSALS** for research considering effects of acid deposition on aquatic biota. For further information and submission details, send a self-addressed envelope to: **EPA/NCSU Acid Deposition Program, 1509 Varsity Drive, Raleigh, N.C. 27606.** Deadline for request information is 2 July 1984.

GRADUATE STUDY

GRADUATE STUDY IN BIOMEDICAL SCIENCE. The University of Tennessee College of Veterinary Medicine has two funded positions for Ph.D. candidates in a variety of funded projects including toxicology, hematology, reproductive physiology, animal models of human genetic diseases, metabolic livestock diseases, molecular biology, microbiology, and immunology. Appropriate candidates will include individuals with professional medical degrees or a M.S. in biological sciences. Stipends commensurate with qualifications. Available 1 July 1984. Applications accepted until filled. Contact: **Dr. R. L. Michel, Office of Research and Graduate Programs, P.O. Box 1071, Knoxville, Tenn. 37901-1071. Telephone: 615-546-9230.** The University of Tennessee is an Equal Opportunity/Affirmative Action/Title XII Section 504 Employer.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP MEDICAL LABORATORY IMMUNOLOGY

Applications are invited from individuals with M.D., Ph.D., or equivalent and a strong interest in pursuing a career in medical laboratory immunology. This 2-year postdoctoral fellowship, to begin 1 September 1984, will include training in basic immunology, clinical immunology, and laboratory management. Opportunities in basic and applied research will also be available. An individualized program will be developed based on the strengths and career goals of the accepted applicant.

Interested individuals should send curriculum vitae and three letters of recommendation to: **Gerald M. Penn, M.D., Ph.D., Director of Pathology and Laboratory Medicine, Grant Hospital, 111 South Grant Avenue, Columbus, Ohio 43215.** The deadline for application is 1 August 1984. *Grant Hospital is an Affirmative Action/Equal Opportunity Employer.*

THE ROCKEFELLER UNIVERSITY POSTDOCTORAL FELLOWSHIPS IN MOLECULAR PARASITOLOGY

Applications are invited for two postdoctoral positions to study gene structure and regulation in human malaria parasites and African trypanosomes. The research program of the Laboratory of Molecular Parasitology embraces the study of membrane and genetic phenomena in parasitic protozoa. Applicants should be able to show evidence of achievement and potential in molecular or cellular biology. Experience with parasites could be an advantage but is not essential. Applications, enclosing full curriculum vitae and names of at least two referees, should be submitted to: **Dr. George A. M. Cross, The Rockefeller University, 1230 York Avenue, New York, New York 10021.**

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FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP IN INFECTIOUS DISEASES PATHOGENESIS

Comprehensive postdoctoral level training in infectious disease pathogenesis is available through the Departments of Medicine, Microbiology-Immunology, and Pediatrics at the University of North Carolina School of Medicine. Opportunities are provided for persons interested in an academic or research career. Disciplines include: acute respiratory diseases in children, studies of *Mycoplasma pneumoniae*, *Neisseria gonorrhoeae*, *Neisseria meningitidis*, *Treponema pallidum*, *Haemophilus influenzae*, interaction of infectious agents and atmospheric pollutants in injury of specialized respiratory epithelial cells, parainfluenza virus, hepatitis A virus, Epstein-Barr virus, arthritis, Crohn's disease, rickettsial disease, Rocky Mountain spotted fever and *Chlamydia trachomatis*. Fellowships are open to U.S. citizens or individuals holding a permanent visa. Candidates for the program include those who have received either the M.D. or Ph.D. degree in a biological science. M.D. recipients who desire clinical subspecialty training in infectious diseases must have completed residency training requirements for their chosen specialty. Send letters of inquiry to: **Wallace A. Clyde, Jr., M.D., Professor of Pediatrics and Microbiology, Department of Pediatrics, 535 Burnett-Womack Building-229H, University of North Carolina, Chapel Hill, N.C. 27514.** An Equal Opportunity/Affirmative Action Employer.

A NORMAN AND ROSITA WINSTON FOUNDATION POSTDOCTORAL RESEARCH FELLOWSHIP in basic biomedical research is available at Cornell University Medical College in the Department of Physiology to work with **Dr. Olaf S. Andersen** on problems of ion permeability through channels incorporated into lipid bilayers. Holders of M.D. or Ph.D. degrees are invited to apply for 2-year fellowships with competitive salaries. Applicants should generally have no more than 3 years of basic or clinical experience beyond the doctorate. Send curriculum vitae and three references to: **The Office of Research and Sponsored Programs, Cornell University Medical College, 1300 York Avenue, Room A-131, New York, New York 10021.**

POSTDOCTORAL FELLOWSHIPS IN BIOMEDICAL SCIENCE. The University of Tennessee College of Veterinary Medicine has two funded positions for postdoctoral fellows in a variety of funded projects including toxicology, hematology, reproductive physiology, animal models of human genetic diseases, metabolic livestock diseases, molecular biology, microbiology, and immunology. Appropriate candidates will include individuals with professional medical degrees or a Ph.D. in biological sciences. Stipends commensurate with qualifications. Available 1 July 1984. Applications accepted until filled. Contact: **Dr. R. L. Michel, Office of Research and Graduate Programs, P.O. Box 1071, Knoxville, Tenn. 37901-1071. Telephone: 615-546-9230.** The University of Tennessee is an Equal Opportunity/Affirmative Action/Title XII/Section 504 Employer.

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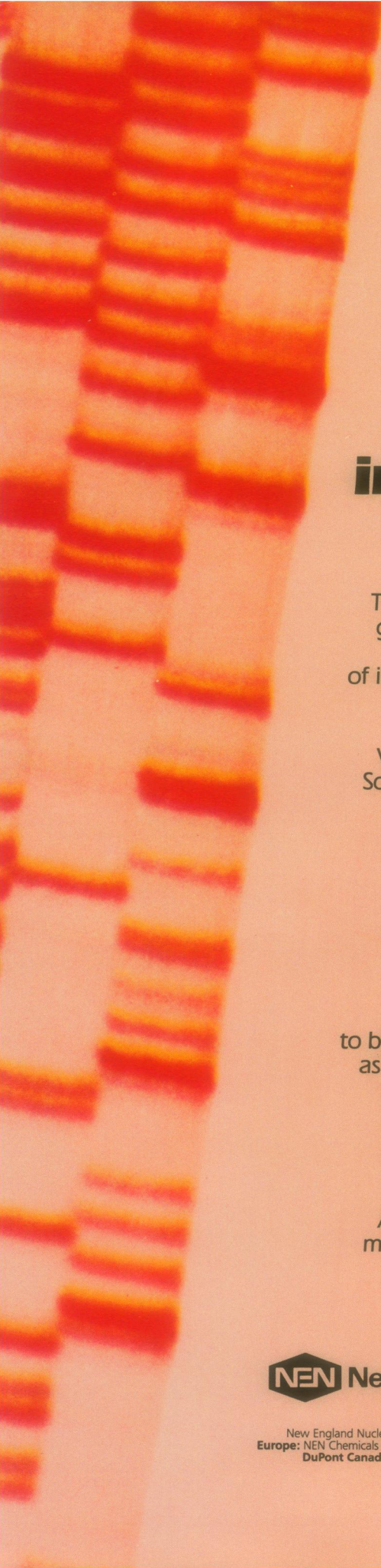
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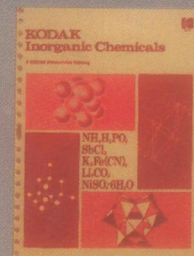


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