

the partially or fully ordered phases, usually occurring at lower temperatures, higher pressures, or both. This immediately requires the inclusion of order-disorder phase transitions, the concept of an orientational order parameter, and so on.

These ideas are introduced in the first two chapters, one on thermodynamics (which is less rewarding than most of the other chapters) and the other on statistical mechanics. The emphasis is on models, such as the Ising model, developed in connection with magnetic systems and referring to continuous or second-order transitions. Simple concepts, such as mean-field theory or Landau theory, receive a very brief treatment and unfavorable judgment. However, though such theories are mostly unsuccessful in dealing with critical exponents, they often provide very useful approximate answers concerning discontinuous transitions, which are ultimately displayed in practically all molecular crystals.

Experimentally, the book is based on structural information and specific heat measurements to a large extent, on NMR spectroscopy to some extent, and on other techniques to a lesser extent. Many extremely interesting systems are discussed. Each discussion begins with a consideration of the system's phase diagram and the various structures involved (many illustrations support the presentation) and then goes on to consider the conditions that lead to the occurrence of a disordered phase, how a transition comes about, and so on. Often families of similar compounds are grouped into clearly arranged tables, which summarize the respective structures, entropy of transition, activation energies, and so on.

The book contains more than 2500 references, up to 1976. This alone makes it a valuable source of information.

One of the most important issues in a book like this is the proper description of disorder. Here the authors distinguish between two different limits: either a discrete number of possible arrangements of a given object or, at the other extreme, an infinite number of possible arrangements, all equally probable. According to the authors, most systems are Ising-like, with a discrete number of possibilities. They support their view with examples of entropy changes at the order-disorder transition. In my opinion it is dangerous to base such a discussion mainly on entropy changes. Reliable crystallographic data should always be included. Likewise, the discussion of orientational disorder should have embraced smoothly varying, angle-dependent density distributions.

Some avoidable misunderstandings are created by the authors' use of the notion "free rotation" both for quantum mechanical free rotation (for example, parahydrogen in its rotational ground state) and for high-temperature rotational diffusion in shallow potentials (for example, CH₄ phase I). Also, the possibility of positional disorder in plastic crystals seems to be overemphasized, for pronounced translational diffusion close to the melting point is also found in atomic crystals.

A few recent developments are treated only briefly or omitted altogether. In the case of orientational order and disorder, for example, this applies to topics like the detailed shapes of rotational potentials, rotation-translation coupling, tunneling spectroscopy with neutrons, short-range correlations, and models treating "steric hindrance" in analogy to the dimer problem.

On the other hand many small or large problems connected with disorder are raised. Reading the book, one learns about numerous open questions, many fascinating disordered systems and phase transitions, and surprising connections between systems that look entirely different at first glance. The book is primarily intended for chemists and crystallographers. However, as a solid state physicist, I found it enjoyable and stimulating to read.

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(Continued on page 912)



Fume Hood

This design uses a combination of outside ducted air and a dampered plenum to limit room air exhaust, which reduces fuel consumption. The plenum divides the air stream four ways to limit turbulence. The hood has a vertically sliding window with horizontally sliding doors to reduce the amount of unused open area and to provide the worker with shielding for safety. The device is self-cleaning and features an automatic wash system. Lab Fabricators. Circle 781.

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The SP4100 is available with or without BASIC programmability. It offers a built-in printer-plotter, a full alphanumeric keyboard, and an LED display. An interactive dialog makes it easy to set up files of parameters used in analysis and report calculations. Most frequently used chromatography calculations are programmed. Multilevel calibrations may be made with or without internal standardization using either linear or nonlinear least-squares fit to calibration data. Calculations of frequently used statistics are also programmed. Spectra-Physics. Circle 801.

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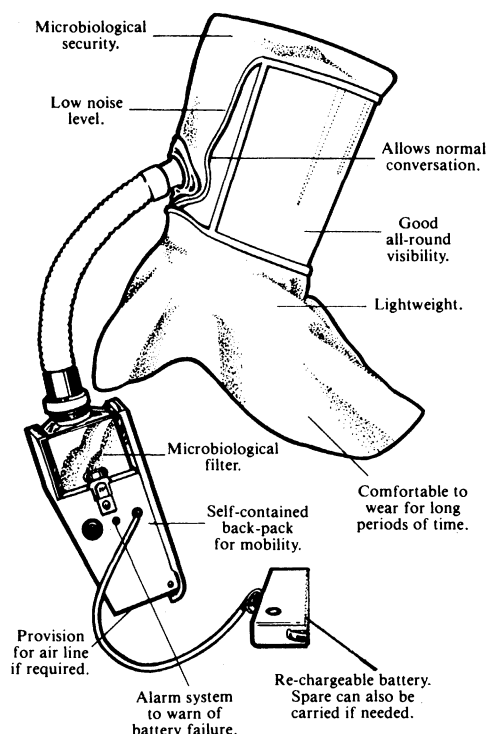
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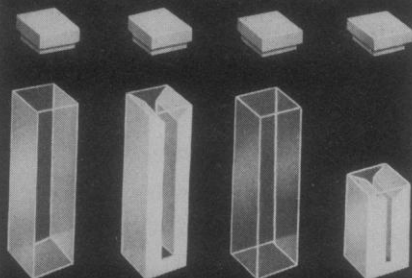


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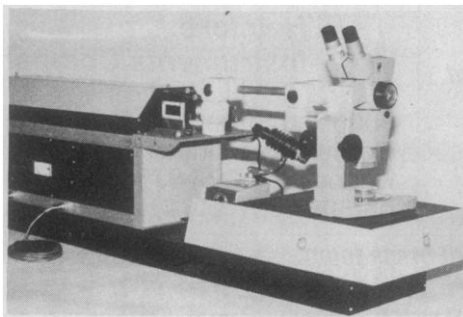
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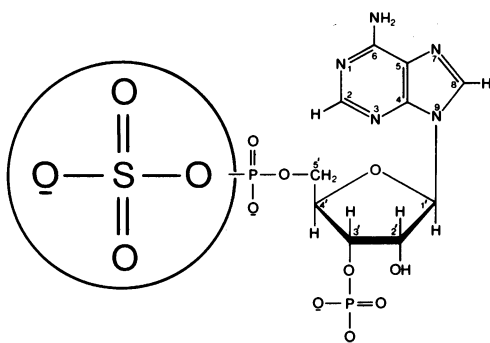
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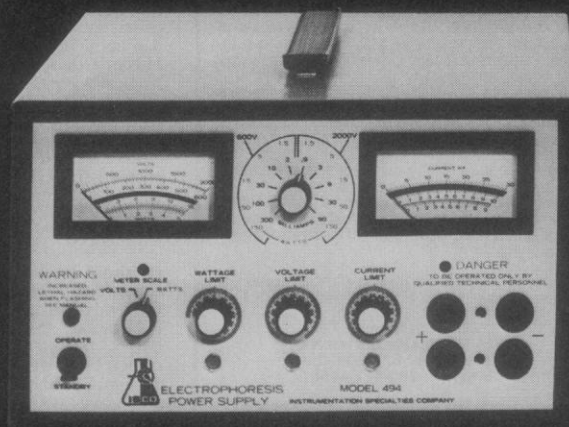
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POSITIONS WANTED

Anatomist, Ph.D. 1968; 10 years of experience in teaching medical human gross anatomy with some experience in teaching histology, embryology, and neuroanatomy. Active research and publications in peripheral auditory system. Box 38, SCIENCE. X

Biochemist—Organic Chemist, Ph.D. Extensive experience in protein chemistry, enzymology, immunochemistry, organic synthesis, analytical biochemistry (protein, peptides, amino acids, various natural products). Box 39, SCIENCE. 2/22, 29

Biologist/Electron Microscopist, M.S. 1980. Strong interest and research experience in reproductive biology. Background and teaching experience in cell/developmental biology. Desires research and/or teaching position. Box 40, SCIENCE. X

Biologist, Reproductive. Seeks teaching/research position (physiology, reproduction, endocrinology) in Greater Boston/New Hampshire area. Experience, publications. J. P. Polidoro, Ph.D., Hickory Drive, Amherst, N.H. 03031. 2/22, 29

Biology of Aging, Ph.D. (chemistry), University of Illinois, Urbana, 1973. Lecturer in biological aging, University of Wisconsin-Madison, 1978 to 1980. Numerous publications. Research program in computer simulation modeling of systems and processes underlying biological aging. Box 41, SCIENCE. 2/22, 29

College Professor, Ph.D. (biology, Harvard, 1968); registered **Microbiologist** (food, pathogenic, immunology); seeks academic or laboratory position permitting research on ecological aspects of clostridial toxinology. Background includes photomicrography, electron microscopy, enzymology, and extensive teaching experience in microbiology-immunology-histology. Available July 1980. H. Lamont, 37 Park Avenue, Newton, Mass. 02158. 2/22, 29

GC/MS, 6 years of experience, including computer system, interpretation and maintenance, accurate results. Seeking responsible position. P.O. Box 333, Pickering, Ontario, Canada L1W 2A7. Telephone: 416-839-3635. X

POSITIONS WANTED

General Biology, Genetics, Ecology, Botany, Plant Physiology. Broad teaching, research experience, M.S., plant physiology. Strong commitment to quality undergraduate education. Prefers 4-year or junior college. J. Mendenhall, 1305 8th Street, Greeley, Colorado 80631. 2/22, 29

Marine Biologist, B.S. Several years of experience with the in situ study of benthic communities. Experienced in underwater photography, marine sampling gear, writing of scientific reports. Write: K. McCarthy, 47 Westover Street, Everett, Mass. 02149. X

Marine Biologist. Position desired in marine biology or related field. Research and study in both tropical marine biology and ecology and estuarine ecology. Master's thesis deals with nutrient enrichments of tropical waters in relation to phytoplankton growth. Box 42, SCIENCE. X

Microbiologist, Ph.D. Cell membranes, clinical microbiology, virology, tissue culture, immunology, chemotherapy, microbial oxidation of hydrocarbons and degradation of cellulose. Desires industry, academia, research institutes, government, hospitals. Box 43, SCIENCE. X

Physical Chemist (M.S. 1973). Six years of research experience with hemoglobin at major university. Currently working on sickle-hemoglobin. Several publications. Strong background in organic syntheses. Interested in opening at another academic center or position with pharmaceutical company. Box 44, SCIENCE. X

Research Director in European pharmaceutical company seeks relocation in United States or Canada. Multidisciplinary background with formal qualifications (including Ph.D.) in both medical and natural sciences and management. Multilingual, 5 years of experience as university lecturer prior to 10 years in the pharmaceutical industry. Curriculum vitae on request. Box 45, SCIENCE. X

Toxicologist/Physiological Chemist (Ph.D.). Research and administrative background; industrial, product liability, and regulatory experience. Desires significant responsibility in toxicology/health impact assessment/regulatory compliance with major corporate organization. Reply to: Box 46, SCIENCE. 2/22, 29; 3/7

POSITIONS OPEN

ANATOMIST. The program in Medical Sciences at Florida State University is seeking a qualified anatomist at the assistant professor level to teach gross anatomy to first year medical students. The Program in Medical Sciences is a first-year medical program at Florida State and Florida A & M Universities. After completing the first-year medical curriculum students transfer to the University of Florida College of Medicine in Gainesville to complete the M.D. degree. Qualifications for the position include a Ph.D. or M.D. degree and experience in teaching gross anatomy. Applicants should have sufficient evidence of scholarship and research potential to qualify for a tenure-track appointment in an appropriate academic department at Florida State University. Send letters of application along with curriculum vitae and three letters of recommendation to: Dr. Robert H. Reeves, Director, Program in Medical Sciences, Florida State University, Tallahassee, Florida 32306. Application deadline is 30 April 1980.

An Affirmative Action/Equal Opportunity Employer

ANIMAL POPULATION ECOLOGY
The Department of Biology of the University of South Carolina is seeking applicants for a tenure-track position in **population biology**. This new position has been approved but is contingent on available funding for the 1980-1981 fiscal year. Candidates must be competent in empirical studies and familiar with the theoretical or biomathematical aspects of the discipline. Funds will be provided for initiation of research, but the potential to obtain grant support is requisite. Successful candidates will be expected to develop and maintain a vigorous program of research and teaching. Applicants should submit curriculum vitae, an outline of research interests, and names, addresses, and telephone numbers of at least three references by 17 March 1980 to: Bruce C. Coull, Population Ecology Search Committee, Department of Biology, University of South Carolina, Columbia, S.C. 29208. The University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

ANATOMIST, PHARMACOLOGIST, PHYSIOLOGIST

The Ohio College of Podiatric Medicine is seeking qualified individuals to fill academic positions in **PHARMACOLOGY, PHYSIOLOGY** (neuromuscular), and **GROSS ANATOMY** (embryology and/or neuroanatomy).

The position is full-time with rank open. Experience teaching medical students is desirable. Research is encouraged. Qualifications include the Ph.D. and/or D.P.M. degree. Send curriculum vitae with names of three references to: Dr. R. N. Iyer, Director, Division of Basic Sciences, Ohio College of Podiatric Medicine, 10515 Carnegie Avenue, Cleveland, Ohio 44106.

Equal Opportunity Employer

AQUATIC ECOLOGIST

Postdoctoral position for 2 years, starting April to May 1980. Field of specialization open. For further details contact: Dr. W. Leggett, Limnology Research Group, Biology Department, McGill University, Montreal, Quebec, Canada H3A 1B1.

ASSISTANT PROFESSOR, beginning September 1980. Tenure-track, to teach general biology and entomology and to develop a basic course in radiation biology. Ph.D. required. Résumé, three letters of recommendation, and statement of teaching/research objectives must be received by 31 March 1980. Reply to: Dr. L. E. Spiegel, Chairman, Biology Department, Monmouth College, West Long Branch, N.J. 07764. Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR, Ph.D., broadly trained in physiology and anatomy with strong teaching interests, background for domestic animal physiology, and an area of expertise for graduate teaching and research. Full-time position with possibility of tenure. Send curriculum vitae, complete transcripts, and names and addresses of three references by 15 March 1980 to: Kirby L. Hays, Department of Zoology-Entomology, Auburn University, Auburn, Ala. 36830.

Auburn University is an Equal Opportunity Employer.

ASSISTANT PROFESSOR

Applications are invited for a tenure-stream appointment (subject to final administrative approval) for an assistant professor in mycology to start 1 July 1980. A doctoral degree is required. Undergraduate teaching duties include mycology and possibly some introductory biology. The successful candidate is expected to establish a rigorous research programme concomitant with graduate teaching. Salary will depend upon experience; salary floor (1979-1980) is \$17,400.

Applicants should forward curriculum vitae and arrange to have three letters of reference sent directly to: Dr. W. G. Filion, Department of Botany, Mississauga Campus, University of Toronto, Mississauga, Ontario, Canada L5L 1C6. Closing date for applications is 1 May 1980.

The Department of Surgery at Southwestern Medical School is seeking applicants for the following faculty positions:

ASSISTANT PROFESSOR—M.D.; Board-eligible; training and teaching and research experience in colorectal surgery.

INSTRUCTOR—M.D.; Board-eligible; training and interest in peripheral vascular surgery.

Submit curriculum vitae to: William J. Fry, M.D., Hudson-Penn Professor and Chairman, Department of Surgery, University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235. The University of Texas Health Science Center at Dallas is an Equal Opportunity Employer.

DREXEL UNIVERSITY

Biophysics/Physics/Atmospheric Science

Several tenure-track faculty positions are available starting fall 1980. Applications are invited from Ph.D.'s with experience in one of these three areas: (i) experimental physics (biophysics, quantum optics, solid state physics); (ii) theoretical physics (solid state, nuclear, atomic, and molecular); and (iii) atmospheric science (mesoscale modelling, remote sensing, satellite observations, and data analysis). Rank and salary commensurate with experience. Send résumé and references to: Dr. William W. Eidson, Head, Department of Physics and Atmospheric Science, Drexel University, Philadelphia, Pa. 19104. An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

The Department of Social Sciences invites applicants for a position as **ASSISTANT TO FULL PROFESSOR IN SOCIETY AND SCIENCE/TECHNOLOGY**. Applicants should have a Ph.D. or A.B.D. with exceptional experience. Preferred background in social impact analysis; technology/science and public policy; technological assessment; or related areas. Applications should be received by 14 March 1980 (extended). Curriculum vitae, three letters of recommendation, and publication reprints should be sent to: **Dr. John H. Winslow, Head, Department of Social Sciences, Michigan Technological University, Houghton, Mich. 49931. Michigan Technological University is an Equal Opportunity Education Institution/Equal Opportunity Employer.**

ASSISTANT PROFESSOR OF ANATOMY/ DIRECTOR OF ELECTRON MICROSCOPY

The Department of Anatomy at the University of Cincinnati College of Medicine invites applications for a position as assistant professor and director of the electron microscopy facility (VA Hospital). Applicants must have 2 to 3 years of postdoctoral experience and a good publication record utilizing EM as a technique. Candidates should respond with curriculum vitae, bibliography, and a statement of past and planned research activity by 7 March 1980 to: **Dr. Robert R. Cardell, Jr., Professor and Chairman, Department of Anatomy, University of Cincinnati, 231 Bethesda Avenue, Cincinnati, Ohio 45267.**

The University of Cincinnati is an Equal Opportunity/Affirmative Action Employer and encourages applications from qualified women and minorities.

ASSISTANT PROFESSOR OF ANATOMY 1 July 1980

**The University of South Alabama
College of Medicine
Mobile, Alabama**

Announces two tenure-track opportunities in the Department of Anatomy.

The department is in an active period of growth with development of strengths in molecular cell biology. Independent research potential will be placed at high priority in the selection of candidates. Strong preference will be given to individuals with evidence of fundability.

Medical classes are small (71) and an integrated graduate program in the basic health sciences also provides a highly favorable opportunity to interact with graduate students. The University of South Alabama is a modern campus in a lovely suburban setting in Mobile, Alabama, a city which offers the attractive living and recreational opportunities of the Gulf Coast. Interested individuals send résumé and three references to:

**Dr. K. L. Yielding, Chairman
Department of Anatomy
University of South Alabama
College of Medicine
Mobile, Alabama 36688**

The University of South Alabama is an Equal Opportunity Employer.

ASSISTANT PROFESSORSHIP: ATMOSPHERIC SCIENCES

The Department of Atmospheric Sciences, University of Washington, offers a tenure-track appointment of a recent Ph.D. with strong scientific interest and capabilities in meteorological data analysis and interpretation. Candidates should be well-trained and deeply interested in the use of computer technology in meteorological research and in further development of interactive computer-based systems for new research endeavors. Reply with curriculum vitae, description of experience and career goals, and names of three references by 15 April 1980 to:

**Chairman
Department of Atmospheric Sciences AK-40
University of Washington
Seattle, Wash. 98195**

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CARDIAC PHYSIOLOGIST Ph.D.—A joint program between the Departments of Pharmacology and Surgery to study means of ameliorating ischemic damage during open heart surgery seeks a physiologist with at least 3 years of postdoctoral experience. Faculty position and salary commensurate with experience. Send résumé and names of three referees to: **Dr. Harold Feinberg, Department of Pharmacology, University of Illinois Medical Center, 835 South Wolcott, Chicago, Illinois 60612. An Affirmative Action Employer.**

POSITIONS OPEN

The **DEPARTMENT OF BIOCHEMISTRY**, Michigan State University, invites applications and nominations for a tenure-track position beginning 1 July 1980. The successful applicant will have a Ph.D. degree with academic training in biochemistry and two or more years of postdoctoral research experience. The applicant will be expected to have demonstrated a potential to develop a strong research program in a modern area of biochemistry. Teaching duties involve participation in undergraduate, graduate, or professional courses in biochemistry. Applications with curriculum vitae, list of publications, a brief statement of research interests, and the names of three references who have been requested to send supporting letters, should be sent to: **Dr. William W. Wells, Chairman of the Search and Selection Committee, Department of Biochemistry, East Lansing, Michigan 48824. An Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR, BIOCHEMICAL ENDOCRINOLOGY. The Department of Animal Science at the University of California, Davis, invites applications for a tenure-track appointment at the assistant professor level to commence September 1980. Applicants must have the Ph.D. or equivalent degree, preferably with postdoctoral training and evidence of productivity in original research. Candidates are expected to develop independent research in endocrinology at the cellular level with emphasis on problems related to animal production. The applicant will be expected to participate in teaching of both undergraduate and graduate students. Applicants should submit curriculum vitae, transcripts, and the names and addresses of at least three persons familiar with their work to: **G. P. Moberg, Chairman, Search Committee, Department of Animal Science, University of California, Davis, California 95616 by 1 May 1980.**

The University of California is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.

ASSISTANT PROFESSOR BIOPSYCHOLOGY PROGRAM

Rutgers College has a tenure-track opening for an assistant professor in biopsychology for September 1980. Of special interest are individuals with research competence in the general area of brain chemistry and behavior (for example, brain peptides and behavior, psychopharmacology, neuroendocrinology and behavior, and so forth). Candidates would be expected to develop an active research program and participate in graduate and undergraduate teaching. Ph.D. required and postdoctoral training preferred.

Applicants should send curriculum vitae, three letters of recommendation, and a summary of research plans to: **Dr. Charles Flaherty, Department of Psychology, Rutgers University, Busch Campus, New Brunswick, New Jersey 08903.**

Rutgers University is an Equal Opportunity/Affirmative Action Employer.

Board-qualified ASSISTANT PROFESSOR OF PATHOLOGY to practice and teach surgical pathology. Must be expert in preimplantation mouse embryo and the transformation of these cells with oncogenic virus. Duties to commence as soon as possible. Salary: \$37,000 plus fringe benefits. Mail curriculum vitae to: **G. Barry Pierce, Department of Pathology, School of Medicine, University of Colorado Health Sciences Center, Denver, Colorado 80262. Equal Opportunity/Affirmative Action Employer, M/F.**

ASSISTANT PROFESSOR OF PHYSIOLOGY

The Department of Physiology is seeking a candidate holding an M.D. or a Ph.D. degree with experience and interest in membrane transport processes. Field of interest can include theoretical, artificial model, cellular, or epithelial membrane transport systems.

Opportunities are available for both collaborative and independent research and for graduate and medical student teaching.

Please send complete curriculum vitae including publications and the names and addresses of three references to:

**Chairman, Membrane Transport Search Committee
Department of Physiology
Yale University School of Medicine
333 Cedar Street, SHM B-107
New Haven, Conn. 06510**

Applications from women and members of minority groups are encouraged. An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

DEPARTMENT OF PHARMACOLOGY AND THERAPEUTICS UNIVERSITY OF FLORIDA COLLEGE OF MEDICINE

Applicants are invited for the tenure-track position of **ASSISTANT PROFESSOR**. Applicants must have an M.D. or Ph.D. degree with postdoctoral experience in research. The applicants will be expected to contribute equitably to the department's teaching efforts and to develop an independent research program. Anticipated starting date is 1 September 1980. Curriculum vitae, bibliography, and three letters of reference should be sent by 31 March to: **Dr. A. H. Neims, Chairman, Department of Pharmacology and Therapeutics, Box J-267, JHMC, University of Florida, Gainesville, Florida 32610. We are an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR, MEDICAL SCHOOL DEPARTMENT OF PHYSIOLOGY. To work independently in our Respiratory Physiology Group in an area related to cellular physiology or cellular biophysics of the lung or respiratory system. Address inquiries to: **Chairman of Physiology, Department of Physiology, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania 19104.**

THE UNIVERSITY OF BRITISH COLUMBIA DEPARTMENT OF ZOOLOGY

Applicants are invited for the position of **ASSISTANT PROFESSOR** in the Department of Zoology, University of British Columbia. The successful applicant will be expected to teach and undertake a strong experimental research programme in invertebrate embryology and morphogenesis. Newly graduated Ph.D. with no more than 2 years of postdoctoral research experience. Salary range: \$20,000 to \$21,500. Curriculum vitae and the names of three referees should be submitted to: **Dr. G. G. E. Scudder, Head, Department of Zoology, University of British Columbia, 2354-6270 University Boulevard, University Campus, Vancouver, British Columbia, Canada V6T 2A9.** The expected date of appointment is 1 July 1980, subject to budgetary approval. Closing date for application is when position is filled.

ASSISTANT RESEARCH PHYSIOLOGIST in the Department of Surgery. Half-time position to study genetic influences on the physiology and development of the pituitary gland and hypothalamus. Ph.D. in biology in the area of cellular physiology, and 1 year or more of postdoctoral research experience in mammalian genetics and immunogenetics required. Rank and salary commensurate with experience. Send curriculum vitae, bibliography, and names of three references to: **Dr. D. B. Wilson, Division of Anatomy, M-004, University of California, San Diego, La Jolla, Calif. 92093. The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT RESEARCH SCIENTIST (biochemistry). Ph.D. or master degree in biochemistry with ability to do independent work; minimum of 2 years of related experience. To perform and supervise biochemical experiments related to muscular dystrophies research (structure and function of the muscle membranes metabolism of major contractile proteins, lipids, and collagen) on fresh muscle and muscle cell cultures. Salary: \$20,000 to \$24,000 according to experience. Initial appointment will be for 1 year and may be extended for two additional years. Send curriculum vitae and two references to: **Dr. V. Ionasescu, Pediatrics, University Hospitals, Iowa City, Iowa 52242, or telephone: 319-356-2674.**

BIOCHEMIST. One- to 2-year project involving synthesis of labeled forms of vitamin B6 and analysis of urinary metabolites using HPLC and GLC. Starting salary: \$16,380 plus full benefit package. Position available immediately. Send résumé and transcripts to: **Jackie Byrd, Employment Manager, Fort Wayne State Hospital and Training Center, 4900 St. Joe Road, Fort Wayne, Indiana 46815. We are an Equal Opportunity Employer, M/F/H.**

Cell and Tumor Biology of Human Colon Cancer—Postdoctoral Position. We immediately need for our active research group a creative, innovative, and motivated individual with a strong background in cell biology who is interested in the immunobiology and biochemistry of human colon cancer cell surface antigens. Experience in human tumor studies desirable. Salary range: \$12,000 to \$13,000. Send curriculum vitae, two letters of reference, and a paragraph describing your research interest to: **Box 33, SCIENCE. An Equal Opportunity Employer.**

POSITIONS OPEN

ASSOCIATE RESEARCH SCIENTIST

Position available immediately in the Iowa Cardiovascular Center and Department of Medicine for a person with three or more years of postdoctoral experience in neurophysiology as it relates to the cardiovascular system. Ability to record action potentials from autonomic nerves required. Ability to perform single-unit recordings from vagal or sympathetic afferents desirable. Salary negotiable from \$16,750. Send curriculum vitae and three letters of recommendation to: **Marc D. Thames, University of Iowa Hospital, Iowa City, Iowa 52242.** *The University of Iowa is an Equal Opportunity Employer.*

BIOCHEMISTRY. Applications are invited for a tenure-track position at the level of assistant professor to be filled on or before 1 July 1980. Applicants should have a Ph.D. in biochemistry, and postdoctoral training. Candidates must demonstrate potential for outstanding teaching ability and excellence in research in membrane biochemistry. Preference will be given to competence in molecular immunology and research in structure-function properties of membranes, or demonstration and characterization of cell surface receptors or other antigens in immunologically relevant systems. Successful candidate is expected to develop a research program, and to teach biochemical subjects to medical and graduate students. Send curriculum vitae, summary of present and projected research, and names and addresses of three people who may be contacted for reference to: **Dr. F. P. Inman, Box 19930A, College of Medicine, East Tennessee State University, Johnson City, Tenn. 37601.** *East Tennessee State University is an Affirmative Action/Equal Opportunity Employer, M/F.*

BIOLOGY FACULTY POSITIONS—One tenure-track, one sabbatical replacement. September 1980. Ph.D., teaching experience and research program required. Preference given to candidates with competence in genetics, molecular biology, microbiology, and botany. Send curriculum vitae and three letters of reference to: **Dr. Ernest Loeb, Dean, Division of Natural Science and Mathematics, Yeshiva University, 2495 Amsterdam Avenue, New York, New York 10033.** *An Equal Opportunity Employer.*

BIOPHYSICAL SPECTROSCOPY USING SYNCHROTRON RADIATION. Postdoctoral research associate position now open; CD and MCD spectroscopy in the far and vacuum UV. Send résumé and names of three references to: **Dr. John C. Sutherland, Biology Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, N.Y. 11973.** *An Equal Opportunity Employer, M/F.*

CHAIR DEPARTMENT OF PHARMACOLOGY UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

The University of Michigan Medical School is seeking an individual to assume the chair of its Department of Pharmacology. Qualifications include: national stature as a leader in the field of pharmacology or in an area of biochemistry, physiology, or molecular biology related to pharmacology; demonstrated commitment to teaching, and interest in administration. Respond to: **Jack L. Kostyo, Ph.D., Chairman, Pharmacology Search Committee, University of Michigan Medical School, Department of Physiology, Room 7744 Medical Science II, 1335 Catherine Street, Ann Arbor, Michigan 48109.** *A nondiscriminatory, Affirmative Action Employer. Code 000BH.*

CHAIRMAN DEPARTMENT OF PHARMACOLOGY

Applications are invited from senior faculty for the position of professor and chairman of the Department of Pharmacology, Texas College of Osteopathic Medicine (TCOM), Fort Worth, Texas. Applications are sought from individuals with demonstrated scholarly productivity in active research programs and an acknowledged history of providing quality education to medical and graduate students. Candidates should possess leadership, administrative skills, grantsmanship experience, and a commitment to the academic process. Interested individuals should submit inquiries or letters of application to: **R. W. Gracy, Chairman Search Committee, TCOM, Camp Bowie at Montgomery, Fort Worth, Texas 76107.** TCOM is a state-supported medical school dedicated to academic and research excellence. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

The School of Veterinary Medicine at the University of Wisconsin-Madison invites applications and nominations for the positions of **CHAIRMAN** of the Department of Structural and Functional Sciences and **CHAIRMAN** of the Department of Pathobiology. Candidates for the chairmanships would be responsible for the development of the appropriate departmental programs within the new School of Veterinary Medicine. Candidates would be expected to provide leadership in the development of the new professional program as well as in the conduct of research, graduate and postgraduate education, and continuing education in the veterinary medical sciences to which the university has long had a strong commitment. Candidates should have professional administrative experience relevant to their designated responsibilities and must possess the D.V.M. or equivalent degree, plus the appropriate Board certification or the Ph.D. degree. Candidates should have a record of scholarly achievement and other appropriate professional experience sufficient to qualify them for tenured rank in the university faculty.

Applications and nominations with supporting material will be accepted through 21 March or until the positions are filled. They should be sent to: **Dr. B. C. Easterday, Room 301, 333 North Randall, Madison, Wis. 53706.**

The University of Wisconsin-Madison is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and members of minority groups.

CHAIRMAN, ANATOMY. Applications and nominations are invited for the position of chairman of the Department of Anatomy of The University of Texas Health Science Center at San Antonio. The department, which consists of 28 full-time faculty members, has teaching responsibilities in both the medical and dental schools. Research activities in areas of cell biology, reproductive biology, neurobiology, and neuroendocrinology provide training opportunities for students in the graduate program leading to the M.S./Ph.D. degrees. Selection criteria include extensive academic experience, administrative competence, a record of scholarly achievement with a history of extramural research support, and demonstrated ability to provide leadership. The position will be available on 1 September 1980. Inquiries, nominations, or letters of application accompanied by curriculum vitae should be submitted no later than 1 April 1980 to: **Carl J. Pauerstein, M.D., Chairman, Anatomy Search Committee, Department of Obstetrics and Gynecology, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, Texas 78284.** *An Affirmative Action/Equal Opportunity Employer.*

UNIVERSITY OF CALIFORNIA NOW RECRUITING FOR A DEAN OF THE COLLEGE OF ENGINEERING

Applications are invited for the position of dean of the College of Engineering at the level of a tenured professorship in an appropriate engineering discipline on the Berkeley campus of the University of California. Applicants should have credentials and standards of scholarly attainment comparable to those of the faculties of the college. Applicants also should have experience in administration in an academic environment and documented research interests and achievements in an engineering discipline.

In addition to their résumés, applicants should submit a statement of their interest in the position and the names of three or more references. All materials should be sent by 24 March to:

**Professor Charles Desoer, Chair
Search Committee for the Dean of the
College of Engineering
200 California Hall
University of California
Berkeley, Calif. 94720**

The University of California is an Affirmative Action Employer.

DEVELOPMENTAL NEUROBIOLOGY POST-DOCTORAL POSITION to participate in cellular studies of synapse development, focusing especially on the role of electric fields in neurite growth, sprouting, and synapse formation, using primarily electrophysiological, EM, and tissue culture techniques. Contact: **Dr. John Caldwell (National Jewish Hospital and Research Center and Department of Physiology, University of Colorado Medical School, Denver, Colo. 80206) or Dr. William Betz (Department of Physiology, University of Colorado Medical School, Denver, Colo. 80262).** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DIRECTOR, CENTER FOR EXPERIMENTAL ANIMAL RESOURCES NORTHWESTERN UNIVERSITY

Applications are solicited for the above position. Candidates must have a D.V.M., postdoctoral training in laboratory animal medicine, Board-certification or eligibility in ACLAM and prior experience in laboratory animal management. Responsibilities include management of laboratory animal care, budgetary matters, and long-range planning. The center is responsible for care of animals used in research and teaching throughout the university. Applicants are invited to submit curriculum vitae and references to: **Dr. David Mintzer, Vice President for Research and Dean of Science, Northwestern University, 633 Clark Street, Evanston, Ill. 60201.**

An Equal Opportunity/Affirmative Action Employer

DIRECTOR OF LABORATORY ANIMAL MEDICINE UNIVERSITY OF PITTSBURGH

Candidates must hold the D.V.M. degree and have experience and training in laboratory animal medicine. Responsibilities involve administration of the university's animal care program including supervision of veterinary care, operation of diagnostic services, and consultations with investigators. Salary negotiable, depending on qualifications. Contact: **Dr. Donald V. Cramer, 712 Scaife Hall, University of Pittsburgh, Pittsburgh, Pennsylvania 15261.**

The University of Pittsburgh is an Equal Opportunity Employer and applications from women and members of minority groups are encouraged.

DIRECTOR, DIVISION OF SURGICAL PATHOLOGY—M.D., Board-certification or eligibility in anatomic pathology. Broad experience in surgical pathology with demonstrated expertise and scholarship in subspecialty. Capability in electron microscopy, immunofluorescence, and histochemistry as applied to surgical pathology. Interest in teaching and training at medical student and resident/fellow levels. Ability to manage and lead an active and responsive surgical pathology unit. Academic rank at associate professor or professor. Opening expected 1 January 1981. Respond with curriculum vitae and three references by 1 May 1980 to: **J. W. Grisham, Chairman, Department of Pathology, University of North Carolina School of Medicine, Chapel Hill, N.C. 27514.**

ECOLOGIST. Assistant professor position available for a sabbatical leave replacement (1980-1981 academic year). Ph.D. required. Teaching responsibilities include a course in general ecology and participation in introductory biology courses. Research facilities excellent. Applicants should send curriculum vitae, graduate and undergraduate transcripts, and names of three references to: **Dr. David B. King, Chairman, Department of Biology, Franklin and Marshall College, Lancaster, Pa. 17604.**

ENERGY EDUCATION—STAFF OPPORTUNITIES

- Wind Energy Technology
- Energy Conservation and Management
- Solar Energy Technology
- HVAC Engineering and Technology
- Biomass Technology
- Alternative Energy Specialist

Duties include instruction, curriculum and laboratory planning. Related education and work experience required. Instructional experience not required. Send résumé to: **Edward Dunn, Director, Red Wing Area Vocational Technical Institute, Highway 58 and Pioneer Road, Red Wing, Minn. 55066.** Telephone: 612-388-8271.

FACULTY POSITION DEPARTMENT OF BIOLOGY THE UNIVERSITY OF CHICAGO

A faculty position is available for a eukaryote geneticist trained in classical genetics and modern recombinant DNA technology. Faculty members are expected to maintain an active research program and engage in graduate and undergraduate teaching. Assistant professor and tenure-level appointments will be considered. At least 2 years of postdoctoral experience is required. Send curriculum vitae, a résumé of research and teaching interests, and the names of three references by 31 March 1980 to:

**Genetics Search Committee
Department of Biology
1103 East 57th Street
Chicago, Illinois 60637**

POSITIONS OPEN

EPIDEMIOLOGY—ASSISTANT PROFESSOR OF PLANT PATHOLOGY

The Department of Plant Pathology, University of California, Berkeley, announces a faculty position for a scientist with a Ph.D. in plant pathology with training and/or experience in epidemiology. Applicants should have demonstrated competence in mathematics and have a background in statistics. Research emphasis will involve application of techniques and concepts of quantitative epidemiology to problems in areas such as analysis of epidemics, disease forecasting, and crop loss appraisal. Teaching responsibility will be at both the undergraduate and graduate levels. Applicants should send curriculum vitae, publications, and the names of three references to: Dr. A. R. Weinhold, Chairman, Department of Plant Pathology, University of California, Berkeley, Calif. 94720 by 1 April 1980.

The University of California is an Affirmative Action Employer.

FACULTY POSITIONS IN BIOCHEMISTRY

The Department of Biochemistry of The University of Texas Health Science Center at Dallas is seeking qualified applicants for tenure-track faculty positions to be activated after 1 September 1980 at the levels of instructor, assistant professor, or associate professor. Teaching responsibilities include participation in medical biochemistry instruction and in teaching graduate students. Applicants should have postgraduate experience and be capable of developing an independent research program. The department has a preference for persons with research interests in the following areas: eukaryotic transcription and/or translation, polypeptide and protein processing, neurobiochemistry, prostaglandin metabolism and function, and molecular endocrinology or nutrition. Please send curriculum vitae, a description of intended research program, and at least two letters of recommendation to: Search Committee, Department of Biochemistry, The University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235. *Equal Opportunity/Affirmative Action Employer, M/F/H.*

POSITIONS OPEN

FACULTY POSITION—Department of Psychiatry, University of California, San Diego, School of Medicine. Applications are invited for a faculty position at the rank of associate professor or professor, to begin on or before 1 May 1980. Applicants should have a very strong background and an outstanding record of scholarly productivity in the areas of electrophysiology, psychopharmacology, and neuroanatomy. High priority will be given to those candidates with potential to enter into interdisciplinary research within the department. Applicants should also be capable of contributing to all levels of medical education and training and to graduate teaching in neurosciences and pharmacology. Candidates with an excellent national and international reputation will be preferred. Applicants should send curriculum vitae, list of publications, future research plans, and the names of at least three individuals from whom letters of recommendation may be solicited by the Search Committee.

Salary: open.

The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer. Send curriculum vitae to: Search Committee J, University of California, San Diego, Department of Psychiatry, M-003, La Jolla, Calif. 92093.

GRADUATE PROGRAM DIRECTOR, assistant professor, tenure-track position. Applicants must have an earned M.D. or Ph.D. in either pathology or a basic medical science and at least 3 years of independent research experience in addition to experience in teaching, directing, and advising graduate students. The duties attendant to the position include aid in the administration of graduate programs in pathology, supervision of graduate seminars in pathology, development of a personal graduate research program, and participation in undergraduate teaching. Send curriculum vitae and three letters of recommendation to: S. T. Nerenberg, M.D., Ph.D., Head, Department of Pathology, University of Illinois at the Medical Center, P.O. Box 6998, Chicago, Illinois 60680. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer and encourages applications from members of minority groups and women.*

POSITIONS OPEN

FACULTY POSITION MECHANICAL ENGINEERING UNIVERSITY OF CALIFORNIA, IRVINE

Assistant professor. Possible opening available in mechanical engineering with disciplinary strength in heat transfer. Doctorate in engineering required with research interests in the utilization of solar energy preferred. Experience in experimental methods is required. Responsibilities include teaching graduate and undergraduate courses in the thermal sciences area and directing graduate research. Applications must be received by 10 March 1980. Send résumés to: Dr. S. E. Elghobashi, School of Engineering, University of California, Irvine, Calif. 92717.

An Affirmative Action Employer

FACULTY POSITION IN ENERGY ENGINEERING AND POLICY DEPARTMENT OF TECHNOLOGY AND HUMAN AFFAIRS WASHINGTON UNIVERSITY (ST. LOUIS)

Ph.D. and some background in engineering or applied science required. Position involves research and teaching in energy policy and alternative sources of energy, and development of new undergraduate program in energy engineering and policy involving the Electrical Engineering, Mechanical Engineering, and Technology and Human Affairs Departments. Send résumé before 1 April 1980 to: Dr. Robert P. Morgan, Chairman, Department of Technology and Human Affairs, Box 1106, Washington University, St. Louis, Mo. 63130.

Equal Opportunity/Affirmative Action Employer

ICHTHYOLOGIST—FISHERIES BIOLOGIST to fill anticipated graduate teaching-research vacancy created by a sabbatical leave for the period 12 September 1980 to 11 June 1981. Position is that of visiting assistant professor with a stipend of \$16,400 for the 9-month academic year. Reply with résumé to: Chairman, Department of Marine Science, University of South Florida, 830 First Street South, St. Petersburg, Florida 33701. Application deadline is 31 March 1980.

U.S. ENVIRONMENTAL PROTECTION AGENCY DEPUTY DIRECTOR ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE CINCINNATI, OHIO

Duties: As deputy director of the Environmental Criteria and Assessment Office, coordinates the analysis and resolution of operational, organizational, scientific, and regulatory issues which arise during the development of health and environmental assessment documents.

Salary: Salary range of \$34,713 to \$50,112.50, depending on individual's experience.

Eligibility requirements: Applicants must have (i) M.D., D.V.M., Ph.D., or equivalent experience in a health science field (for example, biochemistry, pharmacology, physiology, or toxicology); (ii) demonstrated experience in environmental research or other health study programs; (iii) demonstrated ability to communicate on a peer basis with top-ranking scientists and other professionals regarding scientific matters; and (iv) recent publications in the health science or environmental fields.

Application: All candidates should submit a completed Standard Form 171, which is available in Federal Job Information Centers and Federal Agency personnel offices. Résumés cannot be accepted unless accompanied by the 171. A supplemental form may be requested later for use by the Office of Personnel Management for rating and ranking purposes.

Send application to:

Nancy A. Foster
U.S. Environmental Protection Agency
Personnel Management Division
26 West St. Clair Street
Cincinnati, Ohio 45268

Applications must be postmarked by the closing date of 15 March 1980.

The Environmental Protection Agency is an Equal Opportunity Employer.

ENVIRONMENTAL SCIENTISTS

Lawrence Berkeley Laboratory has two positions open for environmental scientists. These are 1-year appointments with the possibility of renewal. Individuals will be responsible for ongoing survey, searching technical and reviewed literature and preparing articles which:

- Describe and evaluate instrumental methods used for environmental monitoring,
- Provide the rationale for monitoring, including descriptions of pollutants and their effects and regulatory requirements, and
- Present descriptions of commercially available instrumentation.

Requires an understanding of principles of gaseous/particle air monitoring or water monitoring. Experience gathering, organizing, and evaluating information from literature and demonstrated writing ability. Prefer an advanced degree in science or engineering and air or water research experience.

Send two résumés, including salary history, to: **Employment Office, Lawrence Berkeley Laboratory, 1 Cyclotron Road, Berkeley, Calif. 94720.** *An Equal Opportunity/Affirmative Action Employer, M/F/H.*

LAWRENCE BERKELEY LABORATORY

University of California

POSITIONS OPEN

EXECUTIVE DIRECTOR

The National Academy of Sciences—National Academy of Engineering, a national nonprofit institution located in Washington, D.C., seeks applicants for the position of executive director of the Assembly of Engineering (AE) to manage a complex organization that conducts studies advisory to the government on national policy issues relating to engineering. The responsibilities include execution of AE programs and administration of funding and budgets, guidance of programs and committee work, and supervision of the staff of more than 60 professionals. The AE oversees the Aeronautics and Space Engineering, Energy Engineering, Marine, Space Applications, and Telecommunications-Computer Applications Boards, plus many other special projects.

Study programs are performed by committees of experts facilitated by the permanent staff. Candidates should have a Ph.D. or equivalent education, and experience in engineering or engineering technology. Substantial leadership experience in scientific and technical research, administrative management of research programs, and the utilization of technical advice in policy formulation required. Familiarity with government agencies and contract/grant procedures desirable. Applicants should send résumé to: **Dr. Robert W. Johnston, Associate Executive Officer, National Academy of Sciences, 2101 Constitution Avenue, NW, Washington, D.C. 20418.**

An Equal Opportunity Employer

The Civil Engineering Department and the Division of Environmental Studies at the University of California, Davis, seek applications for a **FACULTY POSITION IN TRANSPORTATION POLICY ANALYSIS**, with emphasis on any area related to transportation such as energy, environmental quality, or natural resources. Requirements include Ph.D. degree (or equivalent qualifications). The position is expected to be filled at the assistant professor level, but others are encouraged to apply. The deadline is 30 April 1980. Applicants should submit curriculum vitae, transcripts, the names and addresses of three references, and relevant publications to: **Professor T. N. Lam, Department of Civil Engineering, University of California, Davis, California 95616.** *The University of California is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.*

IMMUNOCHEMIST-IMMUNOBIOLOGIST

Ph.D. or M.D. for new immunotherapeutic cancer project at Baylor College of Medicine. Postdoctoral experience desirable. Please send curriculum vitae and bibliography to: **Box 22, SCIENCE.**

IMMUNOLOGIST—ASSISTANT PROFESSOR

Full-time faculty position available in the Department of Obstetrics and Gynaecology. Ph.D. degree required with strong interest in the immunology of reproduction. We are particularly interested in an individual with experience in infertility work who would also be able to start a human semen bank and perform research in the immunological aspects of male and female infertility. Ongoing clinical projects in the area of pregnancy maintenance and trophoblastic disease provide an opportunity for further collaborative research in the immunologic aspects of these conditions.

Send curriculum vitae to:

**Victor Gomel, M.D.
Professor and Chairman
Department of Obstetrics and Gynaecology
University of British Columbia
855 West 12 Avenue
Vancouver, British Columbia, Canada V5Z 1M9**

MAMMALIAN PHYSIOLOGISTS AND BIOPHYSICISTS. Positions open for the 1980-1981 academic year in the areas of cardiovascular physiology, renal physiology, gastrointestinal physiology, endocrinology, reproductive physiology, and respiratory physiology at King Faisal University College of Medicine in Dammam, Saudi Arabia. Ph.D. and/or M.D. and at least 2 years of teaching experience. Salaries are highly competitive and benefits are excellent. Language of instruction is English. Send complete curriculum vitae with telephone numbers and three references to: **Dr. Tawfig Tamimi, Dean, College of Medicine, King Faisal University, c/o Saudi Arabian Educational Mission, 2221 West Loop South, Houston, Texas 77027.**

POSITIONS OPEN

FACULTY POSITION IN ENVIRONMENTAL TOXICOLOGY

Applications are invited for a faculty position beginning July 1980 for graduate-level teaching, student advising, and research in a program with major strengths in industrial hygiene, biohazards, institutional environmental health, environmental epidemiology, and general environmental health. Doctoral degree required with training in toxicology, analytical chemistry, and biology. Must be capable of and interested in teaching and research at both microscopic and macroscopic (whole animal) levels. Salary and rank commensurate with qualifications. Submit curriculum vitae, bibliography, and references to: **Donald E. Barber, Ph.D., Environmental Health Program, School of Public Health, University of Minnesota, 420 Delaware Street, SE, Minneapolis, Minn. 55455. Telephone: 612-373-8080. Deadline is 15 April 1980. An Equal Opportunity/Affirmative Action Employer.**

HEAD, DEPARTMENT OF BIOLOGY. The individual appointed will have primary responsibility for the administration of a department of 17 faculty members and will have occasional teaching responsibilities. Areas within the department include general biology, anatomy and physiology, plant science, and microbiology. The department offers a bachelor of science in applied biology and an associate in applied science in ornamental horticulture. Specialized courses are offered for students in allied health, optometry, pharmacy, and teacher education. The person must have an earned doctorate in an area relevant to the position and experience in college teaching. Administrative experience is desirable. The position is available 1 August 1980. Send letter and résumé no later than 1 April 1980 to: **Dr. Keith Montgomery, Dean, School of General Education, Ferris State College, Big Rapids, Michigan 49307. Telephone: 616-796-9971, extension 481. An Equal Opportunity/Affirmative Action Employer.**

IMMUNOLOGIST—Ph.D. with 1 to 3 years of experience to conduct independent research on human blood cells antigens (platelets, leukocytes, or red cells). Experience in cell culture and biochemical techniques highly desirable. Send description of research experience, curriculum vitae, and names of three references to: **Dr. Richard Kahn, Research Department, Missouri-Illinois Regional Red Cross, St. Louis, Missouri 63108.**

INTERNIST position available. Assistant professor in university teaching hospital. Must be interested in development of programs in ambulatory medicine, general medicine consultation service, student teaching, and house staff training. ABIM preferred. *An Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae and references to: **Robert J. Bolt, M.D., Acting Chief, Section of General Medicine, 205 Professional Building, 4301 X Street, Sacramento, Calif. 95817.**

INVERTEBRATE ZOOLOGIST. Three-year (non-tenure-track) position to study life cycles and transmission of microsporidian parasites of mosquitoes. Research to include investigation of possible intermediate hosts of the Microsporidia. Salary: \$20,000. Send résumé and three letters of reference by 31 March 1980 to: **Dr. D. W. Hall, Department of Entomology and Nematology, 3103 McCarty Hall, University of Florida, Gainesville, Fla. 32611. Affirmative Action/Equal Opportunity Employer.**

LOW-TEMPERATURE GEOCHEMIST

State University of New York at Binghamton invites applications for a permanent position in low-temperature geochemistry, starting fall 1980. It is desirable that applicant have teaching and research interests in one or more of the following: diagenesis of sedimentary rocks, surficial or groundwater geochemistry, and environmental geochemistry. However, applicants with interests in other areas will be considered. Research facilities include an electron microprobe, scanning electron microscope, x-ray diffractometers, atomic absorption spectrophotometers, and high-temperature/high-pressure laboratory. Teaching responsibilities would include undergraduate and graduate courses with opportunity to develop courses at any level. Appointment is planned to be at the junior assistant professor level.

Applicants should submit résumé and arrange for three letters of recommendation to be sent to: **Herman E. Roberson, Department of Geological Sciences, State University of New York at Binghamton, Binghamton, New York 13901.**

State University of New York at Binghamton is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

INSTRUCTOR DEPARTMENT OF ZOOLOGY OREGON STATE UNIVERSITY (OSU)

The Department of Zoology announces a faculty position, available September 1980, at the level of instructor. Duties of this position focus on laboratory teaching and coordination in a large general zoology course. The duties will also involve the ordering of materials and general supervision of the laboratories and the coordination of examinations in the lecture portion of this team-taught sequence. This is not a tenure-track position; however, annual reappointment for a 3-year period is anticipated. Candidates with a master's degree will be considered, but a Ph.D. is preferred. Academic year salary is \$11,000 to \$13,500 depending on qualifications and experience. To apply, send current curriculum vitae, a statement of interests, academic transcripts, and three letters of reference to: **Search Committee, Department of Zoology, Oregon State University, Corvallis, Ore. 97331. Application closing date is 14 March 1980.**

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

MARINE GEOCHEMIST

The Institute of Marine Science at the University of Alaska will fill at the rank of assistant or associate professor a tenure-track position in marine geochemistry. The successful candidate will provide evidence of a strong background in fundamentals and experience involving novel approaches to chemical cycling in aquatic systems. Participation in interdisciplinary studies is encouraged. A letter of application, curriculum vitae, and the names of three references should be sent to: **Dr. Vera Alexander, Director, Institute of Marine Science, University of Alaska, Fairbanks, Alaska 99701. The University of Alaska is an Affirmative Action/Equal Opportunity Employer and Education Institution. Closing date: 1 May 1980.**

MICROBIAL ECOLOGIST

The Institute of Marine Science at the University of Alaska will fill at the rank of assistant professor a tenure-track position in one of the several areas related to marine microbial processes. The successful applicant will provide evidence of a strong background in fundamentals and of experience related to natural processes. Participation in interdisciplinary studies is encouraged. A letter of application, curriculum vitae, and the names of three referees should be sent to: **Dr. Vera Alexander, Acting Director, Institute of Marine Science, University of Alaska, Fairbanks, Alaska 99701. The University of Alaska is an Affirmative Action/Equal Opportunity Employer and Educational Institution. Closing date: 2 May 1980.**

MICROBIOLOGIST (IMMUNOLOGY)

Challenging position currently available at the University of Florida's College of Veterinary Medicine. Responsibilities include supervision of a research laboratory (some diagnostic work) with two technologists and four student assistants. Position requires bachelor's degree with extensive experience in immunologic techniques or a master's degree. Salary from \$11,300, plus excellent fringe benefits including tuition waiver. Send résumé to or apply at: **University of Florida, Scientific Employment Section, 217 HUB, Gainesville, Fla. 32610.**

Equal Opportunity/Affirmative Action Employer

MOLECULAR VIROLOGY—Pre- and postdoctoral positions are available for studies on the molecular biology of virus replication with special emphasis on early interactions between viruses and cells and on the structure and function of RNA virus genomes. Reply with résumé to: **Dr. Alfred T. H. Burness, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3V6.**

NMR SPECTROSCOPIST, assistant professor level, to develop independent research program in biochemical and/or synthetic polymer field(s). Opportunity for collaborative research. Responsibilities include teaching in specialty area and supervision of a 260-MHz multinuclear instrument. Send résumé, bibliography, summary of proposed research, and three letters of recommendation by 15 April to: **Chairman, NMR Search Committee, Michigan Molecular Institute, 1910 West St. Andrews Road, Midland, Mich. 48640. Telephone: 517-631-9450. An Equal Opportunity/Affirmative Action Employer.**

**VACANT POSITION
DIRECTOR, INSTITUTE FOR
THE MEDICAL HUMANITIES
THE UNIVERSITY OF TEXAS
MEDICAL BRANCH
GALVESTON, TEXAS**

The director is in charge of staff and programs and has the responsibility of designing and promoting the structure and the programs of the Institute and relating them to other elements of the Medical Center.

Candidate should be learned and experienced in the humanities and the social and behavioral sciences, particularly as regards professional training, teaching, and practice, and should be recognized as a person of sound medical understanding and experience. Candidates should show evidence of substantial scholarly accomplishments.

The director must be able to recruit persons of scholarly and pedagogic achievements or promise, attract fellows and graduate students, and guide, assist, stimulate, and support their work. The candidate will be expected to develop and maintain support from internal sources and appropriate state, federal, and foundation sources through local, regional, national, or international agencies, programs, and organizations. The director prepares and manages the Institute's budget and other fiscal matters.

The director must have or be qualified for tenure and full professorship and have sound skills in writing and teaching students in various branches and stages of development throughout the University Medical Center. Commitment to and participation in community, state, and national affairs as they relate to the work and mission of the Institute are vital.

Interested persons should contact: **Melvyn H. Schreiber, M.D., Chairman, Medical Humanities Search Committee, P.O. Box 146, Galveston, Texas 77550. University of Texas Medical Branch is an Affirmative Action Employer.**

**FACULTY POSITIONS OPEN
COLLEGE OF AGRICULTURAL
SCIENCES AND FOODS
KING FAISAL UNIVERSITY
HOFUF, SAUDI ARABIA
Academic Year 1980-1981**

The expanding College of Agricultural Sciences and Foods of King Faisal University invites inquiries from qualified applicants for the 1980-1981 academic year in the following fields: **Agromony, Horticulture, Beekeeping, Poultry Science, Biology, Chemistry, Physics, Botany, Biochemistry, Agricultural Extension, Plant Pathology, Agricultural Economics, Animal Science, Animal Ecology, Dairy Science, Agricultural Engineering, and Water Resources and Climatology.**

PREREQUISITES: Master's or equivalent degree: practical and/or teaching experience. Knowledge of Arabic is helpful but not required. Language of instruction is English. Positions available September 1980; interviews scheduled with the dean in Houston, London, and Ottawa in April/May 1980.

SALARY RANGES: Approximate annual U.S. equivalent; professor, \$25,469 to \$33,965; associate professor, \$22,779 to \$28,973; assistant professor, \$18,570 to \$27,487; and lecturer, \$11,611 to \$16,035. Salaries are paid monthly in Saudi riyals. Substantial increase in these salaries is being considered for 1980-1981.

BENEFITS: Free furnished accommodations; substantial educational allowance for up to four children. Air tickets to and from Saudi Arabia once per year for family of four. Sixty-day paid summer holiday; yearly bonus; overweight allowance. No Saudi income tax. Contracts are for 1 year and are renewable.

Send curriculum vitae with current telephone number and the names, addresses, and telephone numbers of three references to:

**Dr. Hussein M. Elarosi
Dean, College of Agricultural Sciences and Foods
King Faisal University**

c/o Saudi Arabian Educational Mission, 2221 West Loop South, Houston, Texas 77027;

OR

c/o P.O. Box 2, Sudbury-on-Thames, Middlesex TW16 5JP England.

Ph.D. in Biochemistry
or Biochemical Pharmacology?

Join us in Ann Arbor
as a

**SENIOR
RESEARCH
SCIENTIST**

Here's your opportunity to conduct in-depth studies of the biochemical relationship between HDL-cholesterol, LDL-cholesterol and their apoproteins, as well as the formation of atherosclerotic lesions. Working with colleagues of the highest caliber... and utilizing advanced methodologies/instrumentation... you would also study the relationship between platelet function (or malfunction) and atherosclerotic lesions. Programs to investigate thrombus formation, prevention, and dissolution would be under your direction.

In addition to your Ph.D., you should bring to the position: (i) training and research in the area of lipoprotein metabolism, (ii) experience in development and evaluation (in animal models) of atherosclerotic disease entities, and (iii) experience in platelet aggregation methodology.

The challenges... and rewards... are significant! For additional information, please send your curriculum vitae in confidence to:

**D. Misner
Personnel Supervisor
Pharmaceutical Research Division
WARNER-LAMBERT/PARKE-DAVIS
2800 Plymouth Road
Ann Arbor, Michigan 48105**

An Equal Opportunity Employer, M/F

Warner-Lambert

**KING FAISAL UNIVERSITY
COLLEGE OF MEDICINE
DAMMAN, SAUDI ARABIA
FACULTY POSITIONS OPEN
1980-1981**

The expanding College of Medicine, now in its sixth year, is accepting applications from qualified men and women for the 1980-1981 academic year in:

CHEMISTRY	PATHOLOGY
BIOLOGY	EPIDEMIOLOGY
PHYSICS	MICROBIOLOGY
BIOCHEMISTRY	PARASITOLOGY
ANATOMY	PHARMACOLOGY
PHYSIOLOGY	COMMUNITY MEDICINE

Doctorate or equivalent degree required. Language of instruction is English. Interviews to be held in London, Houston, and Ottawa during February 1980.

Salaries are highly competitive and negotiable; comparable to other Saudi universities.

Benefits include free furnished housing, educational allowances, air tickets to and from Saudi Arabia once each year for a family of four, 60-day paid vacation, and liberal overweight allowance. No Saudi income tax.

Send curriculum vitae with current telephone number and the names and addresses of three references to:

**Dr. Tawfig Tamimi
Dean, College of Medicine
King Faisal University
c/o Saudi Arabian
Educational Mission
2221 West Loop South
Houston, Texas 77027**

OR

**c/o P.O. Box 2
Sunbury-on-Thames
Middlesex TW16 5JP England**

PHARMACOLOGIST

Our Department of Biomedical Sciences has an opening for an **ASSOCIATE PROFESSOR OF PHARMACOLOGY** (Ph.D. or M.D.) to be appointed no later than 1 July 1980. Candidates for this new position should be able to provide clear evidence of scholarship, quality, and originality in research, and excellence in teaching. Of primary consideration are (i) a demonstrated capability for independent research worthy of major extramural financial support, (ii) ability to function and prosper in a multidisciplinary group of basic and clinical research scientists, and (iii) considerable experience as an effective teacher in pharmacology for medical students and others.

The Rockford School of Medicine, one of the four campuses of the University of Illinois, is conveniently located 70 miles west of Chicago and south of Madison, Wisconsin, in a diversified community of about 200,000 population. This community-based school has modern and uncrowded facilities for research and study and we are well into the process of developing a youthful and stimulating staff of innovative researchers in health-related sciences. Adequate laboratory/office space can be arranged and we expect to provide salary commensurate with experience and compatibility.

Interested qualified persons should forward complete curriculum vitae, a statement of current research activities and interest, and the names of at least three personal references to:

**B. Salafsky, Ph.D.
Professor of Pharmacology,
Head of Department of Biomedical Sciences,
Rockford School of Medicine
University of Illinois
1601 Parkview Avenue
Rockford, Illinois 61101**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

MOLECULAR GENETICIST

We are a new company in the Boston area dedicated to the discovery and development of products useful in medicine, agriculture, and energy, utilizing techniques of recombinant DNA. We seek a **director of research**, whose chief responsibilities will be recruitment and supervision of a highly qualified scientific staff, and consultation with scientists and colleagues in this and related fields. Minimum requirements for this position are a Ph.D. in molecular biology (with emphasis on eukaryote molecular genetics) and 4 to 5 years of experience in the techniques of recombinant DNA at the postdoctoral level. Qualified applicants are invited to submit, in confidence, their résumés, together with publications and salary history, to: **GENESY, Box 1200, 104 Charles Street, Boston, Mass. 02114.** We are an Equal Opportunity Employer.

HARVARD MEDICAL SCHOOL NEUROBIOLOGIST

The Department of Neurobiology is seeking a new faculty member at the assistant professor level to begin 1980 or 1981. *Applications from women and minorities are encouraged.* Minimum starting salary is \$22,000. Please send curriculum vitae and a brief outline of research plans to:

Search Committee
Department of Neurobiology
Harvard Medical School
25 Shattuck Street
Boston, Mass. 02115

PATHOLOGIST—ACADEMIC POSITION. The Department of Pathology, University of South Carolina School of Medicine, invites application for appointment at the level of assistant professor. Applicants must have M.D. degree and Board-qualification or -certification is desirable. The position involves teaching medical students and establishing an active research program. Send replies and curriculum vitae to: **Dr. J. B. Caulfield, Chairman, Department of Pathology, University of South Carolina, Columbia, S.C. 29208.** An Affirmative Action/Equal Opportunity Employer.

PHYSICAL OCEANOGRAPHER

Faculty training and research position, Institute of Marine Science, University of Alaska, Fairbanks. Research interests should include estuarine, coastal, or open-ocean investigations in subpolar oceanography. Participation in interdisciplinary studies is encouraged. Ph.D. degree in physical oceanography is preferred (or its equivalent in training or experience). Rank and salary will be determined by experience. Candidates should send résumé and names of three references to: **Dr. Vera Alexander, Acting Director, Institute of Marine Science, University of Alaska, Fairbanks, Alaska 99701.** The University of Alaska is an Affirmative Action/Equal Opportunity Employer and Educational Institution. Closing date: 2 May 1980.

POSTDOCTORAL—Transplantation immunology laboratory/Department of Surgery seeks specialist in cellular immunology techniques. Temporary position; may become permanent. Please submit résumé to: **Dr. Harry Schanzer, Department of Surgery, THE MOUNT SINAI MEDICAL CENTER, One Gustave L. Levy Place, New York, New York 10029.** An Equal Opportunity Employer.

Massachusetts Institute of Technology (MIT), Department of Biology. **POSTDOCTORAL ASSOCIATE** position available for person with Ph.D. to study mouse teratocarcinoma differentiation in vitro. Laboratory interests include somatic cell genetics, cellular kinetics, and nuclear protein changes associated with the first cellular transitions involved. Experience with cell culture, immunological techniques, or protein biochemistry advantageous. Send curriculum vitae and two letters of recommendation to: **Robert Oshima, Ph.D., Department of Biology, Room 16-627, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, Mass. 02139.** MIT is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION in epidemiology or biostatistics. Persons interested in environmental studies who have doctoral degree in related discipline, for example, medicine, mathematical statistics, sociology, demography, psychology, can obtain additional training and experience to prepare them for a career in these expanding disciplines. Résumé to: **Dr. C. R. Buncher, University of Cincinnati Medical College, Mail Location Number 183, Cincinnati, Ohio 45267.** An Equal Opportunity Employer.

POSITIONS OPEN

NIH POSTDOCTORAL FELLOW. Position available 1 July 1980. Basic research in aspects of immunologic and pharmacologic hypersensitive response. Applicant must be a U.S. citizen or permanent resident. Send curriculum vitae, bibliography, and three references to: **John E. Salvaggio, M.D., Tulane Medical Center, 1700 Perdido Street, New Orleans, Louisiana 70112.** An Equal Opportunity Employer.

POSTDOCTORAL FELLOW, IMMUNOGENETICS. Applications are invited for a fellowship in the Division of Clinical Immunology, Johns Hopkins University School of Medicine. Exciting research in the genetics of human immune response to inhaled allergens. Minimum requirement: Ph.D. in immunology/biochemistry with expertise in radioimmunoassay and cell cultures desirable, or M.D. with appropriate research experience. Submit curriculum vitae and names of three references to: **David G. Marsh, Ph.D., Johns Hopkins University School of Medicine at the Good Samaritan Hospital, 5601 Loch Raven Boulevard, Baltimore, Md. 21239.** Affirmative Action/Equal Opportunity Employer.

NIH POSTDOCTORAL FELLOW. Position available in Immunology Research Unit beginning 1 July 1980. Research in immunologic aspects of occupational lung disease studying involvement of immunopharmacologic, environmental, and host factors. Send curriculum vitae, publications, and names of three references to: **Director of Training Program, Clinical Immunology Unit, Environmental Sciences Building, Tulane University Medical Center, 1700 Perdido Street, New Orleans, La. 70112.** An Equal Opportunity Employer.

POSTDOCTORAL POSITION MEDICAL ULTRASOUND

The research involves collecting and analyzing clinically derived ultrasound signals. The overall goal is to develop methods for computer-aided diagnosis of breast disease.

Candidates should possess an appropriate background in medical physics and have FORTRAN expertise. The position is funded by an NIH research grant which is renewable annually through February 1982. Salary is \$18,000 per annum, with cost of living increases in July. Applications, including résumés and the names of four professional references should be sent immediately to:

Dr. William Swindell
Radiology Department
Arizona Health Sciences Center
Tucson, Arizona 85724

Telephone: 602-626-7848, for further information.

The University of Arizona is an Equal Opportunity Affirmative Action/Title IX/Section 504 Employer.

POSTDOCTORAL POSITIONS

Available for research in endocrinology. Studies are on the biochemical synthesis, chemical structure as well as the mechanism of action of some novel, naturally occurring, steroid hormones. Beginning date is summer 1980. Send application to:

Dr. Richard Hochberg
Department of Obstetrics and Gynecology
Yale University
School of Medicine
New Haven, Connecticut 06510

Postdoctoral Position(s), immediately available for Ph.D. in pharmacology, organic chemistry, biochemistry, or physiology to study characterization and isolation of hormone receptors in relation to cellular aging. Position(s) renewable subsequent years. Competitive salary and excellent fringe benefits. Send curriculum vitae and three letters of recommendation to: **Dr. E. Meezan and Dr. H. D. Kim, Department of Pharmacology, University of Alabama in Birmingham, Birmingham, Alabama 35294.** An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION. Available 1 July 1980 to study ocular secretory IgA mechanisms in humans and animals. Desirable that applicant has background in secretory IgA immunobiology with emphasis on immunization procedures to elicit secretory IgA, measurement of secretory IgA antibody, and immunofluorescence localization of secretory component and various immunoglobulins. Fellowship is for 2 years in the Department of Ophthalmology, Harvard Medical School, and the Department of Cornea Research, Eye Research Institute of Retina Foundation. Send curriculum vitae and three letters of recommendation to: **Mathea R. Allansmith, M.D., 20 Staniford Street, Boston, Mass. 02114.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS

Postdoctoral trainee (NIH) and research associate positions (NIH grants), Department of Microbiology, University of Tennessee (UT), Knoxville, and interacting departments and institutions in the area. Areas of interest (at UT—Microbiology) include viral immunology (togaviruses and also herpesviruses), immunology of tumors; structure and function of herpesviruses; membrane structure and transport; molecular genetics of lysogeny; plasmids and gene expression; microbial ecology; coronavirus replication and structure; other areas of interest in interacting departments are immunochemistry, liposomes, nucleic acids, and so forth. Position available immediately, and October to January 1980-1981. Contact: **A. Brown, Head, Department of Microbiology, University of Tennessee, Knoxville, Tenn. 37916.** An Equal Opportunity Employer.

POSTDOCTORAL POSITION available for investigating basic and applied research in positron emission computed tomography (PCT). Position involves work in instrumentation development, basic physical measurements in PCT, and development of clinical applications of PCT. Background in physics, engineering, or medical physics required. Familiarity with computed tomography, minicomputers, or some area of medicine or biology would be helpful. Please send curriculum vitae to: **E. J. Hoffman, Laboratory of Nuclear Medicine and Radiation Biology, University of California, Los Angeles, 900 Veteran Avenue, Los Angeles, Calif. 90024.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION to initiate research in microbial molybdenum metabolism. Available 1 July 1980. Strong background in biochemistry and experience in microbiological techniques required. Research will involve study of the mechanisms of molybdenum transport and metabolism in microorganisms. Send curriculum vitae and two letters of reference by 1 May 1980 to: **Dr. Thomas Emery, Department of Chemistry and Biochemistry, Utah State University, Logan, Utah 84322.** An Equal Opportunity Employer.

POSTDOCTORAL POSITIONS are available for research training in the following areas of virology: (i) molecular biology of paramyxovirus replication: defining nucleic acid sequences and virus gene products that regulate critical steps in replication, (ii) retrovirus transcriptional regulation: the chromosomal localization and functional significance of endogenous and exogenous viral loci in avian species, (iii) molecular basis of genetic variation, tissue tropism, and host range of influenza viruses: analysis of genes and gene products using RNA and DNA probes and monoclonal antibodies, and (iv) molecular biology of frog virus 3 replication: emphasis on transcriptional and translational regulation of gene expression and genome replication. Please send curriculum vitae, the names of three references, and a description of research career goals to: **Allan Granoff, Ph.D., Chairman, Division of Virology, St. Jude Children's Research Hospital, P.O. Box 318, Memphis, Tenn. 38101.**

POSTDOCTORAL RESEARCH ASSOCIATE position available 1 March 1980 for research on epididymal physiology. Study factors regulating functions of cultured principal cells and differences in functions of principal cells from different regions of the epididymis. Experience in cell culture, EM radioautography, immunoelectrophoresis, affinity chromatography, and reproductive biology will be considered. Salary: \$13,500. Résumé and names of three references to: **Dr. R. P. Amann, Animal Reproduction Laboratory, Department of Physiology and Biophysics, Colorado State University, Fort Collins, Colo. 80523.** Applications considered until position filled. *Colorado State University is an Equal Opportunity/Title IX Employer. Equal Opportunity Office: 314 Student Services Building.*

POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS

Two positions available immediately to study cellular mechanisms of electrolyte transport in the small intestinal and gastric mucosa. Research emphasis includes electrophysiology, intracellular ion activities, energy metabolism and hormone-receptor interactions. Experience in electrolyte transport or membrane biology helpful. Send curriculum vitae and names of three references to: **Dr. J. F. White, or Dr. S. J. Hersey, Department of Physiology, Emory University School of Medicine, Atlanta, Ga. 30322.** An Equal Opportunity/Affirmative Action Employer.

Research Immunologist

The Research & Development Division of G. D. Searle & Co. has an immediate opportunity in Immunological Research.

Qualifications include an MS in immunology or biology and minimum of one year experience in immunological research in an industrial or academic laboratory environment. Familiarity with immunological assays, tissue culture techniques, protein purification, chromatography, radioisotope techniques and immunization of small animals is highly desirable.

Please submit resume with salary requirements to:

Larry Kedzior

Research & Development
Division

G. D. Searle & Co.
P.O. Box 5110
Chicago, IL 60680

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MOLECULAR BIOLOGIST

We are seeking applications for a research position in the Research and Development Laboratories in the area of genetic engineering.

The successful candidate will be expected to do independent research of high quality, to apply the technology of recombinant DNA to new and existing biological systems, and to interact with a variety of motivated professionals in a dynamic industrial research environment.

The candidate must have a Ph.D. in biochemical genetics, nucleic acid biochemistry or a related field, and have one to five years experience in recombinant DNA technology.

The position is available immediately.

Salary will be commensurate with experience.

Interested candidates should send curriculum vitae to:

Mrs. Dorothy McLay, Recruiting
Aide
Technical Staffs Division
Corning Glass Works
Sullivan Park
Corning, New York 14830

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RESEARCH ADMINISTRATOR MEDICAL COLLEGE OF GEORGIA

Applications are invited for the newly created position of Director of Research Administration and Vice President and General Manager of the Medical College of Georgia Research Institute.

The successful candidate will help ensure the highest quality of research at the Medical College of Georgia and will contribute directly to the long-range success of the research endeavors of the institution. Responsibilities include assisting in the development, implementation, and improvement of research policy and environment at the Medical College of Georgia. The Medical College of Georgia serves as the health sciences university for the University System of Georgia and is composed of the Schools of Allied Health Sciences, Dentistry, Graduate Studies, Medicine, and Nursing.

To qualify for consideration a candidate must have proven administrative experience, ability to direct programs and obtain funding, and experience with extramural granting agencies, industry, and foundations. The candidate needs to have a broad perspective of research in various disciplines and be skilled in interpersonal relationships. An earned doctorate and demonstrated research productivity are desirable personal qualifications.

Applications should include complete curriculum vitae and references who are intimately knowledgeable of the candidate's experience and ability. Please address nominations/applications or requests for further information to:

Dr. Ralph V. McKinney, Chairman
Research Administrator Search Committee
Medical College of Georgia, AD-186
Augusta, Georgia 30912
Telephone: 404-828-2721

Applications accepted through 15 April 1980.

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TERRESTRIAL ECOLOGISTS

Growing environmental consulting firm needs individuals to plan and manage terrestrial ecology studies including environmental assessments, terrestrial resource inventories relating to the industrial and resource development.

GROUP LEADER TERRESTRIAL ECOLOGY

To manage terrestrial ecology staff of plant ecologists and wildlife biologists. Also to develop and manage interdisciplinary and ecological studies for energy and resource development projects. To act as staff scientist in area of specialty. Requires Ph.D. in terrestrial ecology, wildlife biology, systems ecology or plant ecology. Minimum of 2 years ecological assessment consulting/agency experience including management/administration. Starting salary range of \$22,000-28,000.

TERRESTRIAL ECOLOGY STAFF SCIENTISTS

To conduct and manage ecology studies, especially wetland evaluations, power plant and mining assessments and ecological reclamation. Requires Ph.D. in plant ecology and/or physiology, forestry, agronomy or reclamation and 1 to 3 years of applied ecological research, consulting or agency experience. Starting salary range \$22,000-28,000.

Submit resume with salary history/requirements to:

Martin H. Smith-Personnel Manager
Dept. S280

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Postdoctoral Opportunities in Coal Toxicology Program

The Biological and Medical Research Division of Argonne National Laboratory is expanding its Biological Research Program on the toxicological effects of fossil fuel effluents in energy production.

Postdoctoral opportunities exist in: bacterial genetics under H. E. Kubitschek and M. J. Peak; cytogenetics under T. Matsushita; mammalian cell biology under N. M. Elkind; and mammalian toxicology under C. A. Reilly, Jr.

Work will involve assessment of biological activity in the effluents from fossil fuel energy technologies, the development of rapid screening techniques for such assessments, and research into the biological effects of such effluents.

These positions offer fully commensurate compensation based upon experience, as well as excellent potential for professional recognition and career advancement.

To apply, please send resume
to: M. S. Brown, Box BIM,
Argonne National Laboratory,
9700 So. Cass Avenue,
Argonne, IL 60439.



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POSITIONS OPEN

POSTDOCTORAL FELLOW. Available immediately to study the mechanism of intracellular parasitism and symbiosis in the area of cell biology/biochemistry. Experiences in electrophoresis, chromatography, and cell fractionation help, but other area will also be considered. Please send application and curriculum vitae to: P.O. Box 246, The Rockefeller University, New York, N.Y. 10021.

POSTDOCTORAL POSITION available immediately to study hormone action in ovarian cells; work involves cell culture, gonadotropins, prolactin, receptors, steroidogenesis, ornithine decarboxylase, and polyamines. Independent laboratory in large endocrinology/reproductive biology group. Send curriculum vitae and names of three references to: Dr. James M. Hammond, Division of Endocrinology, The Milton S. Hershey Medical Center, The Pennsylvania State University, Hershey, Pa. 17033. *The Pennsylvania State University is an Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

PRIMARY RESEARCH/PROFESSORIAL POSITION available. Ph.D. chemist to establish and direct a radiochemistry laboratory for a recently funded Medical Cyclotron Center dedicated to brain research. Candidate should have experience in the synthesis of organic compounds labeled with carbon-11 and fluorine-18. Position open immediately. Send résumé and telephone numbers of three references to: Dr. D. M. Wieland, Phoenix Laboratory, 2301 Bonisteel Boulevard, University of Michigan, Ann Arbor, Michigan 48109. *A nondiscriminatory, Affirmative Action Employer. Code 4900H0.*

DEPARTMENT OF PREVENTIVE MEDICINE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

Searching for **PROFESSOR AND HEAD** of Department of Preventive Medicine at Washington University School of Medicine, St. Louis, Missouri. Interest in epidemiology and research accomplishments are particularly important. If interested, please send curriculum vitae and complete bibliography to:

M. Kenton King, Dean
Washington University School of Medicine
660 South Euclid Avenue—Box 8106
St. Louis, Missouri 63110
Equal Opportunity Employer

DEPARTMENT OF ANATOMY WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

Searching for **PROFESSOR AND HEAD** of Department of Anatomy at Washington University School of Medicine, St. Louis, Missouri. Research accomplishments particularly important. If interested, please send curriculum vitae and complete bibliography to:

M. Kenton King, Dean
Washington University School of Medicine
660 South Euclid Avenue—Box 8106
St. Louis, Missouri 63110
Equal Opportunity Employer

PSYCHOPHARMACOLOGY: ASSISTANT PROFESSOR

The Laboratory of Psychobiology within the Department of Psychiatry of the University of Cincinnati College of Medicine invites applications for a tenure-track assistant professor position. The applicant must have a Ph.D. or M.D., postdoctoral experience, and a demonstrated ability for outstanding research in the field of psychopharmacology-psychobiology. The applicant will be expected to develop his/her own research program and in addition participate in group studies with a strong clinical emphasis. Interested individuals should send curriculum vitae, the names of three references, and a short description of research accomplished, in progress, and that proposed for the next several years. Apply to: David L. Garver, M.D., Department of Psychiatry, University of Cincinnati College of Medicine, 231 Bethesda Avenue, Cincinnati, Ohio 45267.

The University of Cincinnati is an Equal Opportunity Employer.

POSITIONS OPEN

UNIVERSITY OF KONSTANZ

At the Institute of Limnology, University of Konstanz, West Germany, the position of a **FULL PROFESSOR OF LIMNOLOGY** is open. The main tasks will be to teach limnology at the Universities of Konstanz and Freiburg, and to perform limnological research. Applicants should be specialized in a field that is complementary to the disciplines already present at Konstanz (production biology, stream ecology, fish biology). They are expected to be qualified by their scientific contributions on structural and functional aspects of aquatic ecosystems. Candidates should fluently speak and write German. Deadline for the application is 17 March 1980.

Applications with the usual papers (including reprints of recent publications and a list of teaching record) should be submitted to:

Dekan der
Fakultät für Biologie
Universität Konstanz
Postfach 5560
7750 Konstanz
West Germany

PROTEIN SEQUENCE ANALYST BIOANALYTICAL SERVICES LABORATORY

Protein sequence analyst. At least 3 years of experience with spinning cup sequencer. Ph.D. preferred. Modern facilities available, including solid phase sequencer. Salary competitive. Send curriculum vitae and names and addresses of at least three references by 15 March 1980 to: C. A. Ryan, Bioanalytical Search Committee, Department of Agricultural Chemistry, Washington State University, Pullman, Wash. 99164. *Washington State University is an Equal Opportunity/Affirmative Action Employer. We encourage minority, women, handicapped, Vietnam-era and disabled veterans and/or aged persons to apply and identify themselves as such in their applications.*

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

The Department of Psychiatry at the University of Michigan has an opportunity for a **PSYCHIATRIST** to develop an academic career in the context of a strong existing Consultation-Liaison Program. Qualifications should include evidence of ability in clinical teaching of residents, fellows, and medical students, development of new liaison sites, and research. Must have Boards in psychiatry or be Board-eligible with intention to take Boards in near future. Please send curriculum vitae to: Dr. Monica N. Starkman, Chief, Adult Service Consultation-Liaison Program, Department of Psychiatry, University of Michigan Medical Center, 1405 East Ann Street, Ann Arbor, Michigan 48109. *A nondiscriminatory, Affirmative Action Employer. Code 900D0.*

RESEARCH ASSISTANT PROFESSOR POSITION

The Department of Biochemistry and Biophysics has a position as research assistant professor available immediately. This position is nontenured. The applicant must have a Ph.D. degree and 5 years of experience with bacteriophage, including recombinant DNA techniques, in vitro packaging, and cloning of eukaryotic DNA's. Please send applications by 31 March 1980 to:

Dr. David R. Trentham, Chairman
Department of Biochemistry and Biophysics
University of Pennsylvania
School of Medicine/G3
Philadelphia, Pa. 19104

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RESEARCH ASSOCIATE IN ENDOCRINE PHYSIOLOGY. Research responsibilities include research in cellular mechanism of growth hormone action and isolation and purification of somatomedins and pregnancy-associated antigens. Ph.D. in biochemistry or physiology required. Contact: Dr. J. E. McCroskey, Head, Department of Animal Sciences, University of Idaho, Moscow, Idaho 83843. Telephone: 208-885-6345.

RESEARCH ASSOCIATE. Postdoctoral position available immediately for a biochemist to study enzymology and regulation of metabolism in cultured mammalian cells. Please send curriculum vitae and two letters from referees to: E. H. Y. Chu, Department of Human Genetics, University of Michigan Medical School, Ann Arbor, Mich. 48109. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

PRESIDENT PENNSYLVANIA HORTICULTURAL SOCIETY

The presidency of the Pennsylvania Horticultural Society provides an unusual and rewarding opportunity for a person with a proven record of administrative and financial management and with a professional or amateur background in horticulture. The person selected will administer and operate a 7000-member society, a \$1.5-million annual budget, and a staff of 25. It relies on the active support of more than 1000 volunteers.

It is known for its production and management of the Philadelphia Flower Show, for publishing a bi-monthly magazine, for operating a circulating library, and for conducting extensive urban outreach programs.

The salary is competitive. *The Society is an Equal Opportunity Employer.*

Nominations and recommendations should be sent to:

Presidential Services Division
Academy for Educational Development
680 Fifth Avenue
New York, New York 10019

RESEARCH ASSOCIATE positions beginning immediately for kinetic, physical, and structural studies on thiol-treated, superactive ribonuclease [see *Science* 199, 1084 (1978)] and/or high field (360 MHz) NM studies on protein dynamics and the unfolding and refolding of proteins [see *BBRC* 86, 885 (1979)]. Applicants with expertise in protein chemistry or physical biochemistry are desired. The initial appointments will be for 1 year with the possibility of renewal. Please send résumé, including details of research experience, and three letters of recommendation to: Dr. F. W. Benz, Department of Pharmacology and Toxicology, University of Louisville, School of Medicine, P.O. Box 35260, Louisville, Kentucky 40232. *The University of Louisville is an Affirmative Action/Equal Opportunity Employer.*

RESEARCH VIROLOGIST

Excellent opportunity to conduct developmental research with the objective of developing veterinary viral vaccines. Prefer Ph.D. virology, D.V.M. with virology background, or M.S. virology with several years of industrial research experience. Potential for career advancement; excellent salary and benefits. Send detailed résumé in confidence to:

Personnel Director
JENSEN-SALSBERY LABORATORIES
Division of Burroughs Wellcome Co.
P.O. Box 167
Kansas City, Mo. 64141
Equal Opportunity Employer, M/F

RESOURCES FOR THE FUTURE (RFF) SENIOR ECONOMIST AND ECONOMIST

SENIOR ECONOMIST to work on energy policy and applied micro theory issues. Term or indefinite (permanent) appointment. Applications welcome from academics with leave in prospect. Ph.D. (or equivalent) and substantial publication record required. Salary open.

ECONOMIST to work on wide range of energy issues. Training in engineering or physical sciences or experience in petroleum industry helpful. Renewable term appointment. Ph.D. (or equivalent) required. Salary open.

Send full résumé and letter indicating interest to: Milton Russell, RFF, 1755 Massachusetts Avenue, NW, Washington, D.C. 20036. *Equal Opportunity Employer, M/F.*

VIROLOGIST—A full-time tenure-track position at assistant professor level for a medically oriented virologist. Ph.D. or M.D., with postdoctoral experience and a strong background in research. The primary duties include lectures to medical and dental students, and guidance of graduate students in their research toward fulfillment of graduate degree requirements. The successful candidate is expected to develop a research program of his/her own choosing in modern mammalian virology and obtain extramural funding for this purpose. He/she will occupy a well-equipped laboratory. Please send curriculum vitae with three letters of reference to: Dr. P. V. Llu, Acting Chairman, Department of Microbiology and Immunology, University of Louisville, Health Sciences Center, Louisville, Ky. 40232. *The University of Louisville is an Affirmative Action/Equal Opportunity Employer.*

**The University of Florida,
Institute of Food and Agricultural Sciences, and
U.S. Environmental Protection Agency**

Symposium on: Evaluation of Health Risks Associated With
Animal Feeding and/or Land Application of Municipal Sludge

April 29-May 1, Tampa, Florida

Call for abstracts: The symposium will include 2-3 concurrent
sessions for reports of individual research.
Interested investigators are invited to submit abstracts.

For information concerning registration, accommodations
or submission of abstracts write to:

Dr. E. M. Hoffmann
1059 McCarty Hall
University of Florida
Gainesville, Florida 32611
(904) 392-1906

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The Institute is engaged in basic and applied micro-
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movement of nutrients of concern in water and soil
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We seek a Ph.D. qualified graduate of proven re-
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A contributory pension scheme is available, and
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Application (3 copies), including curriculum vitae,
health certificate, photograph, list of publications,
description of previous experience, and the names of
three professional referees with whom the applicant
has worked, should be addressed to the Director, Caw-
thron Institute, P.O. Box 175, Nelson, New Zealand.

Applications close in Nelson on 30 April 1980.

**PLATELET
RESEARCH**

POSTDOCTORAL POSITION

BURROUGHS WELLCOME CO., a long established manu-
facturer of pharmaceuticals with a top reputation for research,
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Candidates interested in applying for this postdoctoral position
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and print your name and address in the
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POSITIONS OPEN

The recently established **INSTITUTE FOR URBAN RESEARCH** at **MORGAN STATE UNIVERSITY** seeks to fill two anticipated vacancies in the very near future. Preference will be given to persons with experience as urban research ecologist and educational research psychologist. This is a staff level position.

Competitive candidates should have an earned doctorate appropriate to the area of specialization. Preference will be given to those (i) with 3 to 5 years of urban research experience, (ii) with a history of successful grantsmanship and relevant publications in refereed journals, and (iii) sensitivity to the Black/minority experience in the urban community.

Salary: negotiable.

Closing date: 15 March 1980.

Beginning date: 1 July 1980.

Interested persons please forward up-dated résumé, official transcript of all graduate work, three letters of reference, and letters of application or inquiry to:

Phillip Carey, Ph.D., Director
Institute for Urban Research
Morgan State University
Cold Spring Lane and Hillen Road
Baltimore, Maryland 21239

Morgan State University is an Affirmative Action Employer. Women and minorities are encouraged to apply.

VETERINARIAN experienced with laboratory animals. Individual is expected to have interest and experience in research with laboratory animals. Duties will include heading the centralized animal facility (maintenance of rodents, dogs, and breeding of mice). Interested applicants should send résumé and salary requirements to: **Duane Crosier, Personnel Manager, Fred Hutchinson Cancer Research Center, 1124 Columbia Street, Seattle, Wash. 98104. Equal Opportunity/Affirmative Action Employer, M/F.**

CONFERENCES

CONTRIBUTIONS TO HEMOSTASIS 19 to 21 May 1980 Detroit

The conference is to give recognition to Professor Walter H. Seegers upon his retirement as chairman of physiology with 42 years of research contributions.

Session topics: endothelium-platelet interactions; contact factors; prothrombin-complex proteins activation; fibrinogen; natural and synthetic inhibitors; posters on related subjects.

Further information: **Daniel A. Walz, Department of Physiology, Wayne State University School of Medicine, Detroit, Mich. 48201; telephone: 313-577-1531.**

NEWER THERAPEUTIC AND DIAGNOSTIC MODALITIES FOR THE MANAGEMENT OF HEMOSTATIC DISORDERS 22 to 24 May 1980 Maywood, Illinois

This conference will stress applied aspects of hemostasis.

Topics: hemostatic disorders; heparin therapy; anti-platelet drugs; thrombolytic therapy; antithrombin III and component therapy; newer diagnostic modalities in thrombosis.

Further information: **B. L. Yarbrough, Department of Pathology, Hemostasis Research Laboratories, Loyola University Medical Center, Maywood, Ill. 60153; telephone: 312-531-3256.**

ASSISTANTSHIPS

GRADUATE TEACHING ASSISTANTSHIPS IN BIOLOGY

Predocutorial teaching assistantships available for graduate study leading to the Ph.D. degree in biological sciences. Stipends start at \$4,000 per 9 months, plus tuition waiver and a possible housing allowance of \$140 per month. Summer support is also available. For applications write: **Dr. V. Hari, Department of Biological Sciences, Wayne State University, Detroit, Michigan 48202. Wayne State University is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANTSHIPS

TEACHING ASSISTANTSHIPS for September 1980. Graduate study in Biology Department leading to M.S. or Ph.D. with concentration in botany, zoology, microbiology, physiology, ecology, cell biology, marine biology. Anticipated stipends: \$3,600 or more for 9 months, and tuition waiver, which includes 1980 summer courses at our Marine Station at Nahant. For information write to: **Dr. Ernest Ruber, Department of Biology, NORTHEASTERN UNIVERSITY, Boston, Mass. 02115. An Affirmative Action/Equal Opportunity Employer.**

COURSES

Seventh annual program in ELECTRON MICROSCOPY STATE UNIVERSITY OF NEW YORK (SUNY) TEM; SEM; FREEZE-FRACTURE (ETCHING)

Course I: **SCANNING and TRANSMISSION ELECTRON MICROSCOPY**, 2 to 13 June, Dr. B. L. Redmond, SUNY, principal lecturer. Course II: **FREEZE-FRACTURE (ETCH) MICROSCOPY**, 16 to 20 June, Dr. Russell Steere, U.S. Department of Agriculture, principal lecturer. The lectures and laboratories of each course are designed to introduce the participant to the theoretical and practical aspects of the instruments and techniques. Enrollment is limited to permit maximum individualized and hands-on instruction. Tuition: \$550. For further information and application form, write or call: **Dr. B. L. Redmond, Department of Biology, State University of New York, New Paltz, N.Y. 12562. Telephone: 914-257-2549 or 2175.**

TRAINEESHIPS

POSTDOCTORAL TRAINEESHIPS IN DEVELOPMENTAL BIOLOGY

Several postdoctoral traineeships in developmental biology are available at the University of Virginia. Possibilities to work in the following laboratories exist: **Dr. C. P. Emerson** (gene regulation and cellular differentiation); **Dr. P. N. Adler** (positional information and determination in imaginal discs); **Dr. J. Dent** (comparative endocrinology and amphibian development); **Dr. R. M. Grainger** (gene regulation during development); **Dr. I. R. Konigsberg** (biochemistry and regulation of muscle cell differentiation); **Dr. O. L. Miller** (ultrastructural investigations of genetic activity); **Dr. E. E. Oliphant** (biochemistry of reproduction); **Dr. L. Rebhun** (control processes in egg activation and cell division); **Dr. T. R. F. Wright** (genetic regulation of dopa-decarboxylase during development); **Dr. P. M. Rodier** (central nervous system development); and **Dr. L. M. Wiley** (early mammalian development). Candidates should send curriculum vitae and three letters of reference either directly to the desired laboratory head or to: **Dr. P. N. Adler, Department of Biology, Gilmer Hall, University of Virginia, Charlottesville, Virginia 22901.**

FELLOWSHIPS

PREDOCTORAL FELLOWSHIPS

The Division of Experimental Pathology at the University of Kentucky College of Medicine has predoctoral fellowships available to students seeking the Ph.D. degree. An interdisciplinary program is available with research opportunities in the areas of cellular immunology, immunochemistry, tumor immunology, neuroimmunology, molecular and tumor virology, cell biology, and tumor cytogenetics. For further information contact: **Dr. Thomas L. Roszman, Division of Experimental Pathology, Department of Pathology, University of Kentucky, Lexington, Kentucky 40536.**

POSTDOCTORAL FELLOWSHIP available for research training in mammalian developmental genetics with particular emphasis on biochemical analysis of mutant effects. Experience in biochemistry required. For further information write or telephone: **Dr. Salome G. Walsch, Department of Genetics, Albert Einstein College of Medicine, Bronx, N.Y. 10461; telephone: 212-430-3185. An Affirmative Action/Equal Opportunity Employer.**

FELLOWSHIPS

GRADUATE FELLOWSHIPS in the neurosciences are available for fall 1980. Stipends are approximately \$5,000 for 12-month appointments.

Send letters of inquiry to:

Dr. Vernon Pegrum, Director
The Neurosciences Program
The University of Alabama in Birmingham
Birmingham, Alabama 35294

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POSTDOCTORAL FELLOWSHIPS IN IMMUNOLOGY, BIOCHEMISTRY, PHARMACOLOGY, AND STRUCTURAL ORGANIC CHEMISTRY. NIH training positions available IMMEDIATELY and also July 1980, for M.D.'s and Ph.D.'s. Major research emphasis on various aspects of inflammation including leukocyte function, mediators, drug action, tissue culture, protein and lipid biochemistry. A new program in structural and synthetic organic chemistry of biologically important compounds is available. Clinical allergy and rheumatology experience will be offered. Stipends and benefits according to NIH and university guidelines. Apply with curriculum vitae, three letters of reference, major research interests, and immigration status (if applicable) to: **Lewis D. Yecies, M.D., Health Sciences Center, State University of New York, Stony Brook, Long Island, N.Y. 11794. An Equal Opportunity/Affirmative Action Employer.**

PREDOCTORAL AND POSTDOCTORAL FELLOWSHIPS. Predoctoral fellowships are available at \$5,400 per year plus tuition waiver to science graduates in biology, biochemistry, chemistry, or microbiology. A supplement may also be granted to eligible applicants. Postdoctoral fellowships at \$15,000 per year are available to holders of the Ph.D. medical or dental degree. Successful applicants will participate in a multidisciplinary research program. Send curriculum vitae, transcripts and references to: **Dr. Israel Kleinberg, Chairman, Department of Oral Biology and Pathology, State University of New York, Stony Brook, Long Island, N.Y. 11794. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOWSHIPS IN ENDOCRINOLOGY at the University of California, San Diego, for July 1980. Positions available for M.D.'s and Ph.D.'s under auspices and guidelines of NRSA of the NIH in the broad area of calcium and skeletal metabolism. Primary research programs include: (i) secretion and biosynthesis of calcitonin and parathyroid hormone; (ii) hormonal interactions of calcitonin, parathyroid hormone, and vitamin D; (iii) metabolism of bone cells. Research methodologies include: (i) radioimmunoassays and receptor studies; (ii) studies in experimental animals; (iii) tissue culture; (iv) immunohistology; (v) immunochemistry and biochemistry; and (vi) clinical research. Send applications and three letters of recommendation to: **L. J. Deftos, M.D., Department of Medicine (Endocrine Section V-111C), University of California, San Diego, La Jolla, Calif. 92161. The University of California is an Equal Opportunity/Affirmative Action Employer.**

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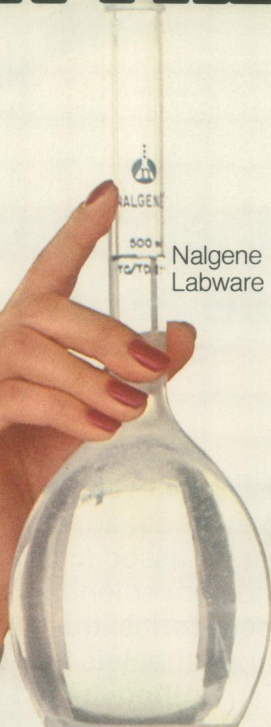
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