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Mechanics of Materials. An Introduction to the Mechanics of Elastic and Plastic Deformation of Solids and Structural Components. E. J. Hearn. Pergamon, New York, 1977. Two volumes. Vol. 1. xxii, 394 pp., illus. + appendix. Paper, \$20. Vol. 2. xxii + pp. 395–644, illus. Paper, \$15. International Series on Materials Science and Technology, vol. 19. *To order this book circle No. 394 on Readers' Service Card*

Membrane Alterations as Basis of Liver Injury. Papers from a symposium, Basel, Oct. 1976. Hans Popper, Leonardo Bianchi, and Werner Reutter, Eds. University Park Press, Baltimore, 1977. xxii, 384 pp., illus. \$29.50. Falk Symposium 22.

Membrane Transport in Red Cells. J. Clive Ellory and Virgilio L. Lew, Eds. Academic Press, New York, 1977. x, 470 pp., illus. \$41.

Models of Discovery and Other Topics in the Methods of Science. Herbert A. Simon. Reidel, Boston, 1977. xx, 464 pp., illus. Cloth, \$39.50; paper, \$19.95. Synthese Library, vol. 114. Boston Studies in the Philosophy of Science, vol. 54.

Molecular Biophysics. M. V. Volkenstein. Translated from the Russian edition. Academic Press, New York, 1977. xii, 622 pp., illus. \$36.50.

Multidisciplinary Gerontology. A Structure for Research in Gerontology in a Developed Country. Papers from a symposium. I. R. Mackay, Ed. Karger, Basel, 1977. vi, 116 pp., illus. \$29.95. Interdisciplinary Topics in Gerontology, vol. 11.

Narkose der Reptilien, Amphibien und Fische. Klaus Bonath. Verlag Paul Parey, Berlin, 1977. 160 pp., illus. Paper, DM 49. Schriftenreihe Versuchstierkunde, Heft 4.

Neurogenic Control of the Brain Circulation. Proceedings of a symposium, Stockholm, June 1977. Christer Owman and Lars Edvinsson, Eds. Pergamon, New York, 1977. xx, 510 pp., illus. \$40. Wenner-Gren Center International Symposium Series, vol. 30. *To order this book circle No. 395 on Readers' Service Card*

The New Birth Control Program. Christine Garfink and Hank Pizer. Bolder Books (Hampstead Hall Press), New York, 1977. xii, 140 pp., illus. Paper, \$4.95.

1978 Yearbook of Astronomy. Patrick Moore. Norton, New York, 1978. 224 pp., illus. \$10.95.

The Ocean-Atmosphere System. A. H. Perry and J. M. Walker. Longman, New York, 1977. xii, 160 pp., illus. Cloth, \$17.50; paper, \$11.50. *To order this book circle No. 380 on Readers' Service Card*

Optics and Lasers. An Engineering Physics Approach. M. Young. Springer-Verlag, New York, 1977. xiv, 210 pp., illus. \$24. Springer Series in Optical Sciences, vol. 5. *To order this book circle No. 396 on Readers' Service Card*

Organometallic Reactions and Syntheses. Vol. 6. Ernest I. Becker and Minoru Tsutsui, Eds. Plenum, New York, 1977. xii, 314 pp., illus. \$39.50.

Pacing the Void. T'ang Approaches to the Stars. Edward H. Schafer. University of California Press, Berkeley, 1978. xii, 352 pp., illus. \$26.75.

Philosophical Medical Ethics. Its Nature and Significance. Proceedings of a symposium, Farmington, Conn., Dec. 1975. Stuart F. Spicker and H. Tristram Engelhardt, Jr., Eds.

Reidel, Boston, 1977. vi, 252 pp. \$19.50. Philosophy and Medicine, vol. 3.

Phosphates and Dental Caries. Bernard Lienthal. Karger, Basel, 1977. viii, 108 pp., illus. Paper, \$33.25. Monographs in Oral Science, vol. 6.

Photosynthesis Bibliography. Vol. 3, 1972. Z. Šesták and J. Čatský, Eds. Junk, The Hague, 1977. vi, 270 pp. Paper, Dfl. 95.

The Physics of Charged-Particle Beams. J. D. Lawson. Clarendon (Oxford University Press), New York, 1977. xxii, 462 pp., illus. \$37.50. The International Series of Monographs on Physics.

The Physiology and Biochemistry of Seed Dormancy and Germination. A. A. Khan, Ed. North-Holland, Amsterdam, 1977 (U.S. distributor, Elsevier, New York). xviii, 448 pp., illus. \$65.95.

Polymerization Processes. Calvin E. Schildknecht and Irving Skeist, Eds. Wiley-Interscience, New York, 1977. xii, 768 pp., illus. \$40. High Polymers, vol. 29.

Studies in the Biology and Pathology of Skin; Studies in Radiobiology. L. Robert, Ed. Karger, Basel, 1977. viii, 222 pp., illus. \$65.50. Frontiers of Matrix Biology, vol. 4.

Subsistence and Survival. Rural Ecology in the Pacific. Timothy P. Bayliss-Smith and Richard G. Feachem, Eds. Academic Press, New York, 1977. xiv, 428 pp., illus. \$28.35.

Thermodynamik. Band 2. Alfred Rieckers and Harald Stumpf. Vieweg, Wiesbaden, 1977. xvi, 386 pp., illus. DM 72.

Topics in Hematology. Proceedings of a congress, Kyoto, Japan, Sept. 1976. S. Seno, F. Takaku, and S. Irino, Eds. Excerpta Medica, Amsterdam, 1977 (U.S. distributor, Elsevier, New York). xxii, 1084 pp., illus. \$154.95.

Toxic and Hallucinogenic Mushroom Poisoning. A Handbook for Physicians and Mushroom Hunters. Gary Lincoff and D. H. Mitchell. Wilbur K. Williams, Ed. Illustrations by Irene E. Liberman. Van Nostrand Reinhold, New York, 1977. xiv, 268 pp., illus. \$16.95. *To order this book circle No. 381 on Readers' Service Card*

Transfer of Nuclear Technology. Papers from a conference, Persepolis/Shiraz, Iran, Apr. 1977. Pergamon, New York, 1977. viii + pp. 217–400, illus. Paper, \$25. *Annals of Nuclear Energy*, vol. 4, Nos. 6–8. *To order this book circle No. 382 on Readers' Service Card*

Urinary System Malformations in Children. Proceedings of a seminar, Philadelphia, Apr. 1976. Daniel Bergsma, John W. Duckett, Natalie W. Paul, and Florence Dickman, Eds. Liss, New York, 1977. xxiv, 482 pp., illus. \$50. Birth Defects: Original Article Series, No. 5. *To order this book circle No. 397 on Readers' Service Card*

Validation of the Measurement Process. Papers from a symposium, New York, Apr. 1976. James R. DeVoe, Ed. American Chemical Society, Washington, D.C., 1977. viii, 208 pp., illus. \$20. ACS Symposium Series, 63. *To order this book circle No. 398 on Readers' Service Card*

A Voyage of Discovery. Martin Angel, Ed. Pergamon, New York, 1977. xii, 696 pp., illus. \$45. Supplement to *Deep-Sea Research and Oceanographic Abstracts*. *To order this book circle No. 383 on Readers' Service Card*

Wasserstoff als Energieträger. Herstellung, Lagerung, Transport. N. Getoff with contributions by K. J. Hartig, G. Kittel, G. A. Peschek, and S. Solar. Springer-Verlag, New York, 1977. xvi, 420 pp., illus. Paper, \$45.10. *To order this book circle No. 384 on Readers' Service Card*

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POSITIONS WANTED

Animal Behaviorist. Ph.D. University of Chicago, 1976. Research experience on exotic birds in zoological park. Publications. Teaching experience. Seeks research or teaching position in zoo, academia, or other. Box 240, SCIENCE. 7/14, 21, 28; 8/4

Graduate student receiving M.S. in July seeks position as **Aquatic Biologist, Ecologist, or Aquatic Entomologist.** Experienced with the macroinvertebrates, chemistry, and limiting factors of acid strip mines. Desires position studying macroinvertebrates. G. Brown, 16 West 555 Mockingbird Lane, Hinsdale, Illinois 60521. X

Biologist. M.S. Seeking teaching position at community college level. Strong academic background in physiology/anatomy and vertebrate biology. Teaching experience includes 3 years' instructing laboratory classes in anatomy/physiology and general biology. Lecture experience. Temporary position acceptable. Box 216, SCIENCE. X

Biologist. Ph.D. Experience teaching general biology, phycology, microscopy; research experience in biological ultrastructure. Publications in both plant and animal areas. Seeking teaching/research position. Box 242, SCIENCE. X

Cell Biologist. M.S. Ten years of experience in cell culture, effects of viruses and chemicals in vitro, fluorescent techniques; publications; supervisory experience. Desires position in N.Y.-N.J. metropolitan area. Box 239, SCIENCE. 7/14, 21

Curator/Director—Zoo/Museum. Ph.D. zoology; 6 years of experience as curator of major zoo. Seeking zoo, museum, or conservation position in administration/staff. Box 243, SCIENCE. 7/14, 21, 28

Microscopist/Microanalyst/Scientific Photographer. Ph.D. Eight years of industrial experience. Electron and light microscopy, XRF, wide variety of subjects. Supervisory and product development experience. A fast and effective problem-solver. Seeks position in well-equipped laboratory of progressive company or university. Box 241, SCIENCE. X

Zoologist. B.A., M.Sc. biology; Ed.D. higher education and biology. Ten years of college teaching experience. Research in science teaching at college level. Strong in biochemistry and cell and developmental biology. Seeks undergraduate teaching position. 231 South 12 West, Billings, Montana 59102. X

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ASSISTANT DEAN/DIRECTOR OF MEDICAL EDUCATION

East Tennessee State University College of Medicine is seeking a person to be responsible for coordination of all the Medical School's educational programs in 564-bed affiliated Holston Valley Community Hospital, Kingsport, located in the beautiful mountains of East Tennessee. Candidate should qualify for medical licensure in Tennessee. Previous administrative experience helpful but not mandatory. Part-time practice in the school's Medical Service Plan possible. Consideration of candidates will begin 1 August 1978 and continue until the post is filled. Those interested should apply to:

Dr. Charles L. Votaw
Associate Dean/Clinical Sciences
College of Medicine
Box 19,630A
East Tennessee State University
Johnson City, Tenn. 37601

East Tennessee State University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR. Ph.D. in microbiology, medical microbiology, or public health. Teaching graduate and undergraduate courses in biology, microbiology, epidemiology, and related areas. Available 1 February 1979. Salary dependent upon qualifications. Send curriculum vitae, transcripts, and three letters of recommendation to: **Dr. C. M. Fradkin, Department of Biology and Health Sciences, Chapman College, Orange, California 92666.** An Equal Opportunity/Affirmative Action Employer.

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HARVARD SCHOOL OF PUBLIC HEALTH Assistant Professorships in the new LABORATORY OF TOXICOLOGY

Applications are being accepted from persons with graduate training, postdoctoral experience, and proven accomplishment in chemistry, biophysics, biological chemistry, genetics, immunology, or cell biology who are interested in research and teaching in areas related to the mechanisms of action of environmental chemicals and drugs on biological systems.

Expression of interest is particularly invited from qualified women and minority candidates.

Send curriculum vitae, a résumé of past accomplishments, a statement of future interests, and the names and addresses of three evaluators to:

Professor Armen H. Tashjian, Jr.
Laboratory of Toxicology
Harvard School of Public Health
665 Huntington Avenue
Boston, Massachusetts 02115

ASSISTANT OR ASSOCIATE PROFESSOR dependent on qualifications. American Board of Internal Medicine certified; Board-eligible in gastroenterology. Dedicated teachers with demonstrated research capabilities. An Equal Employment Opportunity/Affirmative Action Employer. Send curriculum vitae, bibliography, and references to: **N. R. Pimstone, M.D., Chief, Section of Gastroenterology, 4301 X Street, Sacramento, Calif. 95817.**

Final date for accepting applications: 31 July 1978.

ASSISTANT PROFESSOR—ANATOMY. Position available to conduct research on differentiation and growth of salivary glands. Applicants must have training in immunochemistry/protein chemistry/protein synthesis. Rank will be at the assistant professor level. Send curriculum vitae and the names of three references to: **T. Barka, M.D., Department of Anatomy, The Mount Sinai School of Medicine, 100 Street and Fifth Avenue, New York, N.Y. 10029.** An Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR OF ANATOMY

Ph.D. with strong commitment to teaching. Primary responsibilities: histology, with some involvement in the programs of the other anatomical subdisciplines. Skill in electron microscopy highly desirable with opportunities for collaborative and independent research. For one who enjoys working with students at the professional level. For one who desires a small community/rural environment. Applicants please submit curriculum vitae, brief statement of interests, and names of three references to: **F. J. Julian, Ph.D., Professor and Chairman, Department of Anatomy, Kirksville College of Osteopathic Medicine, Kirksville, Missouri 63501.** An Equal Opportunity/Affirmative Action Employer.


The Department of Physics at Northern Michigan University has a **VISITING ASSISTANT PROFESSOR** position available for the 1978-1979 academic year. Applicants with a Ph.D. degree and biophysics expertise are sought. Particularly desirable will be experience in biochemical instrumentation. Secondary consideration will be given to general relativity theorists, particularly with interest in cosmology. The appointment will require full-time teaching responsibility in undergraduate physics courses and the biochemistry program. Send résumé and letter of recommendation to: **William W. Ralph, Chairman, Department of Physics, Northern Michigan University, Marquette, Mich. 49855.** An Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF PHYSIOLOGY. Applicants invited for faculty position to teach medical and graduate students and with research interests in cardiovascular physiology. Candidate should have Ph.D. and/or M.D., plus 1 to 3 years of postdoctoral research experience. Appointee expected to develop independent research program. Ample office and laboratory space plus start-up money for research. Salary competitive. Send curriculum vitae and names of three references to: **Ben B. Bliwaiss, Ph.D., Vice Chairman, Department of Physiology and Biophysics, University of Health Sciences/The Chicago Medical School, 2020 West Ogden Avenue, Chicago, Ill. 60612.**

MANAGER OF ENVIRONMENTAL RESEARCH

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Send resume, in confidence, to
Dr. Harold Lurie,
Director of Research & Development.



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DEAN OF PHARMACY IDAHO STATE UNIVERSITY

Nominations and applications are invited for the position of **dean of pharmacy**, which will be open on 1 July 1979. Nominations will be accepted until 15 October 1978; applications must be received by 1 November 1978.

Idaho State University is located in Pocatello, Idaho, the second largest metropolitan area of the state. In addition to the College of Pharmacy, it has six other schools and colleges, including Liberal Arts, Education, Business, Health Related Professions, Engineering, and Graduate School. The College of Pharmacy, established in 1918, is one of the leading institutions of its kind in the Northwest and offers the B.S. degree in pharmacy as well as the M.S. degree in areas of pharmaceutical chemistry, pharmaceuticals, pharmacognosy, and pharmacology.

Candidates must have the Ph.D. or the equivalent in a pharmaceutical discipline as well as licensure or eligibility to be licensed as a pharmacist in the State of Idaho. Other desirable qualifications include experience in the practice of the pharmaceutical profession; teaching experience on the undergraduate and the graduate level; demonstrated scholarship and research achievement; evidence of administrative and leadership qualities; evidence of the ability to function well with several constituencies: the lay public, the academic community, pharmacy professionals, and other health professionals; familiarity with sources of funding and with budgetary procedures; and willingness to function within a framework of shared governance.

Salary will be dependent upon experience and qualifications.

Applications should be accompanied by curriculum vitae and a list of at least five persons from whom the screening committee could obtain recommendations and evaluations. Nominations and applications should be addressed to:

Charles H. Kegel, Chairman
Dean of Pharmacy Screening Committee
Idaho State University
Pocatello, Idaho 83209

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POSITIONS OPEN

The Department of Nutrition, University of California, Davis, is seeking applicants for a tenure-track 11-month faculty position (**ASSISTANT PROFESSOR**) in **community nutrition**. The applicant should have a Ph.D. in social or experimental psychology or nutrition with a strong background or evidence of experience in experimental methodology applicable to community nutrition. Teaching would include a graduate-level course in methods applicable to community nutrition problems and undergraduate level courses in fieldwork and methods in community nutrition. An independent research program is to be developed which has application to problems in community nutrition.

Curriculum vitae, bibliography, and three letters of recommendation should be submitted to: **R. B. Rucker, Chairperson of the Search Committee, Department of Nutrition, University of California, Davis, Calif. 95616** by 1 September 1978.

The University of California is an Equal Opportunity/Affirmative Action Employer and will welcome applications from members of minority groups and women.

ASSISTANT PROFESSOR Developmental Biology

A tenure-track vacancy is available on 25 August 1978 for a person eminently qualified to teach a one-semester undergraduate course in developmental biology and embryology (fall) and a one-semester graduate course in experimental embryology (spring). Duties also include mentoring B.S., M.S., and Ph.D. theses. An active research program is expected. Salary is competitive; 9-month appointment. Please send credentials to: **Dr. George B. Chapman, Chairman, Department of Biology, Georgetown University, Washington, D.C. 20057. Telephone: 202-625-4126.** An Equal Opportunity/Affirmative Action Employer.

Applications are sought from M.D.'s and Ph.D.'s for full-time positions in the Department of Pathology at the level of either **ASSISTANT OR ASSOCIATE PROFESSOR** depending on qualifications and experience. Responsibilities will include teaching, research, and hospital service; however, pursuit of individual research interests as well as participation in ongoing research is encouraged. Send curriculum vitae and references to:

**Joseph Wiener, M.D., Chairman
Department of Pathology
Wayne State University School of Medicine
540 East Canfield Avenue
Detroit, Michigan 48201**

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FACULTY POSITION

ASSISTANT PROFESSOR, PLANT BREEDING-GENETICS. Ph.D. Teach annual undergraduate course in genetics, biennial graduate course in plant breeding, advise undergraduate and graduate students, and develop genetics research program in crop improvement. Position open 1 September 1978; earlier appointment possible. Send letter of application, résumé, transcripts, and three letters of reference to: **Dr. Allen L. Morehart, Search Committee Chairman, Plant Science Department, University of Delaware, Newark, Del. 19711** by 31 July 1978. *The University of Delaware is an Affirmative Action/Equal Opportunity Employer.*

UNIVERSITY OF OKLAHOMA DEPARTMENT OF RADIOLOGY

ASSISTANT PROFESSOR to teach radiological sciences to medical students and secondarily to assist in clinical diagnostic radiology service. Certification by American Board of Radiology; proven record in teaching radiological sciences to medical students, supported by student evaluations. Superior performance in clinical radiology. Salary: commensurate with experience. Available 1 December 1978. Deadline for application: 31 August 1978. Apply to: **J. J. Vanhoutte, M.D., Department of Radiology, P.O. Box 26901, Oklahoma City, Oklahoma 73190.**

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ASSISTANT RESEARCH PROFESSOR—Research position in psychophysiology. Ph.D. in psychology and strong research interest necessary. Salary for academic year: \$14,500. Send curriculum vitae and three letters of reference to: **F. J. McGuigan, Ph.D., Performance Research Laboratory, University of Louisville, Louisville, Kentucky 40208.** Applications must be received by 1 August 1978. *An Equal Opportunity/Affirmative Action Employer.*

TOXICOLOGY LABORATORY SHELL DEVELOPMENT COMPANY

Shell Development Company seeks qualified applicants for the following positions in the Toxicology Laboratory currently under construction at our Westhollow Research Center in Houston. These are outstanding career opportunities which offer excellent salary progression and benefits.

The individuals selected will report to the Director. They will have responsibility for recruiting, training, and supervising staff in their respective areas, and for ensuring the highest scientific and technical standards in the work of the Laboratory.

Senior Toxicologist

Responsible for both short and long term toxicity studies, including skin irritation and sensitization. Define and conduct research projects to answer potential problems relating to a wide range of chemical and oil products.

Requires doctorate in biological science or equivalent, at least five years post-doctoral experience, and membership in Society of Toxicology.

Senior Inhalation Toxicologist

Responsible for all aspects of inhalation toxicological studies on a wide range of chemical and oil products. Includes establishing satisfactory procedures for generation and monitoring of test atmospheres.

Requires doctorate in a physical or biological science, at least five years post-doctoral experience, and membership in Society of Toxicology.

Senior Experimental Pathologist

Responsible for all pathology investigations, both routine and involving special skills such as electron microscopy or immunology.

Requires at least five years post-doctoral experience with experimental animal pathology. Prefer certified veterinarian or medical pathologist.

Please send résumé to:

**Manager—Research Recruitment
Shell Development Company
P.O. Box 1380
Houston, Texas 77001**



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ASSOCIATE IN LABORATORY ANIMAL AND WILDLIFE MEDICINE

University of Florida is seeking applications for an associate in laboratory animal and wildlife medicine. This is a junior-level, nontenured faculty position. It is envisaged that responsibilities will be as follows:

- 1) Assist the director in direction and management of the laboratory animal husbandry program of the Health Center's research animal resources, and
- 2) Instruct veterinary medical students and research staff in laboratory animal management and techniques.

Duties include coordination of laboratory animal husbandry at several geographic sites, management of employee matters within the husbandry section, budgetary planning, oversight of cage, equipment, and facility maintenance, training of employees, and instruction of veterinary students and research staff in laboratory animal management and techniques.

Qualifications include the B.S. or higher degree and at least 5 years of experience in animal resource management. Training and/or experience in veterinary technology, animal husbandry, and business management are integral requirements. Teaching experience is desirable.

Closing date for applicants is 1 September 1978. Applicants should send curriculum vitae and letters of reference to:

Dr. A. F. Moreland
Director, Health Center Animal Resources and Head,
Division of Laboratory Animal and Wildlife Medicine
College of Veterinary Medicine
Box J-6 JHMC
University of Florida
Gainesville, Fla. 32610

PATHOBIOLOGY/ASSOCIATE PROFESSOR

September 1978. Carry out independent research, be responsible for histology teaching program, occasional public service duties. Requires D.V.M. or Ph.D., training in investigation of pathogenesis of disease. Salary negotiable. Reply by 1 August 1978 to: **Dr. Everett Bryant, University of Connecticut, U-89, Storrs, Conn. 06268. An Equal Opportunity Employer.**

CARDIOVASCULAR PHYSIOLOGIST

Applications are invited for the appointment of a cardiovascular physiologist at the rank of assistant professor in the Department of Physiology. Send applications with curriculum vitae and names of three referees to: **Sandra Knowles, Department of Physiology, McGill University, 3655 Drummond Street, Montreal, Quebec, Canada H3G 1Y6.**

CHAIRMAN OF MICROBIOLOGY, University of Southern California (USC) School of Medicine. Requirements: M.D. or Ph.D. with superior credentials in research and teaching as well as administrative ability. Nominations and applications are invited from all qualified individuals and should be sent to: **Murray B. Gardner, M.D., Chairman, Microbiology Search Committee, University of Southern California School of Medicine, Edmondson Research Building, 1840 North Soto Street, Los Angeles, California 90032. USC is an Affirmative Action/Equal Opportunity Employer.**

COORDINATOR OF PHYSIOLOGY LABORATORIES. Immediate opening for B.S. or M.S. in biology with strong emphasis on physiology instrumentation and applied biophysics. Duties include coordination of student laboratories in physiology in liaison with student assistants and faculty, stocking laboratory, and determining need for instrumentation improvement. Twelve-month contract. Salary negotiable.

RENAL AND CELLULAR PHYSIOLOGIST. Immediate opening for M.S. or Ph.D. with emphasis in fields of renal and cellular physiology in pre-clinical setting to lecture and teach laboratories in these areas. Research encouraged. Salary dependent upon qualifications. Twelve-month contract. For either position send curriculum vitae, transcripts, and three letters of recommendation to: **Dr. Hun-Lin Lin, National College of Chiropractic, 200 East Roosevelt Road, Lombard, Illinois 60148.**

CYTOGENETIC TECHNOLOGIST

Geisinger Medical Center needs a B.S.- or M.S.-level technologist with experience in chromosome banding techniques. Please send résumé to:

Personnel Department
Geisinger Medical Center
Danville, Pa. 17821

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POSITIONS OPEN

CHAIRMAN DEPARTMENT OF PSYCHIATRY TUFTS-NEW ENGLAND MEDICAL CENTER

Applications are solicited for the position of **chairman** of the Department of Psychiatry, Tufts University School of Medicine, and **psychiatrist-in-chief**, New England Medical Center Hospital. We will seek a candidate with the highest academic credentials who will be able to direct a vigorous, multifaceted department in an expanding university medical center. *We are an Equal Opportunity Employer. Women and minorities are encouraged to apply.* Please send curriculum vitae and supporting information to:

Theodore L. Munsat, M.D.
Department of Neurology
Tufts-New England Medical Center
171 Harrison Avenue
Boston, Mass. 02111

William Beaumont Hospital
Royal Oak, Michigan
Department of Obstetrics/Gynecology

Position available immediately for **CHIEF OF LABORATORY FOR IMMUNOLOGIC RESEARCH.** Applicant must have advanced immunology background and have demonstrated excellence and special knowledge in tissue typing, tissue cross matching and culturing; also semenology. Salary \$18,000 per year. Reply to: **William Beaumont Hospital, Department of Obstetrics/Gynecology, 3601 West 13 Mile Road, Royal Oak, Michigan 48072.**

DEAN OF FACULTY TRINITY COLLEGE HARTFORD, CONNECTICUT

Applications and nominations are invited for the position of dean of faculty; appointment to begin 1 July 1979. The position calls for a person responsible for academic planning, shaping and curriculum, and representing and directing the professional interests of the faculty.

Qualifications: Ph.D. or equivalent; experience or training in academic administration; ability as a teacher; and scholarly achievement in the liberal arts or sciences.

The dean, the senior officer responsible for the instructional budget, reports directly to the president, supervises department and program chairpersons in their recruitment and review of faculty, and directs the offices of the Registrar, Graduate Studies, and the Individualized Degree Program.

The salary will be commensurate with the candidate's experience and qualifications. A decision on the appointment is expected by 15 January 1979. All applications will be acknowledged.

Applications with the names of five references should be sent by 15 September 1978 to:



Office of the President
Trinity College
Hartford
Connecticut 06106

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The Buffalo Society of Natural Sciences, administrator of the **BUFFALO MUSEUM OF SCIENCE**, invites applications for the position of **DIRECTOR** of the museum. Salary: mid-twenties, plus benefits. Direct all replies to:

Search Committee
Buffalo Museum of Science
Humboldt Parkway
Buffalo, N.Y. 14211

ENVIRONMENTAL STUDIES

Faculty position in liberal arts college teaching, advising, and developing field placement opportunities. Ph.D. in discipline related to environmental concerns preferred. Send résumé and credentials to: **Keith C. Shumway, Academic Vice President, Ottawa University, Ottawa, Kansas 66067.** Salary and rank commensurate with background. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DIRECTOR OF ANATOMIC PATHOLOGY. Applications are invited for the position of director of the very active anatomic service at Cedars-Sinai Medical Center. This position will be available approximately 1 January 1979, and requires Board-certification, broad experience in administration and management, as well as superior teaching ability and research experience. Cedars-Sinai Medical Center is affiliated with the University of California at Los Angeles (UCLA), and applicants should also be qualified for consideration of a faculty appointment at an appropriate level in the Department of Pathology at the University of California, Los Angeles. Please send curriculum vitae and names of referees to: **Julien L. Van Lancker, M.D., Department of Pathology, UCLA School of Medicine, Los Angeles, California 90024. Equal Opportunity/Affirmative Action Employers. Minorities and women are encouraged to apply.**

MINISTRY FOR THE ARTS VICTORIA, AUSTRALIA DIRECTOR, NATIONAL MUSEUM First Division AS27,814

Position No. S 08/25/00016

Applications are invited for the office of director, National Museum, the occupant of which will be responsible for the management of the museum and the development of its activities.

The National Museum of Victoria, founded in 1854, is a state government-funded museum covering the fields of zoology, mineralogy, palaeontology, and anthropology with a special research interest in southeastern Australia. The director of the museum is the chief executive officer of the council and also occupies ex-officio positions on other statutory bodies. There are 11 curatorial departments with a total scientific staff of 26. Research is supported by one of the largest natural history reference libraries in Australia. The collections are among the most significant in Australia.

The successful applicant will need to have an appropriate higher degree, specialized knowledge of zoology, geology, or anthropology, experience in museum administration and technique, wide research experience in a discipline appropriate to activities of the museum, and demonstrated ability to lead and direct the work of multidisciplinary staff.

CONDITIONS OF SERVICE INCLUDE:

- 4 weeks of annual leave with loading,
- liberal sick leave,
- eligibility for long service leave after completion of 10 years service, and
- generous contributory superannuation scheme.

Applications in writing, quoting position number and stating experience, qualifications, and date of birth, must reach: **The Secretary, Public Service Board of Victoria, 1 Treasury Place, Melbourne, 3002, Australia,** by no later than 9:30 a.m. on Wednesday, 23 August 1978.

ENTOMOLOGIST—ARGENTINA

TWO-YEAR RESEARCH POSITION funded by a Medical College of Wisconsin grant is available for an entomologist with Ph.D. training in medical entomology and vector control. The research program involves monitoring insect vectors of Chagas Disease, testing laboratory-developed vector control methods in the field and assisting a team of American physicians in an epidemiological study of Chagas Disease. This research position is in Argentina and knowledge of Spanish is desirable but not essential. In addition to an attractive salary, moving expenses and free lodging at the research site are provided. Submit résumé and other credentials to: **Richard D. Stewart, M.D., Chairman, Department of Environmental Medicine, The Medical College of Wisconsin, 8700 West Wisconsin Avenue, Milwaukee, Wisconsin 53226. An Affirmative Action Employer.**

MARINE MICROBIOLOGIST

The Osborn Laboratories of Marine Sciences has an immediate opening for a qualified Ph.D. to develop a new program in microbiology. Send curriculum vitae, a statement of objectives, and the names of three references to:

JAMES WHITE
Personnel Supervisor
N.Y. ZOOLOGICAL SOCIETY
185th Street and Southern Boulevard
Bronx, N.Y. 10460
An Equal Opportunity Employer, M/F



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

EXECUTIVE MANAGERS BEING SOUGHT BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF PESTICIDE PROGRAMS

The U.S. Environmental Protection Agency is seeking persons with scientific and/or managerial experience to fill four division director positions and ten branch chief positions (as described below) which are in the agency's Office of Pesticide Programs (OPP). The persons selected for these positions will play key roles in the development and implementation of the agency's programs related to assessment of the human health and environmental risks of pesticides and control of the sale, distribution, use, and disposal of pesticide chemicals.

REGISTRATION DIVISION

DIRECTOR—GS-15/16: The Registration Division is responsible for the registration of individual pesticide products (including registration, reregistration and renewal, and for the establishment of tolerances for pesticide residues on food to ensure human safety and protection of environmental quality). Director provides operational direction and assumes management responsibility for the registration, renewal, and tolerance processes and participates in development of overall strategy for the management of pesticides in the environment and in agency budget and policy development.

INSECTICIDE/RODENTICIDE BRANCH CHIEF—GS-14/15: The Insecticide/Rodenticide Branch is responsible for the review, evaluation, coordination, and final decisions to grant experimental use permits and registrations for all insecticide/rodenticide pesticide products and their uses. (Biological or physical sciences degree required.)

FUNGICIDE/HERBICIDE BRANCH CHIEF—GS-14/15: The Fungicide/Herbicide Branch is responsible for the review, evaluation, coordination, and final decisions to grant experimental use permits and registrations for all fungicide/herbicide pesticide products and their uses. (Biological or physical sciences degree required.)

DISINFECTANTS BRANCH CHIEF—GS-14/15: The Disinfectants Branch is responsible for the review, evaluation, coordination, and final decisions to grant experimental use permits and registrations for all disinfectant pesticide products and their uses. (Biological or physical sciences degree required.)

PROCESS COORDINATION BRANCH CHIEF—GS-14/15: The Process Coordination Branch is responsible for the review, evaluation, and coordination of emergency exemption requests under Section 18 of the Federal Insecticide/Fungicide and Rodenticide Act (FIFRA) as amended. It is responsible for the administrative review, evaluation, coordination, and final recommendations and decisions concerning minor use/specialty crop tolerance petitions, inert clearance requests, and supplemental registrations. Manages the processing of incoming applications for registrations, experimental use permits, state registrations, and petitions for temporary and permanent tolerances under FIFRA as amended and the Federal Food Drug and Cosmetic Act as amended.

HAZARD EVALUATION DIVISION

DIRECTOR—GS-16: The Hazard Evaluation Division is responsible for scientific and hazard evaluations in support of Office of Pesticide Programs activities. Reviews, evaluates, and validates data submitted on the toxicological and other effects of the use of pesticides including effects on humans, domestic animals, fish, wildlife and other biological species, and on the environment. Participates in development of overall strategy for the management of pesticides in the environment and in agency budget and policy development. (Biological, health, or physical sciences, or medical or veterinary medical degree required.)

TOXICOLOGY BRANCH CHIEF—GS-16: The Toxicology Branch is responsible for determining the seriousness of the full range of pesticide exposures and intakes to man and domestic animals. Reviews and evaluates data concerning toxicological and related adverse effects of both short-term and long-term nature with principal emphasis on human hazards and risks. (Biological, medical, or physical sciences, pharmacy or veterinary medical degree required.)

ECOLOGICAL EFFECTS BRANCH CHIEF—GS-14/15: The Ecological Effects Branch is responsible for determining the seriousness of a wide variety of pesticide exposures to nontarget biological species, including all animals and plants of special interest to man that may be affected adversely by pesticide usage but are not ordinarily the specific targets for control by pesticides. (Biological or physical sciences degree required.)

BENEFITS AND FIELD STUDIES DIVISION

ECOLOGICAL MONITORING BRANCH CHIEF—GS-14/15: The Ecological Monitoring Branch is responsible for planning, designing, and operating ambient pesticide monitoring networks. Provides for direct support to pesticide registration and reregistration activities as well as activities of the Special Pesticide Review Division. Operates the National Human Tissue Monitoring Program, the National Soils Monitoring Program, the National Water Monitoring Program, the National Estuarine Monitoring Program, and a Geographical-Limited Air Monitoring Program. (Biological or physical sciences degree required.)

SPECIAL PESTICIDE REVIEW DIVISION

DIRECTOR—GS-15/16: The Special Pesticide Review Division is responsible for ensuring that chemicals requiring in-depth evaluation of benefits and risk of use are properly evaluated and processed in accordance with applicable regulations. This review is managed as a rebuttable presumption against registration (RPAR) which may be overcome by data refuting risk or demonstrating that benefits exceed risks. Plans and coordinates complete technical and scientific reviews, evaluations, and processes for RPAR cases including input from the public, industry, other federal agencies, and other EPA programs. Develops comprehensive standards for chemicals for reregistration decisions. Plans for and coordinates the preparation of scientific cases in cooperation with other offices for administrative hearings. Participates in development of overall strategy for the management of pesticides in the environment and in agency budget and policy development.

REGULATORY ANALYSIS AND LABORATORY AUDITS BRANCH

CHIEF—GS-14/15: The Regulatory Analysis and Laboratory Audits Branch is responsible for the development and application of risk/benefit strategies and for developing regulatory options regarding pesticides. Provides guidance and assistance for the division's chemical review branches by providing risk/benefit evaluations including but not limited to analysis of risk/benefit data and construction of decision documents. Coordinates the Data Auditing Program, RPAR functions, and reregistration effort to ensure consistent and effective regulatory follow-up of an on-site audit of laboratory animal studies.

CHIEF CHEMICAL REVIEW BRANCH #5—GS-14/15: The Chemical Review Branch #5 is responsible for completing the prototype phase of generic pesticide chemicals standards and preparing such standards on a routine basis for all currently registered pesticides.

PROGRAM SUPPORT DIVISION

DIRECTOR—GS-15/16: The Program Support Division is responsible for program and policy development, preparation of budget proposals, and management of the zero-based budget decision process, as well as providing direction, assistance, and support to the OPP divisions on planning, evaluation, administrative management, information, and automated data processing systems activities.

PROGRAM DEVELOPMENT AND EVALUATION BRANCH CHIEF—GS-14/15:

The Program Development and Evaluation Branch is responsible for providing overall program management guidance to OPP divisions and the Regional Offices on the development of plans, budgets and strategies, conducting evaluations, analytic and management research studies, and maintaining coordinated development of pesticides research needs.

Some of the positions require that candidates have a bachelor's or higher degree in the biological, health, or physical sciences (a transcript of college courses completed must be submitted with application). Potential applicants may obtain specifics on each position from the contact named below. In addition, three or more years of professional experience in the direction and management of a complex professional program encompassing a variety of functions, and in supervising multidisciplinary scientific personnel is desirable. For positions without the degree requirement, candidates must have three or more years of general experience which has provided a good basic knowledge of the principles of organization, management, and administration, and three or more years of specialized experience in a type of work directly related to the position to be filled. Undergraduate and graduate education may be substituted for a portion of this experience. One year of the required experience for either category must have been at a level of difficulty comparable to the next lower level in the federal service. Current federal government employees who apply must submit a performance evaluation dated after 1 September 1977.

LOCATION: Washington, D.C.

SALARY RANGE: \$30,750 to \$47,500, plus Civil Service benefits.

TO APPLY: please send a completed Standard Form 171 which is available in Federal Job Information Centers and Federal Government Personnel Offices, no later than 1 September 1978, to: Sharon Wilson (PM-212), Personnel Management Division, Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460.

A separate SF 171 must be submitted for each of the jobs you apply for. For further information, contact: Sharon Wilson by telephone at 202-755-0290, or by mail at the EPA address above.

An Equal Opportunity Employer

POSITIONS OPEN

DEPARTMENT: Psychiatry and Behavioral Sciences.

JOB TITLE: DIRECTOR, DIVISION OF PSYCHOPHARMACOLOGY.

Need a person with distinguished academic credentials who is qualified to head a Division of Psychopharmacology.

EXAMPLES OF DUTIES: this person would coordinate and develop research activities in the department related to pharmacologic and biologic therapies; being able to bridge research and clinical applications with particular interest in teaching and directing the research of residents and postdoctoral fellows would be preferred. Since the department has a strong empirical and eclectic orientation, a capacity for integrating a biological perspective with alternative psycho-social perspectives is highly desirable.

DESIRABLE QUALIFICATIONS: requires an M.D. or Ph.D. degree with several years of experience which include demonstrated scientific leadership. Must possess credentials to qualify for position as associate or full professor in the Department of Psychiatry and Behavioral Sciences.

Mail curriculum vitae to: **Carl Eisdorfer, Ph.D., M.D., Department of Psychiatry and Behavioral Sciences, RP-10, University of Washington, Seattle, Wash. 98195.**

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

DIRECTOR, JOINT INSTITUTE FOR STUDY OF THE ATMOSPHERE AND OCEAN (JISAO), UNIVERSITY OF WASHINGTON

The University of Washington is seeking a scientist with broad interests and a strong record of research in atmosphere and ocean physics to serve as the director of JISAO. This research institute, which is operated in cooperation with the National Oceanic and Atmospheric Administration is oriented toward climate dynamics and estuarine studies with emphasis on geophysical fluid dynamics.

The director is primarily responsible for the scientific leadership of the institute. This includes: actively developing research; implementing selection of senior, postdoctoral, and visiting fellows and integrating them into institute activities; and long-range planning. The director will be affiliated with an academic department appropriate to his or her principal interest and should be capable and willing to teach graduate courses and supervise graduate students. The position is expected to be filled at the full professor level.

Interested applicants should send their curriculum vitae, including bibliography and two references, by 21 August 1978 to: **Professor John R. Booker, Chairman, JISAO Search Committee, Geophysics Program AK-50, University of Washington, Seattle, Wash. 98195.**

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

EXECUTIVE DIRECTOR, American Institute of Biological Sciences (AIBS). This position, available for appointment after 1 September, is the chief operating officer of the AIBS. The director carries out the policies of the governing board and implements the objectives of the institute, including enhancing the relationship of member societies, improvement of biological education, managing publications, and enhancing professional relations of biologists to society at large. The applicant should have the doctorate, stature in a profession, administrative competence, and ability to work with and coordinate people of diverse interests. Applications containing curriculum vitae and names of three references should be sent to: **Dr. Paul G. Pearson, AIBS President, Rutgers University, New Brunswick, N.J. 08903.**

MOLECULAR BIOLOGY SENIOR SCIENTIST, PLANT CELL PHYSIOLOGY SENIOR SCIENTIST

The INTERNATIONAL PLANT RESEARCH INSTITUTE anticipates openings in late 1978 for two innovative senior scientists:

MOLECULAR BIOLOGIST: nucleic acid transcription, hybridization, isolation, characterization.

PLANT CELL PHYSIOLOGIST: protoplast culture, differentiation, hybridization, regulators.

Salaries open. Send résumé and record of achievements in confidence to:

**International Plant Research Institute, Inc.
255 California Street, Suite 905
San Francisco, California 94111**

POSITIONS OPEN

DIRECTOR OF RESEARCH Zoecon Corporation

Zoecon seeks a **director of research** with distinguished international technical experience in the development of innovative new approaches to the control of pests, including insects, fungi, bacteria, and weeds. Candidates must possess creativity, knowledge, experience, and vision broad enough to formulate new concepts for the development of better pest control agents. Candidates must have demonstrated extensive successful leadership of a large interdisciplinary research group including synthetic and analytical chemistry, biology, biochemistry and metabolism, and chemical process development. Qualifications should emphasize creative technical leadership above business or administrative responsibilities. Candidates with experience in the biological sciences are preferred; however, chemists with management experience in biological disciplines would qualify.

Zoecon is a division of Occidental Petroleum Corporation with substantial domestic and international operations. Corporate headquarters and corporate research are located in the Stanford University Industrial Park, in close proximity to San Francisco.

Submit detailed résumés in confidence to:

**Dr. John D. Diekmann
Vice President, Research and Development
Zoecon Corporation
975 California Avenue
Palo Alto, California 94304**

FACULTY POSITION—CORROSION. The Department of Materials Science and Engineering at the State University of New York (SUNY) at Stony Brook is seeking a specialist on ESCA and Auger analysis to fill a position of assistant professor. This position will involve teaching and research in corrosion science and engineering. Contact: **Chairman, Department of Materials Science and Engineering, SUNY at Stony Brook, Stony Brook, New York 11794. Equal Opportunity/Affirmative Action Employer.**

HEMATOLOGIST, CELL BIOLOGIST. Department of Research and Division of Hematology/Oncology seeks an M.D. or Ph.D. full-time member to join an active group interested in structure function relationships of red cell membranes (protein-, protein-interactions, transmembrane phenomena, shape and deformability regulation). Responsibilities include administrative supervision and further development of clinical hematology laboratories and research in one of the above areas. Participation in clinical hematology services optional. Competitive salary. Academic appointment at Tufts University School of Medicine depending on qualifications. Position open immediately. Send curriculum vitae to: **Jiri Palek, M.D., Department of Research, St. Elizabeth's Hospital (Boston), 736 Cambridge Street, Brighton, Mass. 02135. An Equal Opportunity Employer, M/F.**

One-year appointment, beginning on 1 September 1978, of an **IMMUNOLOGIST** in the Department of Botany and Microbiology, University of Oklahoma. Candidates must have a Ph.D. and be prepared to teach a basic microbiology course and courses in immunology. Successful applicant may become a candidate for the permanent position to be filled in 1979. Send curriculum vitae and names of three references to: **Dr. Paul G. Risser, Chairman, Department of Botany and Microbiology, 770 Van Vleet Oval, University of Oklahoma, Norman, Oklahoma 73019. The University of Oklahoma is an Equal Opportunity Employer.**

MICROBIOLOGIST. Assistant/associate professor, Ph.D., for September 1978. Teaching and coordination of undergraduate microbiology for biology and nursing majors. Initiation of research program and graduate course in area of expertise. Demonstrated experience. Send résumé and three letters of reference to: **Dr. Theodore J. Starr, State University of New York College at Brockport, Department of Biological Sciences, Brockport, New York 14420. An Equal Opportunity Employer, M/F.**

NEUROBIOLOGY

POSTDOCTORAL RESEARCH ASSOCIATE. Biochemical, neuronal, and behavioral analysis of neuropeptide action in *Aplysia*. Experience in neurochemistry and/or intracellular electrophysiology desirable. Available in December. Send letter with curriculum vitae and names of referees to: **S. Arch, Biological Laboratories, Reed College, Portland, Ore. 97202. Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

NMR SPECIALIST. Ph.D. physical scientist with experience in the operation and maintenance of NMR instrumentation. Supervision and instruction of members of the **Department of Chemistry, Cornell University, Ithaca, New York 14853.** Send résumé to: **Professor G. G. Hammes, Affirmative Action/Equal Opportunity Employer.**

**The Royal North Shore Hospital of Sydney
Pacific Highway
St. Leonards, N.S.W., 2065
Australia**

Invites applications for a position in the **DEPARTMENT OF ONCOLOGY** from qualified Ph.D. or equivalent with several years experience in biochemistry and enzymology. The appointee will have a supervisory role in a research program to define tumor marker profiles in malignancy and will be responsible for the development of suitable assay techniques.

Salary within the range A\$315 to A\$386 per week.

Inquiries may be directed to: **Dr. J. Levi, Physician in Oncology.**

Written applications giving personal particulars and details of qualifications and experience to: **Personnel Manager.**

Closing date: 31 July 1978.

ORGANIC CHEMISTRY RESEARCH TECHNICIAN. A 1-year position available now for analysis and characterization of biodegradation products using GC, GC-MS, HPLC, and so forth. Bachelor's degree in chemistry minimum. State-of-art instrumentation available. Salary: \$8,221.00. Applicants send résumé, transcripts, and two letters of reference to: **Betty W. Miles, University Personnel Services, University of Louisville, Louisville, Kentucky 40208.**

An Equal Opportunity/Affirmative Action Employer

PHYSIOLOGIST

Position available in the Department of Basic Sciences, Peoria School of Medicine, one of the four clinical schools within the University of Illinois College of Medicine. Applicants must have a Ph.D. in physiology or M.D. and at least 2 years of experience beyond the doctor's degree, preferably with subspecialty in pulmonary physiology or other field closely related to clinical practice. Duties will include teaching medical and associated health sciences students and conducting an independent research program in his/her field of expertise. Must have demonstrated potential for research. Salary to be commensurate with experience and qualifications, with academic rank of assistant or associate professor. Starting date: as soon as possible. Send application and names of three individuals for references no later than 31 August 1978, to: **Dr. F. J. Grundbacher, Acting Chairman, Department of Basic Sciences, Peoria School of Medicine, 123 Southwest Glendale Avenue, Peoria, Illinois 61605. The University of Illinois is an Affirmative Action/Equal Opportunity Employer and encourages applications from members of minority groups and women.**

PLANT PHYSIOLOGIST—WEED SCIENCE. Applications are invited for a plant physiology—weed science faculty position in the Department of Botany and Plant Pathology, Purdue University. The appointee will be responsible for developing a research program in weed science. Research interests might include effects of herbicides and/or their metabolites on specific biochemical processes, or the physiological basis of weed control. The appointee will be responsible for teaching a weed science course. The position requires a Ph.D. in plant physiology and weed science or a person trained in either area with interest in both areas. Strong training in biochemistry and associated sciences is required. The appointment will be at the assistant professor level. Salary will be commensurate with training and experience. Curriculum vitae, transcripts, reprints, statement of career goals, and three letters of recommendation should be sent to: **Dr. T. K. Hodges, Head, Department of Botany and Plant Pathology, Purdue University, West Lafayette, Indiana 47907, no later than 15 September 1978. Purdue University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL ASSOCIATE/FELLOW POSITIONS are available for recent Ph.D.'s with a strong background to participate in research covering biochemistry/pharmacology/pathophysiology of cyclic CMP, cyclic GMP, and cyclic AMP systems in heart, blood vessel, lung, and cancer. Apply to: **J. F. Kuo, Ph.D., and/or M. Shoji, M.D., Department of Pharmacology, Emory University School of Medicine, Atlanta, Georgia 30322.**

Proposals for research contracts on the following topics are being requested by the Army:

1. MAMMALIAN TOXICOLOGICAL EVALUATION OF HEXACHLOROETHANE SMOKE AND RED PHOSPHORUS

Mammalian toxicological evaluation of red phosphorus and combustion products of hexachloroethane smoke are to be conducted. Animals are to be exposed to aerosols of red phosphorus or the mixture's combustion products. Studies are to include physical/chemical characterization of smoke and chamber atmospheres, assessments of acute, subchronic and chronic toxicity, metabolism, reproductive, teratogenic, and carcinogenic properties of hexachloroethane smoke combustion products. Assessments of acute and subchronic toxicity of red phosphorus will also be conducted. Request for Quotation number DAMD17-78-Q-8399. Proposal is due by 31 July 1978.

2. PHYSIOLOGIC EVALUATION OF DEGRADATION IN PULMONARY FUNCTION AND VISUAL ACUITY RESULTING FROM EXPOSURE TO MILITARY CHEMICAL OBSCURANTS

Pulmonary function studies and visual acuity tests are to be conducted in mammals. Proposals may include both types of studies or be restricted to one of the two. Animals are to be exposed to aerosols of the combustion products of hexachloroethane and phosphorus smokes or the evaporation products of fog oil (light lubricant oil) smokes. Request for Quotation number DAMD17-78-Q-8400. Proposal is due by 7 August 1978.

Organizations interested in receiving copies of these solicitations should make request, by number, to the following office:

US Army Medical Research & Development Command
ATTN: SGRD-RM
Fort Detrick
Frederick, MD 21701



SENIOR ENVIRONMENTAL SCIENTIST

The Solar Energy Research Institute located in Golden, Colorado, seeks a qualified individual with the following desired background: Ph.D. or Dr. P.H. in environmental health, toxicology, or epidemiology; demonstrated research project leadership; 3 years applied experience, energy background preferred.

The position will participate in direct research on the health and safety impacts of solar energy applications. Additionally, responsibilities will include comparative analyses of various energy technology mixes, environmental impact assessments and identification of health and safety issues associated with centralized and decentralized solar energy system alternatives to conventional energy sources.

Please send your resume including salary history, publications, and professional references (no phone calls). Serious consideration will only be given to those applicants providing the above requested material.

Ms. C. Y. Coveyduck
Solar Energy Research Institute
A Division of Midwest Research Institute
1536 Cole Boulevard
Golden, Colorado 80401

An Equal Opportunity Employer M/F.



HEAD, CHEMICAL BIODYNAMICS DIVISION LAWRENCE BERKELEY LABORATORY

Applications and nominations are invited for Head of the Chemical Biodynamics Division who will also be Associate Director for the Lawrence Berkeley Laboratory and Faculty Member of the University of California, Berkeley Campus.

Department of Energy funding and close research collaboration with the Berkeley Campus make LCB a unique resource.

Primary research activities use an interdisciplinary approach to the chemistry and physics of living cells and related organic chemistry.

Candidates should have a record of distinguished achievement in chemistry/biology research and demonstrated administrative leadership for directing research programs.

Applications or nominations should be submitted by September 1, 1978 to:

Professor Joseph Cerny,
Chairman of the Search Committee
for Chemical Biodynamics Division
Dept. of Chemistry
419 Latimer Hall
University of California, Berkeley, CA 94720
An Affirmative Action Employer.

LAWRENCE BERKELEY LABORATORY

CHAIR IN APPLIED MOLECULAR BIOLOGY, UMIST.

A second Chair has been established in the Department of Biochemistry at UMIST to advance fundamental knowledge in molecular biology, and to exploit genetic techniques for the manipulation of the chemical activities of living cells. Candidates, who should already be working in this field, should be prepared to build up rapidly a strong and well-founded basic research group which would include the development of those scientific aspects of the subject that relate to the formation of useful compounds. UMIST seeks an able and ambitious person with emphasis on quality, drive and originality, interest in teaching, in long-range research, and in collaboration with industry when appropriate; there must be an active interest in the rapid growth of this area of study which can interact effectively with the Department of Chemistry (Professor R. Ramage) and with Biochemical Engineering (Professor B. Atkinson). New laboratories are at the design stage. Additional staff will be made available to the new Professor together with necessary equipment and other resource.

Applications are invited as soon as possible after the appearance of this advertisement. Salary will be in the Professorial range with a current minimum of £8,900 per annum but with further increases due in October 1978 and October 1979.

Further particulars and application form may be obtained from the Registrar, UMIST, P.O. Box 88, Manchester, M60 1QD by quoting reference BIO/97. Informal enquiries may be made to the Registrar or to Professor A.A. Eddy with a view to a preliminary informal visit.

POSITIONS OPEN

Microbial Genetics & Molecular Biology

Fundamental research positions are available for Ph.D. senior research scientists and master's-level scientists (or equivalent training) with experience in the following areas: bacterial and bacteriophage genetics, biochemistry, and molecular biology.

Résumés should include a brief description of past and current research interests and appropriate reprints. Address your reply to: **Manager, Research Personnel, Schering-Plough Corporation, 60 Orange Street, Bloomfield, New Jersey 07003.**



PLANT SCIENTIST, FALL 1978. Temporary assistant professor to teach freshman botany. May lead to a tenure-track appointment with opportunity to establish research program. Postdoctoral experience desirable. Send résumé, publications, and names of three referees promptly to: **Dr. K. R. Johansson, Department of Biological Sciences, North Texas State University (NTSU), Denton, Texas 76203. Telephone: 817-788-2011. NTSU is an Equal Opportunity Employer.**

TWO POSITIONS. Ph.D. or M.S. experienced in atmospheric and nuclear chemistry to collect and analyze atmospheric particulate samples. Ph.D. with computer, statistics, and atmospheric chemistry experience required, plus nuclear techniques desired for interpretation of urban elemental concentrations. Send résumé and two reference letters to: **G. E. Gordon, Department of Chemistry, University of Maryland, College Park, Md. 20742. The University of Maryland is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION IN ENZYMOLOGY. Available now for **chemical modification and subunit function** studies on bacterial and higher plant **RuBP carboxylase/oxygenase**. \$10,500 to \$12,200 per year, for 2-year position. Send résumé and names of three references to: **Dr. R. Chollet, Laboratory of Agricultural Biochemistry, University of Nebraska, Lincoln, Neb. 68583.**

POSTDOCTORAL POSITION IN NEUROBIOLOGY

A position is available beginning between 1 August and 1 December, for research related to the axoplasmic transport of proteins. Suitable for recent Ph.D. in neurobiology or molecular biology, although individuals with other applicable backgrounds will be considered. Send curriculum vitae, list of publications, and three letters of reference to: **David L. Wilson, Ph.D., Department of Physiology and Biophysics, University of Miami School of Medicine, P.O. Box 520875, Miami, Fla. 33152.**

An Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL POSITION available for research on DNA methylation in *E. coli*. Applicants should have background in microbial genetics. Send curriculum vitae to: **Dr. M. G. Marinus, Department of Pharmacology, UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL, 55 Lake Avenue, North, Worcester, Mass. 01605. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION. Available now for studies of neural control of muscle function. Electrophysiological, anatomical, and cell biology techniques are used to examine mechanism of transmitter release, effects of development on properties of muscle membrane, and the mechanisms underlying nerve cell death in development. Send résumé and two letters of recommendation to: **Charles Edwards, Biological Sciences, State University of New York at Albany, Albany, N.Y. 12222. An Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN BIOCHEMISTRY. Available immediately for studies on bacterial polysaccharides responsible for lethal pathophysiological changes in newborn lambs and presumably in newborn babies. The goal is to elucidate target tissue and mode of action, and to advise methods to counteract these toxic polysaccharides. Send curriculum vitae and references to: **Carl Hellerqvist, Department of Biochemistry, Vanderbilt University Medical Center, Nashville, Tennessee 37232.**

POSTDOCTORAL POSITION. NIH trainee position for work in analytical biochemistry related to pharmacology and toxicology. Graduate degree may be in biochemistry, pharmacology, or chemistry. Research program will emphasize development of bioanalytical methodology. Send curriculum vitae and names of three references to: **Dr. E. C. Horning, Dr. M. G. Horning, or Dr. J. R. Mitchell, Institute for Lipid Research, Baylor College of Medicine, 1200 Moursund, Texas Medical Center, Houston, Texas 77030. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION open for a biologist, biophysicist, or bioengineer for research on bone regulatory mechanisms. Experience in bone desirable but not essential. *Female and minority candidates are encouraged to apply.* Send application to: **Dr. D. Baylink, VA Hospital, American Lake, Tacoma, Wash. 98493. An Affirmative Action Employer.**

POSTDOCTORAL POSITION. Available immediately to study changes of messenger RNA levels. Experience or interest in the isolation and translation of messenger RNA. \$12,000 per year. Send curriculum vitae and names of two references to: **Dr. P. Dehm, Connective Tissue Research Institute, University City Science Center, 3624 Market Street, Philadelphia, Pa. 19104.**

The Albert Einstein College of Medicine of the Yeshiva University, Bronx, N.Y., invites applications for a **POSTDOCTORAL POSITION.** Research plans and studies of sickle cell anemia and other hemoglobinopathies as related to microcirculation preferred. Candidates should have an earned doctorate or its equivalent in some field of biomedical sciences. Send curriculum vitae, a brief description of current research interest, and names of three references to: **Dr. Silvo Baez, Department of Anesthesiology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, N.Y. 10461. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE starting summer 1978, for 1 year, may be renewable for second year. Ph.D. degree in chemistry or biochemistry required. Salary: \$12,000 per year. Position involves synthesis of peptides related to LH-RH as long-lived potential contraceptive agents. Experience with solid phase peptide synthesis, peptide characterization and purification, especially HPLC, highly desirable. Strong background in organic synthetic techniques essential. Close interaction with medical school Biochemistry Department. Send résumé, transcripts, and two letters of reference to: **Dr. Arno F. Spatola, Department of Chemistry, University of Louisville, Louisville, Ky. 40208.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL RESEARCH ASSOCIATE

Starting summer 1978 for 1 year, may be renewable for second year. Ph.D. degree in organic chemistry or biochemistry essential. Successful applicant will prepare peptide analogs related to the sequence of LH-RH in quest of long-lived contraceptive agents. Experience in organic synthesis or solid phase peptide synthesis and familiarity with current techniques of purification and structure determination are necessary. Position involves close collaboration with Department of Chemistry and provides valuable interdisciplinary experience. Send résumé, list of publications, transcript, and two letters of recommendation to: **Dr. John A. Yankelov, Jr., Department of Biochemistry, University of Louisville Health Sciences Center, Box 35260, Louisville, Kentucky 40232. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH SCIENTIST, Ph.D. or M.D., with training in immunology and engineering, to actively implement ongoing research project in new immunotherapeutic field at Baylor College of Medicine, Houston, Texas. Experience should include a minimum of 2 years of postdoctoral research. Position and salary negotiable. Please submit curriculum vitae and bibliography to: **Box 238, SCIENCE.**

POSITIONS OPEN

Available 1 August 1978, **POSTDOCTORAL RESEARCH ASSOCIATE** for studies in renal physiology. Main interest is functional development of the kidney. Micropuncture and microanalysis techniques to be used. Please contact: **Sidney Solomon, Physiology Department, University of New Mexico, Albuquerque, New Mexico 87131. University of New Mexico is an Affirmative Action Employer.**

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, physiologic 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.**

PROJECT DIRECTOR SCIENCE AND PUBLIC POLICY

Broad gauge Ph.D. (or M.D.) scientist or engineer needed to fill 1-year appointment at the American Association for the Advancement of Science. Responsibilities will be in the area of science and public policy which includes such activities as Congressional Science Fellow Program, Committee on Science Engineering and Public Policy, ABA/AAAS National Conference of Lawyers and Scientists, and science and state governments. The ability to develop programs and proposals, to develop and maintain liaison activity, and to oversee, report, and follow up on meetings is required.

This position will be filled by 1 September 1978 and applications should be submitted no later than 25 July 1978. Applicants should submit full curriculum vitae with salary requirements and the names of three references to:

**Carole Dickert-Scherr
American Association for the Advancement of Science
1515 Massachusetts Avenue, NW
Washington, D.C. 20005**

RESEARCH ASSOCIATE to study macromolecular components of cell membranes. Ph.D. degree in biochemistry, cell biology, biophysics, or biology required. Knowledge of glycoproteins or glycosaminoglycans biochemistry, or enzymology, preferable. Annual salary: \$10,000 to \$12,000, depending on qualifications. Send curriculum vitae and two letters of reference to: **Dr. Nicola Di Ferrante, Department of Biochemistry, Baylor College of Medicine, Houston, Texas 77030. An Equal Opportunity Employer.**

RESEARCH ASSOCIATE HUMAN BIOCHEMICAL GENETICS

A position at the research assistant professor level will be available 1 September 1978 in the Division of Human Genetics for a recent Ph.D. in biochemistry/cell biology, with experience in cell culture, lysosomal enzymes, immunology. Research deals with molecular pathology, genetic control, and therapeutic aspects of feline Gm2 gangliosidosis as a model for enzyme replacement therapy of human Gm2 gangliosidosis. Send résumé and three letters of reference to: **Mario C. Rattazzi, M.D., Human Genetics, Department of Pediatrics (State University of New York at Buffalo), Children's Hospital, 86 Hodge Avenue, Buffalo, N.Y. 14222. An Equal Opportunity/Affirmative Action Employer.**

If you are a **SCIENTIST** in a biomedical or environmental field and have a research grant(s) or contract(s) as principal investigator, and are in a situation where you do not witness direct visibility of the indirect costs generated by your grant(s) but wish to, then we can help you!!! We offer you a research environment where: indirect costs visibly support the research effort; a multidisciplinary group of sophisticated scientists work as a team in attacking research problems; joint academic and research ranks in which emphasis of effort (teaching/research) is where you desire; graduate students; minimum, if any, committee work; sophisticated research equipment and facilities which are openly used by all scientists; and, a choice living environment of pleasant year-round climate located in Florida. If these initial characteristics meet with the standards of the way you desire to live and work, and you wish to relocate, please send your résumé, copy of grant/contract proposal(s) that you have determined can be transferred, and a letter of intent to: **Box 244, SCIENCE.**

GEOTHERMAL DOWNHOLE PROBE DEVELOPMENT PROGRAM

The Department of Energy (DOE) geothermal program administered by Battelle, Pacific Northwest Laboratories, is interested in identifying subcontractors to develop a pH and sulfide ion specific electrode, a gamma-ray absorption meter for phase change detection, and a CO₂ sensor for use in downhole and aboveground systems containing geothermal fluids. It will be necessary that these devices survive several hours at conditions of 250°C and 5000 psi. Geothermal fluids can contain large amounts of dissolved salts as well as hydrogen sulfide and carbon dioxide which would interfere with the operation of a pH or sulfide ion specific electrode. In addition, the temperature and pressure, high velocity, entrained solids, and so forth, will require novel approaches to the design of the aforementioned equipment.

Qualified organizations are invited to submit duplicate written statements of their qualifications and experience and include any qualifications of personnel available to work on the above projects. A response to this advertisement must be received at Battelle as soon as possible, and before 29 July 1978, in order to be considered. This advertisement is not a request for proposal but a request for capability information. Organizations, universities, or individuals responding with information to support their qualifications and experience will be considered for participation in forthcoming Request for Proposal action. In order to encourage participation in DOE programs, proprietary rights will be considered under existing DOE regulations.

Submit written statements to:

**Battelle Memorial Institute
Pacific Northwest Laboratory
P.O. Box 999
Richland, Wash. 99352
Attention: R. W. Pennington, HS-3 Building**

GEOPHYSICIST U.S. GEOLOGICAL SURVEY Geologic Division Woods Hole, Massachusetts

The U.S. Geological Survey's Branch of Atlantic-Gulf of Mexico Geology at Woods Hole, Massachusetts, is seeking a research geophysicist to plan and conduct pioneering research investigations into advanced seismic techniques for multichannel reflection, wide-angle reflection and refraction seismic methods on continental shelves, slopes, and rises. These will include deepwater deconvolution methods, source signature enhancement, array techniques, migration depth conversion, and other imaging techniques. Candidates must possess sound theoretical training in wave propagation, seismic array design, and advanced digital signal processing techniques. Applicants must have a proven research record in developing advanced acquisition or processing techniques in exploration seismology. It is desirable that expertise in exploration seismology be demonstrated through either advanced graduate work, equivalent to Ph.D., or through several years of recent experience as an exploration seismologist.

This position is in the permanent federal career service with all Civil Service benefits. Publication opportunities are assured. Position may be filled at either GS-12 level (\$21,883), GS-13 level (\$26,022), GS-14 level (\$30,750), or GS-15 level (\$36,171) per annum. Position will be located in either Woods Hole, Massachusetts, or Lakewood, Colorado. Selectee for this position will be subject to conflict of interest regulations relating to holding certain interests in federal lands and in private mineral enterprises, and will not be permitted to perform surveys or examinations for private individuals or corporations.

Interested applicants should submit Personal Qualifications Statement, SF-171, obtainable at U.S. Civil Service Commission offices (résumé will substitute for SF-171), and transcripts by 15 October 1978, to:

**Chief, Recruitment and Placement Section
U.S. Geological Survey—MS 215 (1p)
12201 Sunrise Valley Drive
Reston, Virginia 22092**

All inquiries will be considered confidential. *An Equal Opportunity Employer.*

Jet Propulsion Laboratory California Institute of Technology CHIEF SCIENTIST

The Jet Propulsion Laboratory, California Institute of Technology, invites applications for the position of Chief Scientist.

The Laboratory, operated by the California Institute of Technology under contract with NASA, carries out NASA's planetary exploration program, participates in NASA's Applications program, and is active in the Department of Energy solar energy programs. Scientists at JPL are engaged principally in scientific experimentation from planetary and earth-orbiting spacecraft, and in research related to space science and technology, and energy and information technology.

The Chief Scientist reports to the JPL Director, serving as the Director's principal advisor on the scope and conduct of scientific research at JPL, on policies affecting JPL scientists, on scientific support for JPL programs, and on relationships between JPL and the scientific community. He acts as a focal point for JPL scientists and for outside scientists involved in JPL activities.

Candidates should possess recognized scientific credentials, and be capable of dealing with leadership and policy issues. It is expected that the Chief Scientist will devote a portion of his time to his own research program, either at JPL or at the Caltech campus.

Please send resume to:
Dr. C. R. Gates, Chairperson, Search Committee
Jet Propulsion Laboratory
California Institute of Technology
4800 Oak Grove Drive
Pasadena, California 91103

CSIRO POSTDOCTORAL RESEARCH FELLOW/RESEARCH SCIENTIST DIVISION OF ANIMAL PRODUCTION PROSPECT (SYDNEY), N.S.W.

CSIRO has a broad charter for research into primary and secondary industry areas. The organization has approximately 7000 employees, 2300 of whom are research and professional scientists, located in divisions and sections throughout Australia.

Field: pharmacology/biochemistry.

General: the division has a broadly based program of research into methods of wool harvesting which are potential alternatives to mechanical methods. The program is being expanded to include work on drug metabolism and central and peripheral neuro-humoral mechanisms involved in control of normal skin functions.

Duties: to undertake research into the mechanism of action of chemicals which interfere with hair follicle activity. This will probably involve studies of cutaneous circulation and metabolism. The work will include studies of drug activation, synergism, metabolic clearance, and drug delivery systems. Although working principally as a member of a research team on chemical defleecing, the appointee will have the responsibility of developing lines of research appropriate to personal skills. For example, an important new area of research is the elucidation of central and peripheral nervous system mechanisms controlling natural shedding, with a view to the development of chemical methods of manipulating natural shedding. The opportunity exists for collaboration in other fields such as thermoregulation, reproduction, and metabolism.

Qualifications: a Ph.D. degree in an appropriate field, or equivalent qualification, together with proven research experience. A good background in neuropharmacology and general cellular metabolism is highly desirable.

Salary: research scientist or senior research scientist: A\$14,639 to A\$21,267 per annum. An outstanding applicant may be offered appointment at a higher level.

Tenure: either a fixed term or indefinite appointment may be negotiated; both carry superannuation benefits.

Applications, stating full personal and professional details, the names of at least two referees, and quoting reference number 245/684 should be sent to:

**The Chief
Division of Animal Production
P.O. Box 239
Blacktown, N.S.W., 2148
Australia**

POSITIONS OPEN

INTERNATIONAL LABORATORY FOR RESEARCH ON ANIMAL DISEASES (ILRAD) RESEARCH ASSISTANT

A research assistant is required to operate the institution's Fluorescence Activated Cell Sorter (FACS II). Research is being carried out on trypanosomiasis and theileriosis in modern research facilities located in Nairobi, Kenya. The individual will be working with lymphoid cells and trypanosomes so familiarity with handling cells is essential. Experience in the use of a cell sorter is an advantage but provision will be made for training if necessary. Salary will vary, depending upon training and experience. Perquisites include house allowance, commutation allowance, insurance, vacation leave, pension scheme, and others. Candidates should submit current curriculum vitae describing training and research experience and the names of three references who can be contacted on behalf of their candidacy. These should be sent to:

**The Director
ILRAD
P.O. Box 30709
NAIROBI, KENYA**

to reach him not later than 30 August 1978.

RESEARCH ASSOCIATE

Position available in analytical mass spectrometry (therapeutic drug analysis) as part of a neuropsychopharmacology research program, Ph.D./M.S. in analytical/organic chemistry with GLC-MS COM background necessary. Some synthetic organic chemistry expertise desirable. For 1 to 3 years. Send curriculum vitae, letter of application, reference list (three) to: **Dr. Paul Mushak, Department of Pathology, University of North Carolina School of Medicine, Building 228H, Chapel Hill, N.C. 27514.** *An Equal Opportunity/Affirmative Action Employer*

RESEARCH ASSOCIATE

Postdoctoral research associate position, for the study of chlorophyll metabolism in cell-free systems. Applications will be accepted until 31 August 1978, or until a satisfactory candidate is selected. Address curriculum vitae and three letters of reference to: **Professor C. A. Rebeiz, Department of Horticulture, University of Illinois, Urbana, Ill. 61801.**

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

RESEARCH ASSOCIATE for long-term project on role of free radicals in cancer. Strong background in ESR spectroscopy, lipid biochemistry, or free radical chemistry desirable. Starting date: 1 October 1978. Salary: \$12,000 to \$14,000. Send complete curriculum vitae and three letters of recommendation to: **Dr. H. Swartz, National Biomedical ESR Center, Medical College of Wisconsin, 8700 West Wisconsin Avenue, Milwaukee, Wisconsin 53226.** *Equal Opportunity Employer, M/F.*

SENIOR ENZYMOLOGIST

Leading manufacturer of medical and scientific instrumentation has an opening in its research department for an enzymologist with 3 to 4 years of experience. Must be familiar with the production and/or application of enzymes and bioluminescence or chemiluminescence. Knowledge of practical techniques using firefly or bacterial luciferase is required.

Job duties will include coordination of bioluminescence group and development of applications in enzymology/immunology or other related areas.

Send résumé to:

**Packard Instrument Company, Inc.
Subsidiary of AMBAC Industries
Personnel Department
2200 Warrenville Road
Downers Grove, Ill. 60515**

An Equal Opportunity Employer, M/F

STAFF OFFICER

The Environmental Studies Board of the National Research Council anticipates an opening for a staff officer to work on projects examining air pollution and air pollution control. Minimum requirements are advanced knowledge corresponding to a Ph.D. (or equivalent), plus relevant experience in an environmental or related science, or in environmental economics. Some administrative experience is desirable. Salary range: \$25,000 to low \$30,000's. Applications consisting of a résumé, three references, and a sample of writing should be sent to: **Environmental Studies Board, 2101 Constitution Avenue, NW, Washington, D.C. 20418.**

POSITIONS OPEN

RESEARCH SCIENTIST. Three to five positions available at Mayaguez, Puerto Rico, with the University of Puerto Rico's Center for Energy and Environment Research (operated by UPR under contract with Department of Energy). One-year appointments with preference given to scientists who may stay longer. We are seeking established scientists in any one of the following areas: **senior environmental scholar, solar energy utilization, ocean thermal energy conversion (industrial experience), energy conservation, bioconversion, and environmental biochemist.** Positions available 1 October 1978. Salary and benefits to be negotiated. Send résumé and letters of recommendation to: **Dr. Juan A. Bonnet, Jr., Director, Center for Energy and Environmental Research, Caparra Heights Station, San Juan, Puerto Rico 00935.**

TUMOR CELL BIOLOGY—ROSWELL PARK MEMORIAL INSTITUTE. Applications are invited for an appointment at the full professorial level in the Department of Experimental Pathology from individuals with extensive research experience in tumor biology with particular interests in ultrastructural pathology and/or membrane biochemistry. Applicants should send curriculum vitae, a summary of their research program, and the names of three references to: **Leonard Weiss, M.D., Ph.D., Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York 14263.** *An Equal Opportunity Employer, M/F.*

COURSES

SCANNING ELECTRON MICROSCOPY 31 July to 4 August 1978

This course is designed to provide an introduction to scanning electron microscopy. Topics to be covered include: coating techniques, critical point drying, x-ray fluorescence, vacuum techniques, cathode luminescence, photography, and maintenance. Contact: **Dr. William Sawyer, Electron Microscopy Laboratory, Department of Physics, Elmhurst College, Elmhurst, Ill. 60126.** Telephone: 312-279-4100, extension 476.

MARINE BIOLOGICAL LABORATORY (MBL) Woods Hole, Massachusetts 02543

will conduct a residential laboratory course
**LIQUID SCINTILLATION COUNTING
IN BIOLOGY AND MEDICINE
29 October to 3 November 1978**

The program will provide theoretical background and extensive laboratory practice in the application of liquid scintillation counting to biological and medical research. Preparation of samples and evaluation of equipment and results will receive particular attention.

The instructor-in-chief is Dr. Yutaka Kobayashi of New England Nuclear; Dr. Gerald Litt of NEN will teach RIA and protein binding assays.

Attendance is limited to 16 participants.

Application materials and additional information are available from: **Office of Admissions, MBL, Woods Hole, Mass. 02543.** Telephone: 617-548-3705.

An Equal Opportunity/Affirmative Action Institution.

FELLOWSHIPS

POSTDOCTORAL OR RESEARCH ASSOCIATE. The Janice Gram Fellowship has been established for the study of motor neuron disease. Position available summer 1978. Neuron-neuron and neuroglial relationships in vitro with emphasis on transmitters and trophic factors. Salary: \$15,000. Submit curriculum vitae to: **Dr. L. P. Weiner, Department of Neurology, University of Southern California School of Medicine, Los Angeles, California 90033.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH FELLOWSHIP in a NIMH-University of Pennsylvania Program in psychopharmacology and the psychobiology of psychiatric illness. Applicants should be M.D.'s with at least 2 years of psychiatric training or Ph.D.'s in pharmacology, neurobiology, psychology, or a related discipline. Candidates must be citizens or non-citizen nationals of the United States or be permanent residents. Please send curriculum vitae and full details of interest to: **D. Brunswick, Ph.D., Veterans Administration Hospital (151E), Philadelphia, Pennsylvania 19104.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP available immediately to conduct regulation studies on membrane differentiation and development. Provides opportunity to learn electron microscopy and develop computer-controlled instrumentation. Knowledge of biochemistry, microbial physiology, and molecular biology recommended. Applicants with additional experience in analytical chemistry, biophysics, and/or computer technology desirable. First-year salary negotiable: \$10,500 to \$12,000 and benefits. Work with R. L. Uffen (microbiology) and J. F. Holland (biochemistry). Send résumé and names of three references with addresses to: **Robert L. Uffen, Department of Microbiology, Michigan State University, East Lansing, Mich. 48824.** *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH FELLOWSHIP—M.D. or Ph.D. with training in cell biology, membrane protein chemistry, sought by the Department of Research-Division of Hematology/Oncology at St. Elizabeth's Hospital of Boston, a Tufts-affiliated hospital. Research emphases of the program are structure-function relationships of red cell membranes (protein-protein interactions, transmembrane phenomena, shape and deformability regulation). Academic appointment at Tufts University Medical School depending on qualifications. Starting date: immediate. Send curriculum vitae to: **Jiri Palek, M.D., Department of Research, St. Elizabeth's Hospital (Boston), 736 Cambridge Street, Brighton, Mass. 02135.** *An Equal Opportunity Employer, M/F.*

POSTDOCTORAL FELLOWSHIP position open.

Salary: \$11,000 per annum.

Date: Available September 1978

Degree required: Ph.D.

Area of expertise: Biochemical investigations on the isolation and characterization of enzymes and glycoproteins in lysosomal hydrolases.

When applying, please send the following information: a résumé, statement of current research interests, and statement of future research plans.

Send information to: **Dr. Robert H. Glew, Associate Professor, Department of Biochemistry, University of Pittsburgh School of Medicine, Pittsburgh, Pa. 15261.**

An Equal Opportunity/Affirmative Action Employer

PROGRAMS

CELLULAR AND MOLECULAR BIOLOGY at the UNIVERSITY OF MIAMI

A new Ph.D. program in cellular and molecular biology has been created at the University of Miami School of Medicine. This is a joint venture of the Departments of Anatomy, Biochemistry, Pharmacology, and Physiology and Biophysics. The program offers stipends of \$4000 per annum, together with remission of tuition, and is supported by a training grant from the National Institutes of Health. Research specialties of the program faculty include cardiovascular pharmacology, cellular cytoskeleton, developmental and reproductive biology, hormones, cyclic nucleotides and protein phosphorylation, membrane biology and ultrastructure, molecular enzymology, molecular mechanisms of nucleic acid synthesis and function, neurobiology, polysaccharide structure and carbohydrate metabolism, and protein structure and function. Trainees can enter the program in August or January of each year. Contact: **Dr. William J. Whelan, CMB Program Director, University of Miami School of Medicine, P.O. Box 520875, Miami, Florida 33152.**



THE LIFE SCIENCE, Current Ideas of Biology, By P.B. Medawar & J.S. Medawar.

"... a remarkable survey of modern biology and its social implications. They claim that it is about ideas, with a minimum of facts, but actually there is a lot of information, conveyed in an extremely concise, acceptable way. Short sentences and chapters, each of a few pages, only 173 in all, ... this is human science the way it should be presented."—*N.Y. Review of Books*. CN/609 \$3.45 Paperback
HARPER TORCHBOOKS, 10 East 53rd Street, New York 10022.

"I FEEL SAFER ABOUT CONTAMINATION BECAUSE THE LABCONCO LAMINAR FLOW CABINET HAS HEPA FILTERS DIRECTLY BELOW THE WORK SURFACE."

Abbe Zimmerman, B.S.M.T. (ASCP), Laboratory Administrator
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Location of the HEPA filters directly below the work surface limits the zone of contamination to only a few inches. The air carried through the blower and return air plenum is sterile so the entire interior cavity of the cabinet remains uncontaminated. In some other cabinets, air leaving the work surface is directly recirculated, contaminating the return air plenum before filtration occurs.

The Labconco Laminar Flow Cabinet is manufactured to National Sanitation Foundation specifications, developed in cooperation with the National Institutes of Health and the National Cancer Institute. The Labconco cabinet meets the requirements of NSF Standard 49 and bears the NSF seal.

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LABCONCO SAFETY ENCLOSURES

AO[®] announces NO-FUSS PHASE.

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The new AO PHASESTAR[®] microscope makes phase contrast easier than ever.

There's a phase aperture viewing unit that allows you to view binocularly and quickly focus on the phase plate of the objective and the image of the annular diaphragm. This makes for fast and easy centration of annulus to phase plate.

The unit is positioned beneath the body and can be oriented to make the operating lever accessible from either side of the instrument.

The AO PHASESTAR microscope also features one-time centering of annuli.

Align each of the four annuli to its corresponding objective, and that's it. You can then rotate the turret from one position to another without centering annuli again.

Other conveniences: change working distance by changing one annulus; change to brightfield by sliding an annulus out of the optical path; adjustable illumination intensity; exclusive AO nosepiece focusing; planachromatic objectives for superior image quality and edge-to-edge flatness of field.

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