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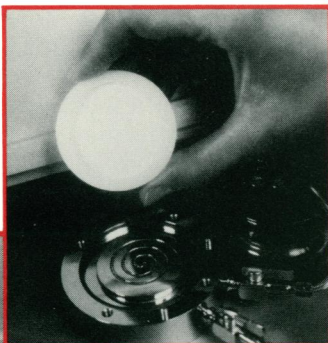
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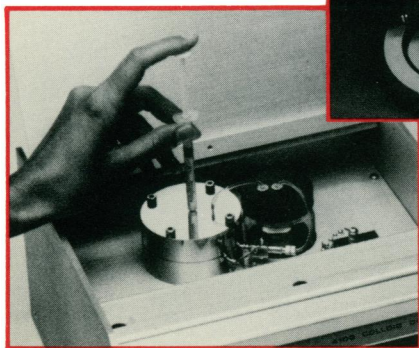
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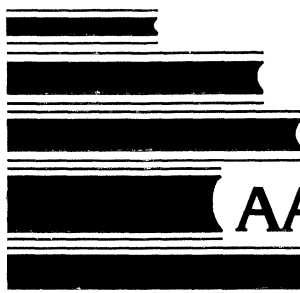
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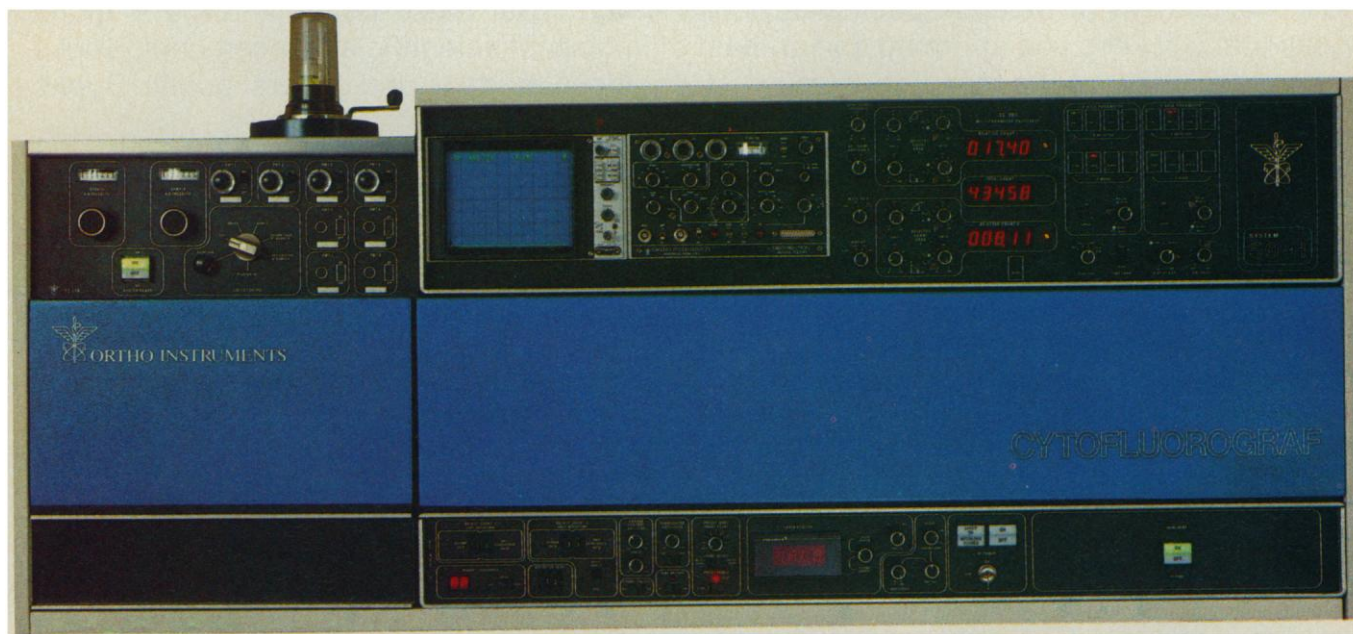
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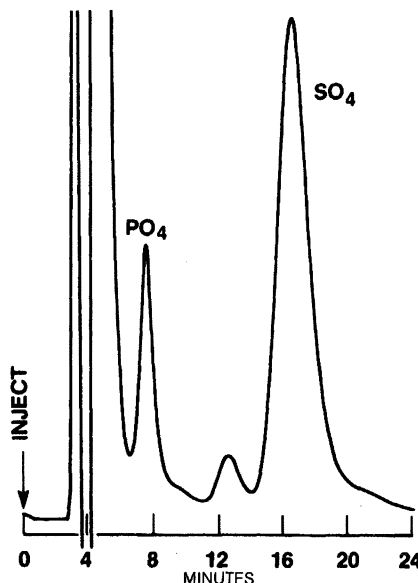


Fig. 1 Patient under dialysis treatment

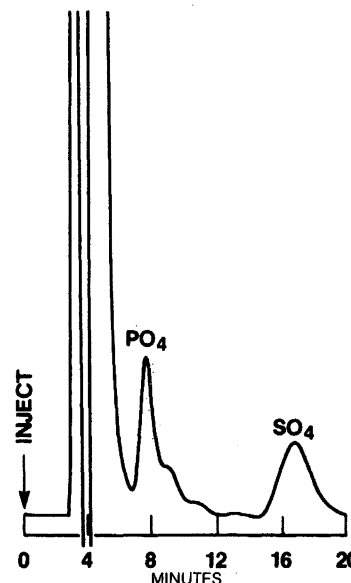


Fig. 2 Normal Patient

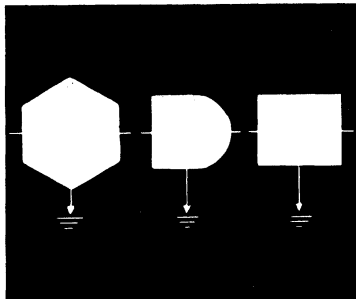
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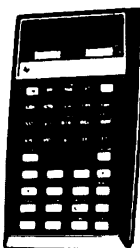
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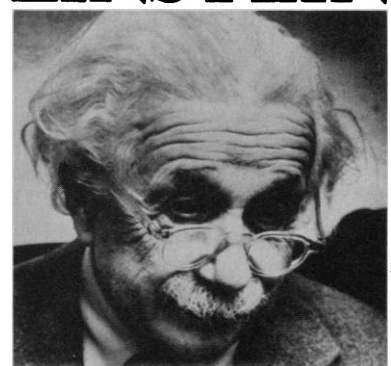
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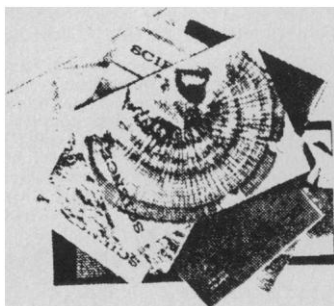
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Washington, D.C. 20005**

POSITIONS WANTED

Biochemist Ph.D. enzymology, molecular virology. Seeks industry-government-academic position in health-related research. Box 80, SCIENCE. 3/23, 30

Biologist. Community college teacher with excellent evaluation; 9 years of experience teaching biology, zoology, genetics, anatomy and physiology, microbiology; team teaching physical anthropology, human sexuality. M.S. (genetics) plus 37 seminar hours. Desires permanent teaching position in West or Southwest. Box 97, SCIENCE. X

Biologist. Ph.D.: emphasis life sciences. Tenured by large university. Seeks part-time teaching in small college, southeastern United States. Available August 1979. Box 104, SCIENCE. X

Biologist-Botanist/Problem Solver: Ph.D. 1972. Tired of working 60 to 70 hours per week for peanuts in academia. Wants day's wages for day's work, plus 12-month contract. Grants, publications, much experience in research laboratory design and construction. Box 102, SCIENCE. X

Biomathematician/Computer Programmer seeks research position in mathematical biology. Ph.D. biology; B.S. mathematics, California Institute of Technology. Interest/experience in simulation modeling (biological and physical systems), computer programming (ecological simulations, vegetation analysis, wildfire behavior, and nuclear engineering), biostatistics, and teaching. Available 1 May. P. C. Brown, 1006 Brookside Drive, Felton, California 95018. X

Botanist/Cell Biologist. Ph.D. 1975. Broad base of training; 3 years of teaching experience. Research experience: 3 years of EM (TEM, SEM); 4 years of postdoctoral; plant ultrastructure, tissue culture, photosynthesis, RNA metabolism, in vitro protein synthesis. Publications. Box 99, SCIENCE. X

Director for photographic unit. Scientific background. Ph.D. 1975. Experienced in a full range of photographic applications and services (studio and laboratory), micrography (LM, TEM, SEM), graphic arts, audiovisual. Box 100, SCIENCE. X

POSITIONS WANTED

Consulting Entomologist (Ph.D., University of California, Berkeley) offers experience in teaching, freelance writing, documentary filmmaking, photomicrography, along with training in ecological pest management. Specializes in communicating complex notions to general audiences. Adaptable, problem-solving. Box 101, SCIENCE. X

Environmental/Marine Chemist, Ph.D. 1971. Broad background in multidisciplinary studies of nutrients, heavy metals, and so forth, in marine environments, and engineering. Administration, governmental, and foreign experience, publications. Seeks challenging position in South or on West Coast. Résumé on request. Box 98, SCIENCE. 3/23, 30

Exercise Physiologist. Experienced in exercise physiology. Experience with EKG, pulmonary function tests, blood gases, blood chemistry, and so forth. Also experienced in biochemistry techniques such as electrophoresis, chromatography, protein chemistry, platelet aggregation. Publications. Box 93, SCIENCE. X

Experimental Psychologist/Human Factors Engineer. Ph.D. Fellow of APA and AAAS. Experience as researcher, project director, administrator, consultant (to government and industry), teacher (as visiting professor), writer-editor, and inventor (two patents) in many areas of experimental psychology and human factors, particularly vision, psychophysics, mathematical models, learning (operant conditioning), and training. R. M. Herrick, Meetinghouse Road, R.D. 1, Ambler, Pennsylvania 19002. Telephone: 215-646-0470. X

Medical Devices Safety Scientist—Head of Regulatory Compliance with solid background in all phases of product safety evaluation, GLP implementation, up-to-date in GMP, IDE, Restricted Devices and Clinical Investigations regulations; seeking responsible position at corporate level with medical device manufacturing company. Degree in medical sciences; 20 years of experience; well-established liaison with several government agencies as well as HIMA, ASTM, and AAMI. Box 96, SCIENCE. 3/23, 30

Physiologist, Ph.D. 1974, seeks teaching position in small college or university. Published. Teaching and postdoctoral experience. Box 103, SCIENCE. X

Physiologist/Biochemist. Experience with protein isolation, chromatography, tissue perfusion, surgical techniques, and so forth. Publications in platelet aggregation area. Has teaching experience, but prefers research. Box 92, SCIENCE. X

Scientist (educator/administrator: counselor/psychologist (meteorologist). Personnel analyst (tests-measures, career GS-12). Instructor research/statistics: personnel selection and training. Published in career planning. Box 654, Chambersburg, Pennsylvania 17201. 3/23, 30

Toxicologist/Neurophysiologist/Behavior M.S.: 2 years of experience in primate operant techniques, project management, stereotaxic surgery, and recording and electrode implantation. Additional experience in physiology, abdominal and thoracic surgery, respiratory physiology, and cardiovascular physiology. Thesis topic: Electrographic Evaluation of the Neurotoxicity of Mirex. Seeks industrial, academic, or government position. R. E. Stevens, III, 506 Thistle, Garland, Texas 75043. 3/23, 30

POSITIONS OPEN

ANATOMIST

The Department of Anatomy, University of Louisville Health Sciences Center, invites applications for a tenure-track appointment as associate professor effective 1 July 1979. Candidate will be expected to assume responsibilities as head of course in neuroanatomy for medical students. Applicants must have a Ph.D. in anatomy or a cognate field; teaching experience (including neuroanatomy); and evidence of related research. Research interests are open, but strong indications of achievement are desired including a recent publication record. Send curriculum vitae and personal statement to: **Dr. J. B. Longley, Department of Anatomy, University of Louisville Health Sciences Center, Box 1055, Louisville, Kentucky 40201.** Applications will be accepted until 6 April 1979. Candidates attending the AAA meetings in Miami are invited to contact Dr. Longley there. *The University of Louisville is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ANATOMY: TENURE-TRACK POSITION

The Department of Anatomy at Duke University School of Medicine invites applications from persons with, or imminently expecting, a Ph.D. (not necessarily in anatomy), qualified to participate in teaching introductory medical gross anatomy. Evidence of a strong research commitment and an interest in graduate training required. Desirable research interests include comparative vertebrate (especially primate) anatomy, paleoprimateology (including hominid paleontology), experimental approaches to functional anatomy, mathematical modeling, and morphometrics. Appointment to begin 1 August 1979. Send curriculum vitae, three letters of recommendation, and a letter describing research and teaching interests to:

**Richard F. Kay, Head
Search Committee
Department of Anatomy
Duke University Medical Center
Box 3011
Durham, North Carolina 27710**

Deadline for applications: 16 April 1979.
An Equal Opportunity/Affirmative Action Employer

ASSISTANT, ASSOCIATE, OR FULL PROFESSOR—The Department of Earth Resources is seeking a Ph.D. in forest hydrology, watershed sciences, or related field for a teaching/research position in snow hydrology. The position is full-time academic faculty. Duties include undergraduate/graduate teaching, advising, and research. Rank and salary commensurate with training and experience. Send complete résumé, three letters of reference, and other supporting materials by 1 June 1979 to: **Dr. Stanley L. Ponce, Department of Earth Resources, Colorado State University, Fort Collins, Colorado 80523.** Anticipated appointment date: 20 August 1979.

Colorado State University is an Equal Opportunity Employer and complies with Title IX requirements.

One-year appointment. Ph.D., **ASSISTANT PROFESSOR** to teach field-oriented animal behavior, general biology, and an advanced course to complement current departmental offerings. Send curriculum vitae, transcripts, and three letters of reference by 15 April to: **Dr. W. R. West, Department of Biology, University of Richmond, Va. 23173.**

An Affirmative Action/Equal Opportunity Employer

ASSISTANT PROFESSOR OF CELL BIOLOGY

The Department of Cell Biology has two faculty positions available at the assistant professorial level. Formal duties associated with each position include teaching in the cell biology/histology course for medical students. Preference will be given to candidates with 2 years of postdoctoral training, relevant teaching experience, and research accomplishments in cell or reproductive biology. Submit curriculum vitae, list of publications, research plan, and three letters of recommendation by 15 April to:

**William B. Neaves, Ph.D.
Faculty Search Committee
Department of Cell Biology
The University of Texas Health
Science Center at Dallas
Southwestern Medical School
5323 Harry Hines Boulevard
Dallas, Texas 75235**

The University of Texas Health Science Center is an Equal Opportunity/Affirmative Action Employer.

ASSOCIATE RESEARCH NEUROLOGIST

A scientist is being sought to fill the above position. Applicants need to have a Ph.D. in biochemistry and to hold an academic position equivalent in rank to an assistant research neurologist or assistant professor. Applicants must have demonstrated ability in the discovery of potential biochemical defects in neurological disease, in studies on the pathophysiology of neurological disease, and expertise in each of the following: protein purification, gel electrophoresis and isoelectric focusing, lipid biochemistry, purification and assay of intermediary metabolites, subcellular fractionation, enzyme kinetics with both spectrophotometric and fluorometric techniques, tissue culture (including human tissues for studies of disease), electron microscopy, and intracellular electrical recording from muscles.

Please send curriculum vitae and bibliography to: **Dr. R. A. Pieter Kark, Reed Neurological Research Center, UCLA School of Medicine, Los Angeles, Calif. 90024.** *UCLA is an Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR CELL BIOLOGIST

The Biology Department of Pomona College anticipates making an appointment at the assistant professor level for September 1979. Primary requirements are extensive training in molecular cell biology and electron microscopy and a strong commitment to undergraduate education. Postdoctoral experience in biochemically related research is expected. Research areas of particular interest include molecular aspects of cell ultrastructure, membrane structure and function, developmental biology, endocrinology, neurobiology, microbiology, and so forth. Responsibilities include: (i) teaching undergraduate course in area of specialty; (ii) participation in the physiology semester of our introductory core biology course; (iii) supervising our EM laboratory (SEM and TEM); and (iv) developing a research program involving undergraduates. Send letters of application, curriculum vitae, and names of three or more referees to: **Biology Search Committee, Biology Department, Pomona College, Claremont, Calif. 91711.** Application deadline is 6 April 1979.

Pomona College is an Equal Opportunity/Affirmative Action Employer.

DEPARTMENT OF HUMAN GENETICS AND DEVELOPMENT

Applications are invited at the **ASSISTANT PROFESSOR** level. Applicants should have a Ph.D. in genetics and at least 4 years of postdoctoral experience, with demonstrated recent research productivity in both plant and mammalian cytogenetics. Emphasis will be on maintaining an active research program, with some graduate teaching. Curriculum vitae and names of three references should be sent to: **Orlando J. Miller, M.D., 1424 HSC, College of Physicians and Surgeons, Columbia University, 701 West 168 Street, New York, N.Y. 10032.** Deadline for applications: 30 April 1979.

The University is an Equal Opportunity/Affirmative Action Employer. Women and minority candidates are encouraged to apply.

ASSISTANT RESEARCH PHYSIOLOGIST position available 1 June 1979 for a recent Ph.D. in biophysics. Research project deals with development of model membranes containing bacteriorhodopsin to be used in light-driven water desalination. Background in cellular biochemistry, analytical lipid chemistry, and surface chemistry required. Previous postdoctoral experience desirable. Send curriculum vitae to: **Dr. Juan Korenbrot, Department of Physiology, University of California, San Francisco, Calif. 94143.**

An Equal Opportunity/Affirmative Action Employer

ASSOCIATE PROFESSOR OF PHARMACOLOGY, tenurable full-time position. Minimum qualifications: Ph.D. or M.D.; significant previous experience and responsibilities in medical and graduate teaching programs in pharmacology; proven record of research productivity and funding. Dedication to independent research; interest in and enthusiasm for teaching broad areas of pharmacology to undergraduate, medical, and graduate students. Minimum salary: \$19,608. Apply with curriculum vitae, selected reprints and statement of goals to: **Dr. Bert Lum, Department of Pharmacology, University of Hawaii, 1960 East West Road, Honolulu, Hawaii 96822.**

An Equal Opportunity Employer

BIOLOGICAL OCEANOGRAPHER. Assistant professor for 12-month, tenure-track position in meroplankton ecology research and teaching. Ph.D. with ability to develop research programs, obtain grant funding, teach and supervise graduate students is sought. Send résumé and names of three references to: **G. Ross Heath, Dean, School of Oceanography, Oregon State University, Corvallis, Oregon 97331** by 1 May 1979. *An Affirmative Action/Equal Opportunity Employer in compliance with Section 504 of the Rehabilitation Act of 1973.*

OCEANOGRAPHER, assistant professor, tenure-track position in research and graduate-level teaching of beach and estuarine physical processes. Research experience required in gathering field measurements of near-shore currents and waves. Must have demonstrated strong theoretical aptitude. Submit résumé and names of three references by 1 May 1979 to: **G. Ross Heath, Dean, School of Oceanography, Oregon State University, Corvallis, Oregon 97331.** *An Affirmative Action/Equal Opportunity Employer, in compliance with Section 504 of the Rehabilitation Act of 1973.*

POSITIONS OPEN

ASSISTANT PROFESSOR MICROBIAL ECOLOGIST University of California, Los Angeles

Applications are invited from highly qualified microbial ecologists for a position with the Laboratory of Nuclear Medicine and Radiation Biology. This position carries a joint appointment, at the assistant professor level, in the Department of Microbiology with undergraduate and graduate teaching responsibilities. Research interests should be in general microbial ecology and could include photosynthesis, nitrogen fixation, and heavy-metal metabolism. The applicant should be interested in resolving environmental problems related to energy technologies because the laboratory's research is funded primarily by the Department of Energy. Letters of inquiry or application, including curriculum vitae, description of research and teaching interests, and names and addresses of three references should be sent before 15 May 1979 to the University of California, Los Angeles. These may be addressed to:

**Search Committee
Department of Microbiology
5304 Life Science
University of California
Los Angeles, Calif. 90024**

or

**Director's Office
Laboratory of Nuclear Medicine
and Radiation Biology
900 Veteran Avenue
Los Angeles, Calif. 90024**

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

THE DEPARTMENT OF BIOLOGICAL SCIENCES OF FORDHAM UNIVERSITY invites applications from qualified individuals for a tenure-track position beginning September 1979 at the level of assistant or associate professor. Applicants should have a Ph.D. degree, suitable training and experience for accepting responsibility for some undergraduate instruction, and the clear potential for developing fundable research in physiology (animal or cell), molecular cytology, cytochemistry, chromosome biology, or cellular aging. Applicants for associate professor must have demonstrated accomplishments and activity appropriate to this rank. Send curriculum vitae, including list of publications, brief description of research activity, and the names of the individuals who may be contacted for recommendation, to: **Dr. Edward Aiello, Chairman, Department of Biological Sciences, Fordham University, Bronx, N.Y. 10458** by 11 April 1979. *Fordham University is an Affirmative Action/Equal Opportunity Employer.*

BIOLOGY/GENETICS—Assistant professor to teach principles biology, vertebrate biology, and genetics. Ph.D. in biology required, and college-level teaching experience is desirable. Tenure-track position with initial 1-year contract, subject to renewal. Minimum salary: \$12,000. *Colby-Sawyer is a small independent college for women, an Equal Opportunity Employer.* By 9 April, send letter of application, graduate transcripts, and three letters of recommendation to: **Dean of the College, Colby-Sawyer College, New London, N.H. 03257.**

CELL BIOLOGIST. Applicants are invited for a position as research associate in the Thyroid Unit of the Massachusetts General Hospital, Boston, Mass. The major research involves molecular endocrinology and the regulation of polypeptide hormone biosynthesis and secretion with emphasis on the pituitary hormones. Ph.D. or equivalent required with 1 to 3 years of postdoctoral training in endocrinology or related areas. Applicant must have experience in radioimmunoassay, tissue culture techniques, and general biochemical methods. Send curriculum vitae and list of references by 30 April 1979 to: **Dr. Farahe Maloof, Thyroid Unit, Massachusetts General Hospital, Boston, Mass. 02114.** *An Equal Opportunity Employer.*

MEMBRANE BIOCHEMIST. A position as a research associate in the Thyroid Unit at the Massachusetts General Hospital, Boston, Mass., for a Ph.D. in biochemistry or enzymology is available. Applicant must have 1 to 3 years of postdoctoral experience in membrane protein and/or enzyme isolation and characterization. Excellent opportunity to extend a research program dealing with the mechanism of action and biosynthesis of the integral membrane-bound thyroid peroxidase. Send curriculum vitae and list of publications to: **Dr. Farahe Maloof, Thyroid Unit, Massachusetts General Hospital, Boston, Mass. 02114.** *An Equal Opportunity Employer.*

RESEARCH SCIENTIST

The Upjohn Company currently has an opening available for a research scientist to devise, implement, and operate in vivo test systems for evaluating the clinical potential of host defense potentiators and new antibiotics for the treatment of infectious diseases (this involves in vivo testing for efficacy, toxicity, drug distribution, metabolism, and other pharmacologic parameters); define methodology to test for compounds that potentiate host defense mechanisms. Position requires a D.V.M. or Ph.D. with strong practical background in in vivo testing and some combination of training in immunology, pharmacology, and microbiology; extensive knowledge of immunology essential. Submit résumé in confidence to:

**Kent S. Morgan
Employment
Representative
The Upjohn Company
7171 Portage Road
Kalamazoo, Mich.
49001**

An Equal Opportunity Employer, M/F

Sr. Biochemist Drug Metabolism Research

An immediate opening exists in the Drug Dispositions Section for an individual to conduct studies on the absorption, distribution, metabolism and elimination of drugs and drug candidates.

The individual should have a PhD in Biochemistry or a drug metabolism related area, and should be familiar with radioisotope methodology. Some prior experience is helpful but not essential. Good verbal and written communication skills are required.

A worldwide pharmaceutical company, USV offers a starting salary commensurate with qualifications, as well as a comprehensive package of company benefits. The position is located in newly remodeled research laboratories at Corporate Headquarters in suburban New York.

For confidential consideration, send resume and salary requirements, to:

Manager of Selection and Placement

**USV
LABORATORIES**

One Scarsdale Road, Tuckahoe,
New York 10707

An equal opportunity employer M/F

POSITIONS OPEN

UNIVERSITY OF ALBERTA DEPARTMENT OF ZOOLOGY EDMONTON, ALBERTA, CANADA

The Department will make two tenurable appointments at the rank of **ASSISTANT PROFESSOR** (minimum: \$18,530 per annum, 1978-1979 scale) on 1 July 1979. The department has well-developed honors, specialization, and graduate programs, and at present has 29 academic staff, 75 graduate students, and 27 support staff. Applicants for the assistant professor positions must have a Ph.D. degree or equivalent and should send curriculum vitae, a brief statement of research objectives, a list of publications, and the names of three referees to: **Dr. F. S. Chia, Chairman, Department of Zoology, University of Alberta, Edmonton, Alberta, Canada T6G 2E9**. The deadline for receiving applications is 1 May 1979. *The University of Alberta is an Equal Opportunity Employer.*

1) **LIMNOLOGIST**: Applicants with research interests in experimental and quantitative limnology of lakes are preferred. The person appointed is expected to share in the teaching of limnology and quantitative ecology and to establish a strong research program.

2) **MARINE INVERTEBRATE ZOOLOGIST**: Individuals with research interests in any aspect of biology of marine invertebrates are invited to apply, but preference is given to applicants who work with mollusks or annelids. The person appointed is expected to share in the teaching of invertebrate zoology and marine biology and to establish a strong research program.

Two-year temporary appointment beginning September 1979 to teach undergraduate courses including **general microbiology and immunology**. Ph.D. preferred. Contact: **Rev. Frank J. MacEntee, S.J., Chairman, Biology Department, University of Scranton, Scranton, Pennsylvania 18510**.

The University of Scranton, a Jesuit University, is an Affirmative Action/Equal Opportunity Employer.

BIOMEDICAL ENGINEERING FACULTY. The Biomedical Engineering Department at Boston University is seeking new faculty members: (i) **ASSISTANT OR ASSOCIATE PROFESSOR** with Ph.D. degree, biomedical engineering experience, strong interest in both teaching and research. To participate in new NSF-supported undergraduate curriculum, develop graduate specialty courses, supervise design projects and theses, and advise engineering and premedical students; and to develop sponsored research, and collaborate with Medical School or other department, under joint faculty appointment. (ii) **ADJUNCT PROFESSORS** for part-time teaching of biomedical electronics, biomechanics, diagnostic imaging, or other specialty courses. Send résumé, including detailed teaching and research experience, and names of four referees to: **Dr. R. J. McLaughlin, Chairman, Department of Biomedical Engineering, Boston University College of Engineering, 110 Cummington Street, Boston, Mass. 02215**. *An Equal Opportunity/Affirmative Action Employer.*

BOTANIST/PLANT ECOLOGIST—Applications invited for position of **MARKETING REPRESENTATIVE—MANAGEMENT TRAINEE** with a major North American grower of flower seeds. Individual, if selected, will work with both garden seed and wild-flower seed customers. Service of accounts and planting recommendations will be major duties. Position will allow involvement in pricing, advertising, market planning, and general management.

Opportunities for North American travel (several 2- to 3-week trips per year). Must relocate to Los Angeles area. B.S. in botany or plant ecology required; M.S. desirable. Salary: \$12,000 per year and fringes. Contact: **Howard S. Bodger, President, Bodger Seeds, Ltd., Box 5090, El Monte, Calif. 91734**.

CHAIRPERSON for the Department of Health Measurement Sciences (epidemiology, biostatistics) in the School of Public Health and Tropical Medicine, Tulane University. Position requires physician-epidemiologist with an interest in chronic disease, health service delivery, medical care, or medical sociology. Person should have administrative experience and background appropriate for development of ongoing interdisciplinary educational and research programs and be eligible for appointment at the rank of **PROFESSOR** with tenure. Interested individuals should send résumés or contact: **Dr. M. D. Little, Tulane Medical Center, 1430 Tulane Avenue, New Orleans, Louisiana 70112**, no later than 23 April 1979. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

CHAIRPERSON, Department of Physiology

Applications are invited from qualified Ph.D.'s and M.D.'s for the position of chairperson, Department of Physiology, Indiana University School of Medicine. The qualifications include competence in departmental administrative matters, experience and ability in the initiation and development of research projects and in education of medical and graduate students. Nominations and applications should be sent no later than 30 April 1979. Applications should include curriculum vitae and bibliography. Address correspondence to: **Dr. Henry R. Besch, Jr., Chairman, Search and Screen Committee, Indiana University School of Medicine, 1100 West Michigan Street, Indianapolis, Indiana 46223**. *Indiana University is an Affirmative Action Equal Opportunity Employer.*

CHAIRMAN, DEPARTMENT OF ANATOMY

The University of South Alabama is seeking a chairman for the Anatomy Department. The College of Medicine endorses the philosophy that research and scholarly productivity are essential ingredients for a progressive program in medical education. We seek a chairman for the Department of Anatomy who enthusiastically subscribes to this policy. Prospective candidates should have demonstrated outstanding research and leadership ability and a commitment to medical education.

The teaching programs in anatomy are sound. Several fully funded, tenure-track faculty positions will be available to the incoming chairman. Facilities and resources are available to support the development of a first-rate research and teaching department.

Candidates who would welcome the challenge and opportunity to create a model Department of Anatomy for the future are invited to apply by direct submission of curriculum vitae and three letters of recommendation to:

Dr. Charles M. Baugh
Associate Dean
College of Medicine
University of South Alabama
Mobile, Alabama 36688

An Equal Opportunity Employer, M/F/H

CIRCADIAN TIMING SYSTEMS—Harvard Medical School. Postdoctoral positions available to study the anatomical and physiological basis of circadian timekeeping in mammals, including the neurobiology of circadian pacemakers, endocrine mechanisms of temporal communication, and the pharmacology of circadian clock resetting. Send curriculum vitae and names of three references to: **Dr. Martin Moore-Ede, Department of Physiology, Harvard Medical School, Boston, Massachusetts 02115**.

COMPARATIVE ANATOMY POSITION

Louisiana State University anticipates a vacancy at the rank of assistant professor on an academic-year basis. Duties will include teaching a sophomore-level comparative vertebrate anatomy course, directing graduate students, and conducting an active program of research in some aspect of vertebrate morphology. Applicants must have teaching experience. Applications with curriculum vitae, bibliography, college transcripts, and names of three references are due by 7 April 1979 and should be sent to: **Dr. Douglas A. Rossman, Chairman, Faculty Search Committee, Department of Zoology and Physiology, Louisiana State University, Baton Rouge, Louisiana 70803**.

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

MAMMALOLOGY/CURATOR POSITION

Louisiana State University anticipates a vacancy at the rank of assistant professor on a fiscal-year basis. Duties will include teaching an upper-division mammalogy course and participating in lower-division instruction, directing graduate students, curating the Museum of Zoology's mammal collection, and carrying out an active program of research in some aspect of mammalian ecology/systematics. Applications with curriculum vitae, bibliography, college transcripts, and names of three references are due by 7 April 1979 and should be sent to: **Dr. Douglas A. Rossman, Chairman, Faculty Search Committee, Department of Zoology and Physiology, Louisiana State University, Baton Rouge, Louisiana 70803**.

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

POSITIONS OPEN

ANATOMY CHAIRMAN

Chicago College of Osteopathic Medicine (CCOM). Nominations and applications are invited for the position of chairman of anatomy. Applicants must have superior credentials including a terminal degree (D.O., M.D., or Ph.D.), proven or potential administrative ability, and interest in teaching and research. The new chairman will be expected to recruit faculty to expand a department which has a long tradition of teaching excellence. Applicants should send curriculum vitae and names of references to: **Dr. James Murray, Department of Surgery, CCOM, 5200 Ellis Avenue, Chicago, Illinois 60615**. *Chicago College of Osteopathic Medicine is an Equal Opportunity/Affirmative Action Employer.*

COMPUTER SCIENCE. Assistant professor, tenure-track, Ph.D. required; college teaching experience desirable; show promise in research and scholarly publishing. Work load includes teaching undergraduate and graduate courses, departmental service, and student advising. Submit by 30 April complete résumé with three references to: **Professor George Ledlin, Jr., Chairman, Department of Computer Science, University of San Francisco, San Francisco, California 94117**.

An Equal Opportunity/Affirmative Action Employer

DIRECTOR. The Fred Hutchinson Cancer Research Center, one of the 20 comprehensive cancer research centers in the United States, seeks a director to serve as its chief executive officer. The director's duties include responsibility for hiring scientific personnel, budget and grant preparation and review, and space allocation. The director should be a medical doctor with cancer research, clinical, administrative, and grant experience. Résumés should be submitted no later than 6 April 1979, to: **David C. Lyette, Co-Chairman, Search Committee, 3800 Rainier Bank Tower, Seattle, Washington 98101**. *An Equal Opportunity Employer.*

DIRECTOR INSTITUTE OF MARINE SCIENCE UNIVERSITY OF ALASKA

The University of Alaska, Fairbanks, invites applications for the position of director, Institute of Marine Science and Division of Marine Sciences. Qualifications sought are a doctoral degree, leadership in interdisciplinary research management, experience in dealing with funding sources, and a knowledge of budgetary operations. A distinguished research record is expected. Experience in teaching and the supervision of thesis projects of graduate students is desirable. Marine sciences at the university have a full-time faculty of 23 and a graduate student enrollment of about 40.

Applications or nominations with biographical and other pertinent information should be received before 1 July 1979 by the chairman of the search committee:

Dr. Gunter E. Weller
Geophysical Institute
University of Alaska
Fairbanks, Alaska 99701

The University of Alaska offers Equal Educational and Employment Opportunities.

FACULTY POSITIONS

Full-time faculty positions are available in the Department of Obstetrics and Gynecology for basic scientists with a research interest in reproductive biology and an expertise in biochemistry. A doctorate is required. Academic rank and salary are dependent on qualifications. If interested, please send curriculum vitae and bibliography to:

William N. Spellacy, M.D.
Professor and Head
Department of Obstetrics and Gynecology
Abraham Lincoln School of Medicine
University of Illinois Medical Center
840 South Wood Street
Chicago, Illinois 60612

Affirmative Action/Equal Opportunity Employer

FACULTY POSITIONS—Two postdoctoral-level positions for Ph.D.'s are available in the Division of Clinical Chemistry, Department of Pathology, University of Pittsburgh School of Medicine. Candidates must have a record of scientific achievement, particularly in the field of lipoprotein/cholesterol metabolism and techniques of instrumental analysis. Reply with curriculum vitae to: **Dr. Ajit Sanghvi, Department of Pathology, University of Pittsburgh School of Medicine, Pittsburgh, Pa. 15261**. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY POSITION IN BIOCHEMISTRY

The Department of Biochemistry at the University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute, invites applications for an assistant professorship from qualified individuals with an interest in utilizing recombinant DNA techniques to study problems in mammalian gene expression. Please send curriculum vitae, list of publications, names of at least three references to be used for letters of recommendation, and a summary of research interests to: **Dr. Grady F. Saunders, Department of Biochemistry, The University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute, 6723 Bertner Avenue, Houston, Texas 77030.**

An Equal Opportunity/Affirmative Action Employer

FACULTY POSITION at associate or full professor level to teach chemical and biomedical engineering in chemical engineering department. Doctorate in chemical engineering and doctor of medicine degree required. Applicant must have demonstrated ability to combine engineering and medical skills in research and teaching program in department and at affiliated university hospital. Reply with résumé and three references before 15 April 1979 to:

**Chairman
Department of Chemical Engineering
Columbia University
New York, New York 10027**

An Affirmative Action/Equal Opportunity Employer

FACULTY POSITION, PEDIATRIC NUTRITION

Department of Pediatrics, University of Arizona College of Medicine, invites applications for faculty position at professor or associate professor level, to develop vigorous research program in pediatric nutrition. Established investigator sought, M.D. and/or Ph.D. with substantial record in nutrition research. Address inquiries to: **Dr. Gail Harrison, Department of Pediatrics, University of Arizona College of Medicine, Tucson, Ariz. 85724.** *The University of Arizona is an Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.*

FACULTY POSITIONS COLLEGE OF OSTEOPATHIC MEDICINE OF THE PACIFIC 309 Pomona Mall East, Pomona, Calif. 91766

The expanding College of Osteopathic Medicine of the Pacific in Pomona, California, now in its second year, invites applications from qualified men and women beginning in the 1979-1980 academic year in the following areas:

- 1) Biochemistry with a strong background in human metabolism and nutrition,
- 2) Human physiology,
- 3) Pharmacology and therapeutics,
- 4) Microbiology and virology,
- 5) Gross anatomy with a strong background in histology, and
- 6) Gross anatomy with a strong background in embryology.

Ph.D., D.O., or M.D. required.

Salary competitive, with many fringe benefits.

Applicants should submit curriculum vitae, including list of publications and the names of three references, to:

**Chairman, Faculty Search Committee
College of Osteopathic Medicine of the Pacific
309 Pomona Mall East
Pomona, California 91766**

An Equal Opportunity/Affirmative Action Employer

IMMUNOLOGIST OR VIROLOGIST. Available summer 1979. Requirements: Ph.D. in animal virology or immunology and demonstrated ability to conduct a high-quality research program. Preference will be given to candidates with postdoctoral experience. Duties include shared participation in instruction of medical students, instruction of graduate students, and conduct of independent research. Appointment will be at assistant or associate professor level. Salary will be commensurate with experience. Send curriculum vitae and names of three references to: **Dr. Mark Hall, Department of Microbiology, University of Nevada, Reno, Nevada 89557.** Application deadline is 1 May 1979 or whenever a suitable candidate is found. *The University of Nevada is an Equal Opportunity Employer and does not discriminate on the basis of sex, race, color, religion, handicaps, or national origin in the educational programs or activities it operates.*



Princeton University

PLASMA PHYSICS LABORATORY

POSTDOCTORAL RESEARCH ASSOCIATES IN THEORETICAL PLASMA PHYSICS

The Plasma Physics Laboratory is a research program of Princeton University supported by contract with the United States Department of Energy. Its purpose is to investigate problems in plasma physics related to the development of a magnetically confined toroidal controlled fusion reactor. The Theoretical Division is involved in advanced research in statistical mechanics, plasma dynamics, stability theory, plasma heating and tokamak modeling.

Up to four research positions at the post-doctoral level will be available beginning about September 1, 1979. The term is one year with possible renewal for a second year. United States citizenship is not a prerequisite. Appointments will be made on the basis of the applicant's interest, experience, academic record and letters of recommendation. We encourage the application of recent graduates of exceptional ability with the Ph.D. degree or its equivalent in physics, astrophysics, applied mathematics, computational physics, or other relevant disciplines.

Applications including full personal details, details of academic record, experience and publications should be sent to the Personnel Manager, Princeton University Plasma Physics Laboratory, P.O. Box 451, Princeton, New Jersey 08544. The applicant should request three persons to whom he is well known to send letters of recommendation. Appointments will be announced during the month of March.

An Equal Opportunity/Affirmative Action Employer M/F

POSITIONS OPEN

MARINE BIOLOGISTS. The University of Hawaii at Manoa has two vacancies in marine biology. Both positions are supported by 50 percent state (permanent) funds and 50 percent grant moneys. The positions are joint appointments with the Department of Oceanography and the Hawaii Institute of Marine Biology. Successful applicants will be initially responsible to ongoing research activities but will be encouraged and expected within 1 to 2 years to generate their own research support for 50 percent of their salary. They are also expected to make quarter-time academic contributions to the oceanography department. Zoologists or botanists with training and experience in physiology and/or ecology are invited to apply. Send résumé and names of three references to: **S. V. Smith, Hawaii Institute of Marine Biology, P.O. Box 1346, Coconut Island, Kaneohe, Hawaii 96744.** Closing date: 30 April 1979.

An Equal Opportunity/Affirmative Action Employer

DARTMOUTH MEDICAL SCHOOL/ DARTMOUTH COLLEGE MEDICAL CARE EPIDEMIOLOGIST

Opportunity for epidemiologist or clinician with strong epidemiologic training and an interest in the epidemiologic aspects of medical care delivery and evaluation of medical care outcomes. Experience in the design and execution of clinical trials useful but not necessary. Incumbent will have an appointment in the Department of Community Medicine, Dartmouth Medical School. Faculty rank and salary will be commensurate with background and experience. Applicant should submit curriculum vitae, list of publications, and names of three references to: **John E. Wennberg, M.D., Dartmouth Medical School, Dartmouth College, Hanover, N.H. 03755.**

An Affirmative Action/Equal Opportunity Employer

MOLECULAR BIOLOGY OF ONCOGENIC VIRUSES ASSISTANT OR ASSOCIATE MEMBER

The Division of Virology, St. Jude Children's Research Hospital, invites applications from individuals with promise (assistant) or evidence (associate) of outstanding research abilities. We favor candidates with interests in nuclear DNA viruses (papovaviruses, adenoviruses, herpesviruses) and experience in recombinant DNA technology. However, exceptional candidates with other research interests will be considered. This is a full-time research position with no teaching or service responsibilities. *St. Jude Hospital is an Equal Opportunity Employer.* Please submit curriculum vitae, summary of research plans, and names of three referees to: **Dr. Allan Granoff, Chairman, Division of Virology, St. Jude Children's Research Hospital, Memphis, Tenn. 38101.**

NEPHROLOGIST—The Division of Nephrology in the Department of Medicine at the University of Alabama in Birmingham has available two positions at the associate or assistant professor levels. These positions are open to qualified individuals at a senior level who fulfilled three criteria. First, the individual must have expertise in the care and management of patients with renal disease and in the operation and administration of a hemodialysis unit. Second, the individual must have a firm commitment to teaching programs oriented to medical students, graduate students, house officers, and fellows. Finally, the individual should have a research background and be able to carry out independent research. Apply to: **J. Terry Holloway, 305 Zeigler, University Station, Birmingham, Alabama 35294.** *An Equal Opportunity/Affirmative Action Employer.*

DEPARTMENT OF PHARMACOLOGY SCHOOL OF MEDICINE ST. LOUIS UNIVERSITY MEDICAL CENTER

Applications are invited for faculty positions at the assistant and associate professor level in the Department of Pharmacology, St. Louis University School of Medicine. Candidates should be dedicated to independent research and are expected to participate in graduate and medical school teaching programs in the department. Nominations or curriculum vitae, selected reprints, statement of teaching and research goals, and the names of three references should be sent to:

**Dr. Thomas C. Westfall
Department of Pharmacology
University of Virginia
School of Medicine
Charlottesville, Va. 22908**

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

POSITIONS OPEN

DEPARTMENT HEAD

The Florida State University is seeking an individual with Ph.D. in foods, nutrition or closely related area with commitment to excellence in administration, teaching, and research, to head the Department of Food and Nutrition. Responsibilities also include some teaching, research, and supervision of graduate student programs. Send résumé and two letters of reference by 6 April 1979 to: **Search Committee, Food and Nutrition, College of Home Economics, Florida State University, Tallahassee, Fla. 32306.**

NEUROANATOMIST

A position is available for a neuroanatomist at the assistant or associate professor level in the Department of Anatomy, University of Virginia. Candidates should have at least 2 years of postdoctoral experience. Teaching responsibilities include neuroanatomy for first-year medical students. The department stresses research and candidate is expected to maintain an independent program of investigation. Opportunities are available for participation in an interdisciplinary program of graduate study in neuroscience. Interested persons should send their curriculum vitae and the names of three references to: **Chairman, Department of Anatomy, Box 439, University of Virginia Medical Center, Charlottesville, Virginia 22908.**

An Equal Opportunity/Affirmative Action Employer

NEUROLOGIST WANTED

Opening for neurologist with Ataxia and Neuromuscular Consultation Unit, Department of Neurology, University of California, Los Angeles (UCLA) School of Medicine. Collaborative research on biochemical aspects of relevant diseases and on clinical pharmacology of inherited ataxias. Junior faculty rank; salary and research details/space to be negotiated. Contact: **Dr. R. A. Pieter Kark, Reed Neurological Research Center, UCLA School of Medicine, Los Angeles, Calif. 90024.** *UCLA is an Affirmative Action/Equal Opportunity Employer.*

PHARMACOLOGIST. New position available at assistant professor level for individual with Ph.D. in pharmacology or toxicology. Postdoctoral experience desired but highly qualified recent graduates will be considered. Position is funded for 3 years with possibility of continued support; to begin 1 July but not later than 30 September 1979. Individual will share teaching responsibilities with seven other faculty members, conduct research, and direct graduate students. Modern, well-equipped physical facility located in the university's health center complex. Salary negotiable and commensurate with experience and qualifications. Direct résumé and three letters of recommendation to: **Dr. Michael C. Gerald, Chairman, Pharmacology Search Committee, Division of Pharmacology, College of Pharmacy, The Ohio State University, Columbus, Ohio 43210** by 15 April 1979. *An Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS AVAILABLE IN MAJOR ATMOSPHERIC SCIENCES LABORATORY

Individuals applying should have a strong interest in the development and application of state-of-the-art laser instrumentation for the detection of atmospheric trace chemical species and/or in the study of fundamental atmospheric chemical processes. A solid background in two or more of the following fields should be indicated by persons submitting résumés: high-energy pulse dye lasers, high-vacuum technology, gas kinetics, and electronics. Appointments will typically be made available for periods of 2 years. Salaries will range from \$14,000 to \$15,000 depending on an applicant's experience. Interested persons should write to:

**Professor Douglas D. Davis
School of Geophysical Sciences
Georgia Institute of Technology
Atlanta, Ga. 30332**

POSTDOCTORAL POSITION available for physical biochemist to work on viscoelastic analysis of mammalian cell DNA following treatment of cell cultures with x-rays and/or drugs. Applicant should have some background in electronics and preferably in DNA physical chemistry. Must know or be willing to learn basic cell culture techniques. Starting date: 1 July 1979 for 1 year, with definite possibility of second year. Send curriculum vitae and three letters of reference to: **Dr. R. H. Shafer, Department of Pharmaceutical Chemistry, University of California, San Francisco, Calif. 94143.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

Rollins College invites applications from a qualified **Ph.D.** with strength in **microbiology and biochemistry** for a position at the **assistant professor** level, effective 1 September 1979. Teaching responsibilities include microbiology, biochemistry, general biology, cellular and development biology, and courses for nonmajors. Excellence in teaching and a commitment to student/faculty interaction are required. Send a personal letter indicating interest and experience in teaching, curriculum vitae, copies of academic transcripts, and three letters of reference to: **Dr. James W. Small, Head, Department of Biology, Box 2493, Rollins College, Winter Park, Florida 32789,** prior to 15 April 1979. *An Affirmative Action/Equal Opportunity/Title IX Employer.*

PHYSIOLOGICAL OPTICS— PSYCHOPHYSICS OF VISION

Applications for the position of **assistant research scientist in ophthalmology** (nontenure accruing, new grant supported full-time research position) in the laboratory of Professor Jay M. Enoch. This is a cooperative research program between this laboratory and that of Professor Gerald Westheimer, University of California, Berkeley. The research attempts to relate basic to applied clinical science. Advanced knowledge of one or more of the following areas is desirable: visual psychophysics, optics of the eye, computer skills, refractive techniques, and clinical anomalies of the eye and visual pathway. Applicants should have either a Ph.D. degree or a professional degree (M.D. or O.D.), with research experience and commitment. Some travel will be required. Applications should include curriculum vitae, sample research papers, three references, and a statement of research interests. Please respond promptly to: **Professor Jay M. Enoch, Chairman, Search Committee, Department of Ophthalmology, University of Florida College of Medicine, Box J-284 JHMC, Gainesville, Fla. 32610.**

An Equal Opportunity/Affirmative Action Employer

A POSTDOCTORAL POSITION IN CLINICAL NEUROPHYSIOLOGY is open in the Department of Neurology, University of California, Irvine. Candidates should have a Ph.D. in neuroscience, psychology, or related fields. The position will involve investigation of human sleep disorders with additional training in clinical application of evoked responses. *All qualified candidates welcome; minorities and women are encouraged to apply.* Send curriculum vitae and names of three references to: **Jon F. Sassin, M.D., Director, Sleep Disorders Center and Professor of Neurology, Department of Neurology, University of California, Irvine Medical Center, 101 City Drive South, Orange, California 92668.** The position will be available 1 July 1979.

POSTDOCTORAL POSITIONS. Two positions available 1 April 1979. (i) Preferred background in biochemistry, pharmacology, or related field for study of lipid metabolism and drug/lipid interactions. (ii) Preferred background in neuroscience, neurochemistry, anatomy, or related field for studies of metabolism (deoxyglucose method) and cytochemistry of the auditory system. Experience in electron microscopy helpful. Send résumé and three references to: **Dr. J. Schacht, Department of Biological Chemistry, University of Michigan, Ann Arbor, Mich. 48109.**

We are a nondiscriminatory, Affirmative Action Employer.

POSTDOCTORAL POSITION for research on protoplast fusion and mitochondrial transfer in corn, using host-specific fungal toxins as selective agents. Experience in plant tissue culture, biochemistry, cell biology, or electron microscopy desirable. Available immediately; salary: \$12,000. Send curriculum vitae and names of three references to: **Dr. Elizabeth Earle, Department of Plant Breeding, Cornell University, Ithaca, N.Y. 14853.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION—RADIOBIOLOGY/DNA REPAIR. Available in August 1979.

Research on radiation- and chemical-induced toxicity, DNA damage, and mutagenesis in normal and repair-deficient human cells. Experience in tissue culture, cytogenetics, and nucleic acid biochemistry is desirable. Salary: \$11,000 to \$13,000. Send curriculum vitae, names of three references, and a brief description of research interests to: **Dr. Mark Ritter, Department of Radiation Therapy, Box 522, Hospital of the University of Pennsylvania, 3400 Spruce Street, Philadelphia, Pa. 19104.**

An Equal Opportunity/Affirmative Action Employer

**THE NATIONAL RESOURCE FOR COMPUTATION IN CHEMISTRY
(NRCC)**

and

**THE QUANTUM CHEMISTRY PROGRAM EXCHANGE (QCPE)
present a JOINT WORKSHOP on
COMPUTATIONAL METHODS FOR MOLECULAR STRUCTURE
DETERMINATION: THEORY AND TECHNIQUE**

August 13-24, 1979

at

**QCPE, Department of Chemistry
Indiana University
Bloomington, Indiana**

The workshop will provide an introduction to the use of state-of-the-art computer codes for the semi-empirical and *ab initio* computation of electronic structure and geometry of small and large molecules.

Many of the lectures on the theoretical foundation of the codes will be presented by the developers of the computational methods. NRCC and QCPE staff members will instruct participants on the use of computer programs.

Remote interactive terminal access to the Lawrence Berkeley Laboratory CDC 7600 will be provided to give participants "hands-on" experience with NRCC hardware and NRCC-QCPE software.

Methods

Ab Initio Self-Consistent Field (SCF)
Multi-Configuration-Self-Consistent
Field (MCSCF)
Configuration Interaction
Semi-empirical
Empirical Potentials

Partial Listing of Programs

GAUSSIAN 76, HONDO

GVB, ALIS
AMES/CI, ATOM/CI
MNDO, CNINDO, PCILO
MMI/MMPI

The NRCC is a Division of Lawrence Berkeley Laboratory and is jointly funded by the Basic Energy Science Division of the Department of Energy and the National Science Foundation.

Enrollment in the workshop is limited by facilities to 70 participants. For more information, complete and mail the coupon below.

Please send detailed information on the NRCC-QCPE Joint Workshop to:

Name _____
Organization _____
Street Address _____
City, State, Zip _____
Return to: NRCC-QCPE Workshop
QCPE, Department of Chemistry
Indiana University
Bloomington, Indiana 47405

POSITIONS OPEN

POSTDOCTORAL POSITION

Available for 1 to 2 years starting 1 April to 1 October 1979. Area of research is concerned with basic mechanisms of secretion, receptors, second messengers. Techniques involve cell dispersion, isotope fluxes, cell fractionations, radioligand binding, and phospholipid metabolism. Some experience in biochemical techniques preferred. Send inquiries, curriculum vitae, and names of three references to: **Dr. James W. Putney, Department of Pharmacology, Wayne State University School of Medicine, Detroit, Michigan 48201.**

Two **POSTDOCTORAL POSITIONS** available June 1979 to study various aspects of comparative muscle structure, physiology, or biochemistry. Individuals to work with group examining the phenomenon of thick filament shortening seen in several invertebrate muscles. Position requires Ph.D. preferably with experience in some aspect of muscle research. Salary: \$13,000 to \$16,000, depending on experience. Please send curriculum vitae and names of three references no later than 1 May 1979 to: **Dr. B. Walcott or Dr. M. M. Dewey, Anatomical Sciences, Health Sciences Center, State University of New York at Stony Brook, Long Island, N.Y. 11794. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION IN NEUROBIOLOGY OF AGING. Available early summer 1979. Quantitative studies of morphology of the aging brain. Experience with Golgi, immunocytochemistry, and laboratory computers desirable. Send résumé, available abstracts, reprints or preprints, and names of three references to: **Dr. Paul D. Coleman, Department of Anatomy, Box 603, University of Rochester Medical Center, Rochester, N.Y. 14642.**

POSTDOCTORAL POSITION available immediately for research on metabolism and mechanism of action of chemical carcinogens. Send curriculum vitae and names of three references to: **Dr. Z. Brada, Papanicolaou Cancer Research Institute, P.O. Box 01-6188, Miami, Fla. 33101.**

POSTDOCTORAL RESEARCH ASSOCIATE POSITION

To study role of poly(adenosine diphosphoribose) synthesis in eukaryotic DNA repair processes. Experience with DNA repair, nucleic acid, and chromatin chemistry desirable. Send curriculum vitae and references to: **Dr. N. A. Berger, Hematology-Oncology Division, Jewish Hospital, Washington University School of Medicine, 216 South Kingshighway, St. Louis, Missouri 63110.**

Equal Opportunity Employer

POSTDOCTORAL RESEARCH ASSOCIATE—Available immediately for 2 to 3 years to engage actively in work related to (i) physiological and pharmacological factors affecting the release in vivo of monoamines and peptides from brain and spinal cord and (ii) neural mechanisms of opiate analgesia. Please send curriculum vitae and references to: **Dr. Tony L. Yaksh, Section of Neurosurgical Research, Mayo Clinic, Rochester, Minn. 55901. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH POSITION available approximately 1 September 1979. Research on the mechanism of hormone action with emphasis on the characterization, regulation, and significance of intracellular receptors for polypeptide hormones. Individual with experience in molecular endocrinology and/or membrane research, with either M.D. or Ph.D., is preferred. Send curriculum vitae and references to: **Dr. Barry Posner, Polypeptide Hormone Laboratory, McGill University Clinic, Royal Victoria Hospital, 687 Pine Avenue West, Montreal, Quebec, Canada H3A 1A1.**

POSTDOCTORAL RESEARCH POSITION

Available immediately for M.D./Ph.D. investigating behavioral and metabolic aspects of human food and water intake regulation. Strong interest and/or background in intermediary metabolism, catecholamine metabolism, physiological psychology, neuropharmacology and/or neuroendocrinology is desirable. Send curriculum vitae and references to: **Dr. Robert G. Campbell, University of Rochester School of Medicine, Monroe Community Hospital, Rochester, New York 14603, telephone: 716-473-4080, extension 368.**

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE position available immediately to work on the cloning of soybean leghaemoglobin and other plant genes obligatory for symbiosis with *Rhizobium*. Experience in the area of nucleic acid biochemistry and microbiology desired. Salary commensurate with experience. Send résumé and letters of reference to: **Dr. D. P. S. Verma, Department of Biology, McGill University, Montreal, Quebec, Canada H3A 1B1.**

POSTDOCTORAL RESEARCH ASSOCIATE—Position available immediately for research in hormone-controlled water transport across cellular membranes. Recent Ph.D. with a background in biochemistry and/or cell biology preferred. Send résumé and names and addresses of three references to: **Dr. S. K. Masur, Department of Physiology and Biophysics, THE MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, N.Y. 10029. An Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH BIOPHYSICIST available 1 July to study enzymatic and transport processes of membrane vesicles from gastric cells. Candidates should be experienced and/or interested in applying probes of membrane fusion, H⁺ gradient formation, and the relation to membrane ATPases. Send résumé, transcripts, and names of three references by 1 June to: **Dr. John Forte, Department of Physiology-Anatomy, University of California, Berkeley, California 94720. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH POSITION. Atmospheric scientists with research interests in the photochemical modeling of the troposphere and stratosphere, the evolution of planetary atmospheres, and/or atmospheric radiative transfer are invited to apply for postdoctoral positions at the University of Florida. Applicants should contact: **W. L. Chameides, Department of Physics and Astronomy, University of Florida, Gainesville, Florida 32611. The University of Florida is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH POSITION is available immediately for studies on the cell envelope of *Neisseria gonorrhoeae*. Applicants must hold a Ph.D. with background experience in biochemistry. Résumés and three letters of recommendation should be sent to: **Dr. Bruce H. Hebel, Department of Microbiology, P. O. Box 672, University of Rochester Medical Center, Rochester, New York 14642.**

QUANTITATIVE PLANT ECOLOGIST—Continuing appointment track at assistant or associate professor level. Applicant must have Ph.D. with emphasis in quantitative aspects of plant ecology, be well versed in statistical techniques and computer applications, and have field experience. Responsibilities will involve teaching and research. Must function as a member of a teaching team, share in undergraduate courses, and participate in development of graduate program in environmental sciences. Individual is expected to establish a research program and function as contributing member of an Environmental Sciences Research Group. Send curriculum vitae with representative publications and three letters of recommendation by 15 April to: **Dr. Paul Buck, Search Committee, Faculty of Natural Sciences, University of Tulsa, Tulsa, Okla. 74104. The University of Tulsa has an Equal Opportunity/Affirmative Action Program for Students and Employees.**

RESEARCH ASSISTANT

Entry level position requiring B.S. in chemistry or biology, or equivalent experience. Duties include protein purification, enzyme assays, and/or electron microscopy. Possibility of part-time graduate studies. Send letter and curriculum vitae and have three reference letters sent to: **Professor N. M. Tooney, Department of Chemistry,**

POLYTECHNIC INSTITUTE OF NEW YORK
333 Jay Street, Brooklyn, N.Y. 11201
An Equal Opportunity Employer, M/F

RESEARCH ASSOCIATE for work on the structure and function of the DNA/protein nucleoskeleton from cultured HeLa cells [J. Cell Sci. 32, 249 (1978)]. Requirements include a Ph.D. in biochemistry or related discipline and in-depth knowledge of and expertise in any of the following: DNA, chromatin, or chromosomal proteins. Salary of at least \$14,000 is negotiable depending upon experience. Position available now. Send curriculum vitae and two letters of recommendation to: **John M. Keller, Ph.D., Department of Biochemistry, University of Health Sciences/The Chicago Medical School, 2020 West Ogden Avenue, Chicago, Ill. 60612. Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

RESEARCH ASSOCIATE POSITION IN NEUROBIOLOGY

Research associate position available to help develop an animal model for alcoholism and study the biochemistry of drinking behavior and alcoholism. Position is available 1 July 1979 and is being funded by a 4-year research grant from NIAAA. Applicants with experience in neurochemistry, neuropharmacology, psychopharmacology, or psychobiology will be considered. Salary ranges from \$13,000 to \$16,000, depending upon experience. Interested individuals should send curriculum vitae and two letters of recommendation to: **Dr. W. J. McBride, Department of Psychiatry, Institute of Psychiatric Research, Indiana University School of Medicine, Indianapolis, Ind. 46223.**

RESEARCH ASSOCIATES, Ph.D. biochemistry or cell biology are immediately available for a minimum of 3 years. The research will involve studies of multi-enzyme systems in respiratory and tumor tissues which regulate the composition, synthesis, and secretion of cell surface antigens and mucin glycoproteins in these tissues. A second position is available to study the role of phosphorylation of soluble enzymes and membrane proteins in the mechanism of hormone action in kidney. Salaries for these positions ranges from \$12,500 to \$15,000, commensurate with experience. Send résumé and names of references to:

Dr. Joseph Mendicino
Department of Biochemistry
University of Georgia
Athens, Georgia 30602

RESEARCH ASSOCIATE position available for study of the magnetic phenomena of the human CNS, emphasis on magnetic auditory-evoked fields. Ph.D. in neurophysiology or related field, experience in electrophysiological techniques, and computer processing of neuroelectric data required. Physics/psychology background helpful. Salary: \$15,000. Send curriculum vitae and names of three references to: **Martin Reite, M.D., Department of Psychiatry, Box C268, University of Colorado Medical Center, Denver, Colorado 80262. An Equal Opportunity/Affirmative Action Employer.**

MIT RESEARCH ASSOCIATE to conduct research in wound healing. Available immediately. Duties include monitoring of animal experiments leading to development and clinical evaluation of membranes for connective-tissue replacement. Previous experience in connective-tissue biochemistry or histopathology is required. Experience in bacteriology and in electron microscopic study of tissue morphology is desired. Ph.D. in biochemistry, biological chemistry, biomaterials science, bioengineering, or equivalent is required. Good interpersonal and writing skills also required. Starting salary: \$16,000 or higher, depending on qualifications. Those interested should send their résumés to: **Professor Ioannis V. Yannas, Fibers and Polymers Laboratory, Massachusetts Institute of Technology, Room 3-334, Cambridge, Mass. 02139, and should have three letters on their behalf sent to the above address.**

RESEARCH ASSOCIATE—Analysis of carbohydrate structure in membrane glycoproteins. Experience in glycoprotein carbohydrate chemistry desirable. The research will involve such techniques as gas chromatography, methylation analysis, mass spectrometry of oligosaccharides, circular dichroism, and NMR. This is a research staff position with teaching optional. Salary range: \$11,000 to \$15,000, depending on qualifications and experience. Send curriculum vitae and three letters of recommendation to: **Dr. C. Allen Bush, Department of Chemistry, Illinois Institute of Technology, Chicago, Illinois 60616. An Equal Opportunity/Affirmative Action Employer.**

SENIOR FACULTY POSITION CORNELL UNIVERSITY

The Department of Chemistry is seeking an organic chemist to fill a tenured faculty opening at the **associate professor or full professor level**. We are particularly interested in candidates whose research is in the area of synthesis, but we will also consider candidates who have made important contributions to other areas of organic chemistry. Candidates must have an outstanding record in research and must be interested in graduate and undergraduate teaching. Please send curriculum vitae and publication list to: **Dr. Benjamin Widom, Chairman, Department of Chemistry, Cornell University, Ithaca, New York 14853.**

Cornell University is an Equal Opportunity/Affirmative Action Employer.

Marine Phytoplankton Ecologist

Applicants are being accepted for appointment to the Resident Scientific Staff in the Biology Department at the Assistant Scientist level. The candidate will be expected to develop a research program in the general area of phytoplankton ecology with particular interest in the area of environmental effects on physiology and growth.

The candidate should be capable of developing an integrated laboratory and field program, and is expected to teach a graduate course in phytoplankton ecology and advise graduate students. Recent appointees at this level have had a Ph.D. Degree and one to two years' experience.

Please send a detailed resume, including references, to: Personnel Manager.

WOODS HOLE OCEANOGRAPHIC INSTITUTION

Woods Hole, MA 02543



An Equal Opportunity Employer M/F



Princeton University

PLASMA PHYSICS LABORATORY

PROFESSIONAL RESEARCH POSITIONS IN EXPERIMENTAL PHYSICS

The Princeton University Plasma Physics Laboratory conducts a vigorous research and development program in controlled thermonuclear fusion. The Laboratory, sponsored by the United States Department of Energy, currently operates two large Tokamak Experiments, the PLT and the PDX. A major new device, the TFTR, is under construction.

The Experiments are supported by strong groups of Theoretical physicists, engineers, and excellent computer facilities.

We are seeking creative experimentalists with Ph.D. or equivalent experience in the following areas of expertise. Plasma Physics . . Atomic Physics . . Data Acquisition and Analysis . . Neutron and X-Ray Detection . . Visible and infrared Lasers and Detectors . . Surface and Vacuum Physics . . Radio Frequency and Particle Beam Heating.

Qualified candidates should send their resumes in confidence to Personnel Department, Plasma Physics Laboratory, Princeton University, P.O. Box 451, Princeton, New Jersey 08544

An Equal Opportunity/Affirmative Action Employer M/F



CARDIOVASCULAR PHARMACOLOGIST, Ph.D.

The Research & Development Division of Cooper Laboratories, Inc. invites applications for a position in its cardiopulmonary pharmacology section at the senior pharmacologist level.

Qualifications for the position include a Ph.D. degree in pharmacology, 2 years postdoctoral or industrial experience in the cardiovascular area, and a demonstrated ability to conduct independent research. The selected applicant would become part of a research team engaged in the development of new cardiovascular drugs for clinical investigation. Candidates should submit resume with references and salary requirements to J.T. MacLachlan,

Cooper Laboratories, Inc.

110 E. Hanover Ave.,
Cedar Knolls, N. J. 07927
An Equal Opportunity Employer M/F

NEUROCHEMIST

A position in the Neurochemistry Workgroup of the Laboratory of Behavioral and Neurological Toxicology at the National Institute of Environmental Health Sciences, National Institutes of Health, Public Health Service, will be available in the near future. Candidates should have a doctoral degree (Ph.D.) or equivalent experience and training in pharmacology, biochemistry, or neurobiology with demonstrated research accomplishments in neurochemistry. Familiarity with techniques in neurotransmitter functions such as high affinity uptake, release, or binding or with assay of key enzymes such as adenylyl cyclase would be useful. A neuroendocrine background may also be appropriate. Research will involve examination of the effects of toxic agents found in the environment of the chemistry of neurotransmission.

Applicants should send curriculum vitae (including salary history), bibliography and names and addresses of three references by May 14, 1979, to: Mrs. Emily S. Bolton, Laboratory of Behavioral and Neurological Toxicology, National Institute of Environmental Health Sciences, P.O. Box 12233, Research Triangle Park, NC 27709. An Equal Opportunity Employer

**NATIONAL INSTITUTE OF
ENVIRONMENTAL HEALTH
SCIENCES**

POSITIONS OPEN

INSTRUCTOR OR ASSISTANT PROFESSOR OF PHYSIOLOGY (Ph.D. and/or M.D.). Teaching and research ability are of primary consideration. Research area: cardiovascular (microcirculation). Teaching responsibilities include medical, nursing, and graduate students. The individual must be willing and able to effectively teach areas other than in the primary research interest. Must have recently completed training in a medical center. Postdoctoral training preferred. Must be able to compete for outside research funds. Salary dependent upon experience. Send curriculum vitae and three letters of reference to: **Carleton H. Baker, Ph.D., Professor and Chairman, Department of Physiology, Box 8, College of Medicine, University of South Florida, Tampa, Florida 33612.** *The University of South Florida is an Affirmative Action/Equal Opportunity Employer.*

SENIOR/ASSOCIATE SCIENTISTS in experimental cell morphology and cytogenetics

The W. Alton Jones Cell Science Center is interested in expanding its research program by the recruitment of two new staff members at the level of **SENIOR or ASSOCIATE SCIENTIST (FULL OR ASSOCIATE PROFESSOR EQUIVALENT)**. The center is an operational unit of the Tissue Culture Association and has an active program of research on a variety of topics. It is concerned, as well, with advanced training and education involving cell tissue and organ cultures. The laboratories are modern, spacious, and well equipped. The center has affiliations with the University of Vermont, State University of New York at Plattsburgh, and the University of Rhode Island.

Suitable candidates will have a Ph.D. or M.D. and have made significant contributions to their chosen field. They should currently hold positions of not less than assistant professor or equivalent. It is expected that the candidates' research will involve the use of cell tissue or organ culture. It is expected as well that the candidates will have an established track record in obtaining research support from the funding agencies.

For further information on the center and its programs, contact the office of the director, W. Alton Jones Cell Science Center. Résumés and names of four references should be sent to: **Chairperson, Search Committee, W. Alton Jones Cell Science Center, Old Barn Road, Lake Placid, New York 12946.**

The W. Alton Jones Cell Science Center is an Affirmative Action/Equal Opportunity Employer. Applications from women and minority groups are encouraged.

The Research Foundation of the State University of New York (SUNY) College of Environmental Science and Forestry

Applications are invited for the position of **SENIOR RESEARCH ASSOCIATE—WILDLIFE BIOLOGIST**, a 12-month faculty appointment, at the Adirondack Ecological Center, Newcomb, New York. Candidate should have a Ph.D. in wildlife biology with a strong background in vertebrate community ecology, preferably avian ecology. Demonstrated research experience and ability are necessary. The candidate will assist in executing current research, conduct independent research, and participate in graduate instruction and research. Send résumé, transcript, and three letters of reference before 1 May 1979 to:

**Dr. Arthur R. Eschner
SUNY College of Environmental
Science and Forestry
Syracuse, New York 13210**

The College of Environmental Science and Forestry is an Equal Opportunity/Affirmative Action Employer.

SENIOR RESEARCH COORDINATOR

Supervisor for interdepartmental Human Genetics Cell Center. Responsible for supervising and teaching media preparation, growing and cloning of cells, transfer of chromosomes, micropipette testing, freezing of cells, and immunological techniques. Also involved with developing new techniques and acting as technical adviser to other laboratories. Extensive experience with cell and tissue culture methods and at least 5 years of supervisory experience in a laboratory setting are required. Send résumés to: **Director, Human Genetics Center, B-103 Richards Building, University of Pennsylvania, Philadelphia, Pa. 19104.**

POSITIONS OPEN

STATEWIDE PESTICIDE COORDINATOR. University of California career position available. Provide statewide coordination of all aspects of pesticide registration, use, and safety; interface with the agricultural sector, pesticide industry, governmental agencies, consumers, and environmentalists. Ph.D. and 5 years of related experience required. Davis location. Contact: **Personnel Administrator, Cooperative Extension, 331 University Hall, University of California, Berkeley, Calif. 94720.** Refer to #7903. Closing date: 27 April 1979.

TEMPORARY POSITION available for academic year 1979-1980 beginning 13 August 1979, to teach general biology, developmental biology, and experimental embryology (if demand warrants). Salary and visiting rank commensurate with training and experience; Ph.D. required. Candidates should submit curriculum vitae and three letters of recommendation by 14 April 1979 to: **Chairman, Department of Zoology, University of Arkansas, Fayetteville, Ark. 72701.** *Affirmative Action/Equal Opportunity Employer.*

ANNOUNCEMENT

**Association for Chemoreception Sciences
1ST ANNUAL MEETING.** Sarasota, Florida, 23 to 26 April 1979. Sessions: Origins of Animal Odors; Insect Chemoreception; Chemosensory Regulation of Food Intake; Clinical Disorders; CNS Processes; Immunogenetic Techniques in Chemoreception; Aquatic Chemoreception; Creation of New Chemosensory Products. Contact: **Dr. M. M. Mozell, Upstate Medical Center, State University of New York, Syracuse, N.Y. 13210; telephone: 315-473-5591.**

SYMPOSIUM

**50th ANNIVERSARY SYMPOSIUM
The Jackson Laboratory
17 to 20 July 1979
A Century of Mammalian Genetics and Cancer,
1929-2029:
A View in Midpassage**

TOPICS include: Genes and Chromosome Organization, Differentiation, Immunogenetics, Inherited Diseases, Cancer. Elizabeth Russell, chair.

For program and registration information, write to: **Symposium Committee, The Jackson Laboratory, Bar Harbor, Maine 04609.** Registration deadline: 1 May.

PROGRAMS

PHARMACOLOGY Ph.D. at University of Health Sciences/Chicago Medical School (UHS/CMS). A Ph.D. program, emphasizing neuropharmacology and supported by more than a dozen faculty with wide-ranging interests in neuroscience, is offered. Stipends and tuition remission are available on a competitive basis. **Telephone 312-942-2876** or write: **Seymour Ehrenpreis, Ph.D., Department of Pharmacology, UHS/CMS, 2020 West Ogden Avenue, Chicago, Ill. 60612.** *An Equal Opportunity Employer.*

AGING: NSF summer research program sponsored by Bucknell University. Program open to undergraduates who are able to demonstrate the ability to carry out independent research within any area of the study of aging, human or nonhuman. Financial support is available in the form of a stipend of \$1000 for the 8 weeks. Deadline for applications is 15 March 1979. For information and brochure write to: **Department of Psychology, Bucknell University, Lewisburg, Pa. 17837.**

SUMMER INSTITUTE

The **Fourth International Summer Institute in Surface Science (ISIS 1979)** will be held 13 August to 17 August 1979, at the University of Wisconsin-Milwaukee. Twenty-one invited speakers will present tutorial review lectures preferentially on gas/solid interface phenomena. For further information contact: **Dr. Ralf Vanselow, Department of Chemistry and Laboratory for Surface Studies (Chem 112), University of Wisconsin-Milwaukee, Milwaukee, Wisconsin 53201.** Telephone: 414-963-5973.

FELLOWSHIPS

POSTDOCTORAL FELLOW

Postdoctoral fellowship (1 year), available immediately for research on the molecular structure of chromatin and how this is altered in differentiation and neoplasia. Background in biochemistry, physical biochemistry, molecular biology, or biology required. Send curriculum vitae with names of references and proposed starting date to:

**Henry Simpkins, M.D., Ph.D.
Department of Pathology
University of California, Irvine
College of Medicine
Irvine, California 92717**

POSTDOCTORAL FELLOWSHIPS beginning 1 July 1979, at the University of Southern California, are available for qualified applicants interested in a unique research program in the developmental biology of oral-facial-cranial processes and the etiology, genetics, pathogenesis, and treatment of craniofacial malformations. Applicants with D.D.S., M.D., or a Ph.D. in biological sciences are invited. Send complete curriculum vitae to: **Professor Harold C. Slavkin, Director, Graduate Program in Craniofacial Biology, University of Southern California—GER 317, Los Angeles, California 90007.**

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IMMUNOLOGY-ALLERGY FELLOWSHIP available starting 1 July 1979, in flexible 2- to 3-year program. Research areas include human autoantibody structure, complement, Fc receptors, adrenergic receptors, and immune complexes. Clinical experiences include allergic, rheumatic, and autoimmune diseases. Internal medicine or pediatric training desirable; Ph.D. graduates also considered. Contact: **John P. Leddy, M.D., Chief, Clinical Immunology Unit, Department of Medicine, Box 695, University of Rochester Medical Center, Rochester, N.Y. 14642, telephone: 716-275-2891.**

CARDIOVASCULAR PATHOLOGY FELLOWSHIP

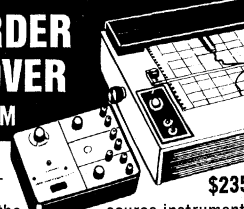
Position available July 1979 for an individual who has completed 2 years of anatomic pathology residency and who is interested in 1 or 2 years of cardiovascular pathology training, research, and teaching experience. Pathological material from the University of Washington Affiliated Hospitals as well as material from the VA Cooperative Study on Heart Valve Replacement will be utilized. Research will emphasize morphometric evaluation of human coronary and myocardial lesions. Write to: **Dr. Dennis D. Reichenbach, Department of Pathology, SM-30, University of Washington, Seattle, Wash. 98195.** *The University of Washington is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOWSHIPS open on NIMH Neurobehavioral Sciences Training Grant. Send curriculum vitae and three letters of reference to: **Dr. Lewis Seiden, Program Director, Neuro-Behavioral Sciences Research Training Program, Department of Pharmacological and Physiological Sciences, The University of Chicago, 947 East 58 Street, Chicago, Ill. 60637.** *Affirmative Action/Equal Opportunity Employer.*

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For descriptive brochure and application forms, write to:

Dr. Eve L. MacDonald
Program Coordinator
Electron Microscope Institute
Duke University Marine Laboratory

Mailing Address: Department of Toxicology &
Experimental Pathology
Wellcome Research Laboratories
3030 Cornwallis Road
Research Triangle Park
North Carolina 27709

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The National Institute of Environmental Health Sciences, National Institutes of Health, Public Health Service, invites applications for a position in the Laboratory of Pharmacokinetics. The successful candidate will be expected to participate in planning and conducting original independent and collaborative research studying the metabolism and disposition of known and potential environmental contaminants. The successful applicant must have a Ph.D. or equivalent experience and training in Toxicology, Pharmacology, Pharmacokinetics or a closely related field with substantial research experience reflected by a quality record of publications in environmental toxicology or pharmacokinetics. This position may be filled through Federal career Civil Service or PHS Service Fellowship appointment. Salary will range from \$15,120 to \$30,100 per annum dependent upon qualifications, accomplishments and present salary. Letters of application with curriculum vitae (including salary history and requirements), bibliography and the names and addresses of three references should be mailed by May 20, 1979, to: Mrs. Elizabeth A. Mickens, Personnel Office, National Institute of Environmental Health Sciences, P.O. Box 12233, Research Triangle Park, NC 27709. An Equal Opportunity Employer.

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