

Normal visual exploration involves motion, so that the pattern on a retina from one moment to the next undergoes tremendous change. Therefore, the most important source of information about the visual world has to be the invariances, those aspects of the pattern of light that do not change as we move. It is the nonchanges that signify the stabilities of surfaces and objects in the world. Much of the book concerns the different kinds of invariances that specify stability, with rather complete descriptions of some and mere hints of others. These invariances in the flow of stimulation over the retinal surface, not frozen patterns on a fixed retinal picture, are the proper independent variables for visual perception.

The normal visual environment, as Gibson shows, is composed of scenes that begin under our feet and stretch toward a horizon. On that ground are objects, each with different surfaces of different reflectances and different textures. The scene is tied together visually by the ground. We simply do not spend much time looking at flat displays all parts of which are equidistant from us and no part of which is anchored to the ground. When we do, we have difficulty properly perceiving the true layout of that space.

The great virtue of recognizing the omnipresent ground is that the light reflected from it and from the objects attached to it provides a number of invariances over the full extent of the ground. No longer do we have to puzzle over explaining the size constancy of distant objects with their shrinking pictorial retinal-image size. Forget the image; ask instead what aspects of the pattern of light reflected from the ground and from objects at different distances are invariant. By asking this question Gibson is able to describe many invariants, especially ones that concern the ratios of texture density between the ground and objects resting on the ground at different distances.

This account cannot possibly stand for the whole thesis; it is only designed to suggest the dramatic departure the thesis represents.

Gibson does a magnificent job of describing the sources of information available to perceivers about the layout of space. But he fails to recognize that such a description is not a description of how that information is actually picked up and used to perceive the visual world. Available information is not equivalent to perception. To understand all of perception, we still need a theory of information processing to add to Gibson's de-

scription of the information itself. Although Gibson says that perceivers have to learn to attend to the invariances, he does not describe that learning process and, more critical, he implies that it does not need to be described. Here he is wrong, even in his own terms, for these are empirical matters, just as is the question of which of the available sources of information are most easily picked up for each type of perceiving situation. They cannot be decided by logic, geometry, or persuasion.

Gibson has shown that we have to throw away everything we thought we knew about the sources of information available for the perception of space. Although he has not shown how those sources are used to arrive at our perceptions, without his contributions we can never make further progress.

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Advances in Polymer Science 33. H. J. Cantow and 12 others, Eds. Springer-Verlag, New York, 1979. vi, 176 pp., illus. \$47.30.

Aging in Nonhuman Primates. Douglas M. Bowden, Ed. Van Nostrand Reinhold, New York, 1979. xxii, 394 pp., illus. \$27.50. Van Nostrand Reinhold Primate Behavior and Development Series.

Algebraic Topology. Waterloo 1978. Proceedings of a conference, Waterloo, Canada, June 1978. Peter Hoffman and Victor Snaith, Eds. Springer-Verlag, New York, 1979. xii, 656 pp. Paper, \$30.80. Lecture Notes in Mathematics, vol. 741.

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The Biosaline Concept. An Approach to the Utilization of Underexploited Resources. Alexander Hollaender, James C. Aller, Emanuel Epstein, Anthony San Pietro, and Oskar R. Zaborsky, Eds. Plenum, New York, 1979. viii, 392 pp., illus. \$39.50. Environmental Science Research, vol. 14.

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Circuit Design for Electronic Instrumentation. Analog and Digital Devices from Sensor to Display. Darold Wobbschall. McGraw-Hill, New York, 1979. x, 390 pp., illus. \$24.50.

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Clinical Trials in 'Early' Breast Cancer. Methodological and Clinical Aspects of Treatment Comparisons. Proceedings of a symposium, Heidelberg, Germany, Dec. 1978. H. R. Scheurlen, G. Weckesser, and I. Armbruster, Eds. Springer-Verlag, New York, 1979. vi, 284 pp., illus. Paper, \$19.30.

The Cubeo. Indians of the Northwest Amazon. Irving Goldman. University of Illinois Press, Urbana, ed. 2, 1979. x, 316 pp., illus. Paper, \$8.95.

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The Design and Analysis of Longitudinal Studies. Their Role in the Measurement of Change. Harvey Goldstein. Academic Press, New York, 1979. xvi, 200 pp., illus. \$25.

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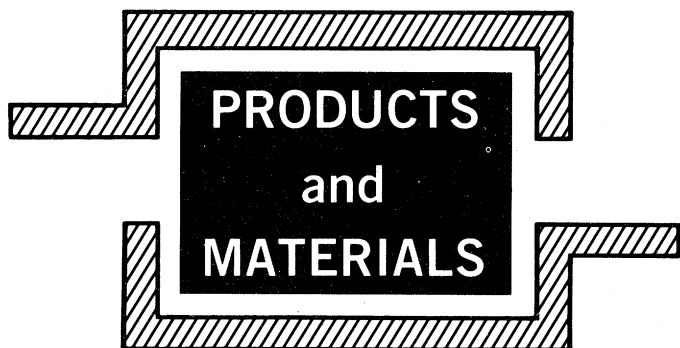
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Expanding the Role of Women in the Sciences. Papers from a conference, New York, Mar. 1978. Anne M. Briscoe and Sheila M.

(Continued on page 841)



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Literature

Microprocessor describes the MPI-4000 device for interfacing chemical analyzers in the clinical laboratory. Edmac Associates. Circle 777.

Computer for Engineering and Science Laboratories is devoted to the MINC-11 data processing system including central processor, storage devices, printer/plotters, displays, terminals, interfaces, peripherals, and capabilities. Digital Equipment. Circle 779.

Spectrophotometer Cells lists the Spectrocell line of American-made glass containers for spectrophotometry. Precision Glass Products. Circle 780.

Printer/Plotter features the V-80 series that prints 1000 132-column lines per minute and plots an 8½ by 11 inch drawing with resolution of 200 points per inch in 7 seconds. Versatec. Circle 781.

Temperature and Humidity Simulation describes a line of chambers for laboratory research in many fields. Ransco Industries. Circle 782.

Labeled Chemicals for Scintillation Counting are featured among other research chemicals in a 64-page catalog. Research Products International. Circle 783.

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BOOKS RECEIVED

(Continued from page 800)

Pfafflin, Eds. New York Academy of Sciences, New York, 1979. viii, 344 pp., illus. \$45. *Annals of the New York Academy of Sciences*, vol. 323.

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Formulas for Natural Frequency and Mode Shape. Robert D. Blevins. Van Nostrand Reinhold, New York, 1979. xiv, 492 pp., illus. \$29.95.

Foundation of Physiological Instrumentation. A Source Book with Experiments. Norman N. Goldstein and Michael J. Free. Thomas, Springfield, Ill., 1979. xii, 384 pp., illus. \$39.50.

Getting Doctored. Critical Reflections on Becoming a Physician. Martin Shapiro. Between the Lines, Kitchener, Ontario, Canada, 1979. 222 pp. Cloth, \$13.95; paper, \$6.95.

Glass Ceramics. P. W. McMillan. Academic Press, New York, ed. 2, 1979. viii, 286 pp., illus. \$35. Non-Metallic Solids.

Handbook of Biological Wastewater Treatment. Evaluation, Performance, and Cost. Henry H. Benjes, Jr. Garland STPM Press, New York, 1979. x, 182 pp., illus. \$19.95. Water Management Series.

Handbook of Practical Microcomputer Troubleshooting. John D. Lenk. Reston (Prenice-Hall), Reston, Va., 1979. x, 390 pp., illus. \$18.95.

Health and Environmental Effects of Coal Gasification and Liquefaction Technologies. A Workshop Summary and Panel Reports. Richard Brown and Alice Witter, Eds. MITRE Corporation, McLean, Va., 1979. x, 358 pp. + appendix. Paper.

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Vitamin D. The Calcium Homeostatic Steroid Hormone. Anthony W. Norman. Academic Press, New York, 1979. xviii, 490 pp., illus. \$45. Nutrition.

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A major nonprofit manufacturer of biological parenterals requires an experienced professional for its Long Island plasma laboratories. Ph.D. or equivalent experience in chemistry, biochemistry, or microbiology is necessary. Candidate should have technical and administrative experience in the biological products or pharmaceutical industries. Excellent salary and benefits. Send detailed résumé with salary history and references to: **Jack Downey, Personnel Department, The New York Blood Center, 310 East 67 Street, New York, N.Y. 10021. An Equal Opportunity Employer.**

LABORATORY FOR HEALTH BEHAVIOR STUDIES School of Pharmacy University of Southern California

Two openings: (i) **ASSISTANT DIRECTOR**, Laboratory for Health Behavior Studies; and (ii) **RESEARCH PROJECT COORDINATOR** (smoking prevention research). Doctoral degree in one of the behavioral sciences or biomedical sciences with postdoctoral research experience in health behavior is required. Appointments will be at the level of assistant research professor or research associate, depending on experience. Send curriculum vitae and names and addresses of three references before 15 October 1980 to:

**C. Anderson Johnson, Director
Laboratory of Health Behavior Studies
University of Southern California
School of Pharmacy
1985 Zonal Avenue
Los Angeles, Calif. 90033**

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR OF NEUROLOGY. Applications are invited for a position as assistant professor of neurology beginning 1 January 1981. Principal responsibilities are to conduct electrophysiological and biochemical studies in invertebrate neurons and to teach in the medical school neural science course. Candidates should be at least 3 years postdoctoral. Preference will be given to persons with experience and research skills in both biophysics and neurochemistry. *Affirmative Action/Equal Opportunity Employer.* Interested candidates should send curriculum vitae, reprints, a brief description of research interests, and the names of three possible references to:

**Eli S. Goldensohn, M.D.
Coordinator COAP
College of Physicians and Surgeons
Neurological Institute
710 West 168 Street
New York, N.Y. 10032**

ASSOCIATE PROFESSOR. A faculty position is open at the level of associate professor. Teaching responsibilities will be in the area of medical school neuroanatomy and some participation in graduate school neuroanatomy programs. The thrust of the teaching, however, is oriented around a multidisciplinary approach, as is the research. The department is a multidisciplinary unit embracing the neuroscience disciplines of anatomy, physiology, chemistry, and pharmacology. Applicants are expected to have experience in teaching programs and to be involved in ongoing research programs. Please send curriculum vitae and names and addresses of three references to: **Joe G. Wood, Ph.D., Chairman of Neurobiology and Anatomy, P.O. Box 20708, The University of Texas Medical School at Houston, Houston, Texas 77025. Deadline for receipt of applications is 1 October 1980. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

University of California, Berkeley, Mechanical Engineering Department. Postdoctoral position as **ASSISTANT RESEARCH ENGINEER**, to carry out experimental studies of the interaction of turbulence with reacting flows by optical and hot wire techniques, using on-line minicomputer data acquisition and processing. Salary range: \$19,700 to \$25,900 per annum, depending on qualifications. This is a 2-year research position, but may be renewable depending on granting situation. Applicants should send curriculum vitae and three letters of reference by 30 September 1980 to: **Professor Lawrence Talbot, Department of Mechanical Engineering, University of California, Berkeley, California 94720. The University of California is an Affirmative Action Employer.**

ASSISTANT RESEARCH POSITION available immediately in the Department of Psychobiology, University of California, Irvine. Candidate must have a Ph.D. Two years or more experience desired with CNS cultures including serum free media and immunocytochemistry utilizing CNS cell type specific marker proteins. Also, experience in intracellular recording, cholinergic and adrenergic neurotransmitter metabolism, subcellular fractionation, and cytoskeletal protein is desirable. A letter of application, curriculum vitae, and three letters of recommendation should be sent to: **C. W. Cotman, Department of Psychobiology, University of California, Irvine, Calif. 92717. Affirmative Action Employer.**

ASSISTANT SCIENTIST—ENTOMOLOGIST

Person required with Ph.D. in entomology with background in insect toxicology, integrated pest management, bioassay techniques, insect rearing, chemistry, and statistics to supervise the evaluation of chemicals for insecticide-nematicide activity in the laboratory, greenhouse, and field as part of a Bioregulatory Chemicals Group. Other units in the group are concerned with fungicides, herbicides, and plant growth regulators. Position is applied research oriented, but there are opportunities for independent research. Available immediately.

Send résumé and names of at least three references to: **Dr. S. Ristich or Dr. D. C. Torgeson, Boyce Thompson Institute, Tower Road, Cornell University, Ithaca, New York 14853.**

An Affirmative Action/Equal Opportunity Employer

ASSISTANT SPECIALIST position is available beginning 1 September 1980 for an individual with a background in industrial toxicology. Responsibilities include active participation in research projects of the **Northern California Occupational Health Center**, and technical support for the training of graduate students in toxicology. A master's degree in toxicology or a related field is a minimum requirement and preference will be given to applicants with laboratory research experience. Salary will be \$18,000 to \$22,000, commensurate with experience. Send résumé to: **Dr. Eddie T. Wei, Department of Biomedical and Environmental Health Sciences, 316 Warren Hall, University of California, Berkeley, California 94720.**

An Equal Opportunity/Affirmative Action Employer

BIOCHEMIST POSTDOCTORAL

Tumor mitochondrial bioenergetics; membrane lipids and metabolite exchange transport. Available immediately. Competitive salary. Familiarity with mitochondrial techniques desired. Please send résumé and two letters of recommendation to: **Peter S. Coleman, Laboratory of Biochemistry, Department of Biology, New York University, New York, N.Y. 10003.**

CELL BIOLOGIST/NEUROBIOLOGIST UNIVERSITY OF CALIFORNIA, SAN FRANCISCO (UCSF)

The Department of Physiology, UCSF, is seeking an investigator who uses electron microscopy in the correlation of structure and function, and who will participate in campus programs in neural science and cell biology. Appointment to this full-time faculty position can be made at the assistant, associate, or full professor level. Send curriculum vitae and bibliography, and arrange to have at least three letters of recommendation sent to:

**William F. Ganong, M.D.
Chairman, Department of Physiology
University of California
San Francisco, California 94143**

UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

POSITIONS OPEN

BIOCHEMIST

Research associate/Ph.D. Regulation of proteoglycan metabolism. Phosphorylation-dephosphorylation. Possible future independent position. Send résumé and three letters of reference to: **Dr. E. R. Schwartz, Tufts University Medical School, 136 Harrison Avenue, Boston, Mass. 02111.**

BIOCHEMIST. A 1- to 2-year temporary IPA assignment (persons presently employed by universities and state agencies are eligible) will be available beginning 1 October 1980. Research will be conducted evaluating the metabolism of radiolabeled cadmium intrinsically bound in the edible tissue of oyster administered orally to laboratory animals. Tissue uptake, changes in cadmium binding proteins, and the influence of dietary selenium will be assessed. Salary will be negotiated. Please contact: **Thomas Siewicki, National Marine Fisheries Service, P.O. Box 12607, Charleston, S.C. 29412; telephone: 803-724-4767. Department of Commerce/National Marine Fisheries Service/Southeast Fisheries Center/Charleston Laboratory is an Equal Opportunity Employer.**

BIOLOGIST/ENVIRONMENTAL CHEMIST—Responsibilities include analyses of pesticides, hydrocarbons, and metals, effects of oil spills on vegetation, bioassays of algal toxins, and shipboard participation. Minimum requirements: bachelor's in biology or chemistry and 1 year of experience. Additional job requirements: working experience with instruments and SCUBA. Salary: \$12,695. Deadlines: 29 August for résumé to: **George Henderson, Florida Department of Natural Resources, 100 Eighth Avenue, SE, St. Petersburg, Fla. 33701, and 5 September for interview.**

BIOLOGIST. Instructor or assistant professor beginning September 1980. Salary open. One-year appointment with possibility of consideration for tenure-track position in 1981. To teach courses in zoology, comparative anatomy, physiology, and advanced seminars. Send letter of inquiry and complete résumé including teaching experience and research interests, at least three letters of recommendation, and transcripts, to: **Dr. Emil Bernstein, Chairperson, Department of Biology, Allegheny College, Meadville, Pa. 16335. Equal Opportunity Employer.**

BIOLOGY

Applications are invited for an assistant professor (nontenure-stream) with research interests in cell biology/metabolism. Initial appointment for 1 year, renewable up to 3 years.

Send curriculum vitae, statement of research interests, and the names of three referees by 15 September 1980 to: **Dr. Frank Rigler, Chairman, Biology Department, McGill University, 1205 Avenue Dr. Penfield, Montreal, Québec, Canada H3A 1B1.**

COMPARATIVE PATHOLOGIST. The Division of Comparative Medicine, Department of Pathology of the University of Texas Southwestern Medical School, is seeking applicants for a senior faculty position. Applicants must have a D.V.M. or equivalent degree, be Board-certified in veterinary pathology, have a strong commitment to academic medicine, and have demonstrated scholarly achievement. Responsibilities include directing and participating in graduate and/or residency training in comparative pathology and medicine, participating in professional teaching of medical students and medical pathology residents, establishing independent and collaborative research programs, and participating in service activities of the Animal Resources Center Diagnostic Laboratory. Applicants should send their curriculum vitae, the names of three individuals who can provide letters of reference, current academic activities, and any other supporting information to: **Dr. Steven P. Pakes, Chairman, Division of Comparative Medicine, Department of Pathology, The University of Texas Southwestern Medical School, 5323 Harry Hines Boulevard, Dallas, Texas 75235. University of Texas Southwestern Medical School is an Affirmative Action/Equal Opportunity Employer.**

The University of Pennsylvania has initiated a search to fill the position of **DEAN OF THE SCHOOL OF ENGINEERING AND APPLIED SCIENCE**. Candidates for this position with an outstanding international reputation in their scholarly field of research and with demonstrated ability in academic administration are invited to submit résumés to: **Professor Solomon R. Pollack, Chairman, Dean's Search Committee, 285 Towne Building, University of Pennsylvania, Philadelphia, Pa. 19104.**

POSITIONS OPEN

CHIEF, CARDIOLOGY DIVISION DEPARTMENT OF MEDICINE BETH ISRAEL HOSPITAL AND HARVARD MEDICAL SCHOOL, BOSTON

Appointee should be an accomplished academic cardiologist with an established reputation in research, teaching, and clinical care and of sufficient stature to qualify for a full tenured professorship of medicine at the Harvard Medical School. Appointee should show promise of continued scientific productivity, and have a proven record in training of undergraduate and postdoctoral students, and the ability to recruit outstanding faculty and manage the affairs of a large division. Candidates are invited to submit up-to-date curriculum vitae and bibliography to: Dr. Eugene Braunwald, Chairman of the Search Committee, Beth Israel Hospital, 330 Brookline Avenue, Boston, Massachusetts 02215.

The Beth Israel Hospital and the Harvard Medical School are Equal Opportunity/Affirmative Action Employers, and qualified women and minority candidates are encouraged to apply.

CHIEF, GASTROENTEROLOGY DIVISION DEPARTMENT OF MEDICINE BETH ISRAEL HOSPITAL AND HARVARD MEDICAL SCHOOL, BOSTON

Appointee should be an accomplished academic gastroenterologist with an established reputation in research, teaching, and clinical care and of sufficient stature to qualify for a full tenured professorship of medicine at the Harvard Medical School. Appointee should show promise of continued scientific productivity, and have a proven record in training of undergraduate and postdoctoral students, and the ability to recruit outstanding faculty and manage the affairs of a large division. Candidates are invited to submit up-to-date curriculum vitae and bibliography to: Dr. Eugene Braunwald, Chairman of the Search Committee, Beth Israel Hospital, 330 Brookline Avenue, Boston, Massachusetts 02215.

The Beth Israel Hospital and the Harvard Medical School are Equal Opportunity/Affirmative Action Employers and qualified women and minority candidates are encouraged to apply.

POSITIONS OPEN

CHAIRMAN DEPARTMENT OF BIOCHEMISTRY GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE

The School is conducting a search for qualified candidates for a professor and chairman of the Department of Biochemistry. Applicants should have demonstrated competence in teaching research and administration. *Georgetown University is an Affirmative Action/Equal Opportunity Institution in employment and admissions.* Letters from interested persons or proposals for the position should be addressed to:

Lawrence S. Lilienfeld, M.D., Ph.D.
Chairman, Biochemistry Search Committee
Georgetown University School of Medicine
3900 Reservoir Road, NW
Washington, D.C. 20007

DIRECTOR OF GROSS ANATOMY

The Department of Anatomy at the University of Rochester invites applications from qualified individuals to assume directorship of the gross anatomy course in the School of Medicine. Faculty experience in teaching all aspects of gross anatomy and excellent teaching capability are required. It is anticipated the appointment will be at the associate professor level, to start by September 1981.

The gross anatomy course currently consists of 250 contact hours and includes the presentation of embryology. This course is taken by beginning medical and graduate students. Excellent opportunity exists for continuing clinical correlations.

The successful applicant will also have an active research program with a record of publications. The research program should be in an area compatible with the strength of the Department of Anatomy in the nervous system. Correspondence to:

Dr. Robert Herndon
Department of Anatomy
University of Rochester
School of Medicine and Dentistry
Rochester, New York 14642

POSITIONS OPEN

DEAN, COLLEGE OF ARTS AND SCIENCES VALPARAISO UNIVERSITY

Nominations and applications are invited for the position of the dean of the College of Arts and Sciences at Valparaiso University, Valparaiso, Indiana. The college has a full-time faculty of 200 and an enrollment of 1850 full-time students. Applicants should have an earned doctorate, excellent credentials as a teacher and scholar, and evidence of successful administrative experience. Valparaiso University is related to the Lutheran Church. It seeks faculty and administrators who have a commitment to Christian higher education. Deadline for receipt of applications: 8 October 1980. Post opens 1 July 1981. Applications and nominations should be sent to: Chair, Search Committee, Dean of Arts and Sciences, Valparaiso University, Valparaiso, Ind. 46383. *An Equal Opportunity Employer.*

NATIONAL SCIENCE FOUNDATION Washington, D.C. 20550

The Directorate for Biological, Behavioral and Social Sciences is seeking qualified applicants for the position of **DIRECTOR, DIVISION OF ENVIRONMENTAL BIOLOGY**. The director manages a division responsible for the support of research in systematics, population biology and physiological ecology, ecology, and ecosystem studies, as well as support for biological research resources.

Applicants must have a Ph.D. or equivalent in the biological sciences or a closely related field, have established a national and international reputation for high-quality research in one of the appropriate program areas and demonstrated successful leadership in administration. These positions are part of the Senior Executive Service with salaries limited by law to \$50,112 per annum. Appointment may be permanent or on a rotational basis. Entrance on duty date for this position is late summer or early fall 1981. Send SF-171 and supplemental narrative to: National Science Foundation, 1800 G Street, NW, Washington, D.C. 20550. For information on application procedures, telephone: Teddy Haessig-Dyer at 202-857-7857. All applications must be received by 30 September 1980.

ALTERNATIVE CAREER PATH

The Solar Energy Research Institute will be working on a number of projects dealing with:

- 1). the efficiency with which industry uses energy and the use of renewable resources in industry
- 2). design of optimum investment strategies for electric and gas utilities given a range of conservation, solar, and conventional generating technologies,
- 3). implementation of a variety of laws governing industrial investments in energy equipment and prices charged by utilities.

Applicants should have demonstrated analytical skills, an ability to write clearly, and an advanced degree in Physics, Engineering, or Mathematics. Direct experience in the areas listed is desirable but not essential. Full-time employment and temporary positions are available.

Send your resume, including salary history and professional references (no phone calls) to SOLAR ENERGY RESEARCH INSTITUTE, Dept. 700, Personnel Services, 1617 Cole Boulevard, Golden, Colorado 80401. We are an equal opportunity employer. A DOE Contractor.

A division of Midwest Research Institute.



FOOD AND DRUG ADMINISTRATION (FDA) PUBLIC HEALTH SERVICE DEPARTMENT OF HEALTH AND HUMAN SERVICES

DIRECTOR, DIVISION OF TERATOGENESIS RESEARCH

NATIONAL CENTER FOR TOXICOLOGICAL RESEARCH (NCTR)

Applications are invited for the position of Director, Division of Teratogenesis Research, National Center for Toxicological Research, Jefferson, Arkansas. The incumbent plans, directs, and evaluates a broad research program to improve methods for evaluating the teratogenic potential of chemical compounds in animal systems, develop the capability of predicting their teratogenic potential for man, and explore the mechanisms of actions of these compounds. The director of the division coordinates and directs all phases of the research program within the division of 35 persons and collaborates with other divisions at the NCTR. Experience in administering programs and dealing with governmental agencies is desirable in the incumbent.

The division is organized for the purpose of improving the assessment of human risk from exposure to developmental toxins. The interdisciplinary requirements of the position are evident from the types of ongoing research efforts which include: comparative pharmacokinetics and metabolism, morphological and biochemical mechanisms of teratogenesis, and the evaluation of both classical and functional endpoints of developmental toxicity. This information is integrated in order to provide a sound basis for interspecies extrapolation and eventually to define valid mathematical models for the extrapolation of animal data to man.

The NCTR is a multidisciplinary toxicology research facility which has ongoing programs of scientific excellence in teratogenesis, carcinogenesis, mutagenesis, cell biology, and chemistry as well as excellent research support facilities in animal husbandry, diet preparation and analysis, pathology, microbiology, chemistry, and others. The Center has over 220 civil service employees and another 400 contract personnel and is located in a rural wooded area between Little Rock and Pine Bluff, Arkansas.

This is a civil service position at the GS-14 (\$34,713 per annum) or GS-15 (\$40,832 per annum) level. The salary will be determined by Office of Personnel Management certification and Research Peer Review evaluation. *The FDA is an Equal Opportunity Employer.* For further information, telephone: Dick King at 501-541-4475. Send curriculum vitae to: FDA-NCTR, Personnel Office, Jefferson, Arkansas 72079.

Biocompatibility/ Biomaterials Research

Howmedica, Inc., a division of Pfizer Inc., is an international company with a broad spectrum of interests in orthopedic, dental and surgical devices. We now have a new opening on our research staff for an individual to join a multidisciplinary team in the biological evaluation of new biomedical materials and the development of new devices. Responsibilities will include maintenance of an *in vivo* biocompatibility (safety) testing program, research on tissue-materials interactions and supervision of an animal facility.

Applicants should hold a Ph.D. in an appropriate biological science with experience in histology and be able to demonstrate a successful record of publication. Previous experience in biomaterials research is particularly desirable.

We offer a competitive compensation and benefits package, the opportunity to live in an attractive Connecticut shore community, and excellent opportunities for professional recognition and career growth.

Please send resume and salary history to: Mr. F. G. Ziegler, PFIZER CENTRAL RESEARCH, Eastern Point Road, Groton, Connecticut 06340

An equal opportunity employer



Pharmaceutical Research

We are the Research & Development Division of the Revlon Health Care Group—the recent integration of several progressive middle-sized pharmaceutical companies. We are now seeking high level contributors with backgrounds in industrial pharmaceutical clinical investigations to join research teams working on the newest drug developments in medicine.

Clinical Pharmacologist/ Clinical Researcher

Ideally, we require an MD with 1–2 years industrial experience in phases I & II of clinical studies in cardiorenal, hypersensitivity, immunology and/or infectious diseases. He or she could also have completed a residency in medicine or a post graduate fellowship in clinical pharmacology. Alternatively, we would also be interested in a PhD

with 3–5 years senior level experience in pharmacology, toxicology, biochemistry and/or microbiology.

A certain amount of travel, both domestically and internationally, will be involved including attending scientific meetings. Our modern research facility is located in the Southern/Central Westchester area, 1/2 hour from New York. We offer competitive salaries and excellent employee benefits.

Please send your resume, including salary history, in complete confidence to: Manager of Professional Staffing (Ref SC) Research and Development Division, Revlon Health Care Group One Scarsdale Road Tuckahoe, New York 10707

An equal opportunity employer, M/F

REVLON Health Care Group

POSITIONS OPEN

The Department of Medicine at the University of Kentucky College of Medicine is recruiting a CHIEF for the Division of Hematology-Oncology. There are active basic science and clinical programs in cancer research within the division and the potential for collaboration with several other departments at the Medical Center. Interested individuals are invited to contact: Theodore A. Kotchen, M.D., Professor of Medicine, University of Kentucky College of Medicine, 800 Rose Street, Lexington, Kentucky 40536.

The Institute of Technology of the University of Minnesota is soliciting applications for the position of

DIRECTOR

of the recently established

CENTER FOR MICROELECTRONIC AND INFORMATION SCIENCES

The purpose of the Center is to concentrate academic, industrial, and government resources on an interdisciplinary approach to the development of the microelectronic and information sciences and their applications.

In addition to managing the operations of the Center, the director will work with a Board of Directors and a Technical Advisory Committee in identifying suitable areas of research, in developing priorities in the allocation of resources, and in broadening the base of funding and institutional cooperation of the Center.

Applicants must have a Ph.D. or its equivalent and a strong international scholarly reputation in at least one field pertinent to the aims of the Center as well as proven management ability. The scholarly achievements must be sufficient to justify tenure in one of the academic departments of the University of Minnesota.

Salary will be commensurate with qualifications.

Please send curriculum vitae and list of references to: Professor H. Weinberger, Chairman, Search Committee, or Professor W. Franta, Acting Co-Director, Center for Microelectronic and Information Sciences, 143 Space Science Center, University of Minnesota, Minneapolis, Minnesota 55455 (telephone: 612-376-9122), by 15 September 1980.

EM LABORATORY TECHNICIAN

Fully trained and experienced in basic techniques of tissue preparation for TEM. Must be proficient in ultrathin sectioning. Salary: \$13,135 per year. Write: Dr. Greta E. Tyson, Head, Electron Microscope Center, Drawer EM, Mississippi State University, Mississippi State, Miss. 39762.

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

FACULTY POSITIONS

Growing, well-established, accredited school of chiropractic seeks quality teacher/scholars with doctorates for positions opening in the Basic Science Division. **BIOCHEMIST:** preference to individual with interest in nutrition; January or August 1981. One or more **PHYSIOLOGIST(S)** with preference given to those interested in digestive cardiovascular or neuromuscular physiology; January 1981. Interested persons with these and **OTHER SPECIALTIES** relevant to the preclinical sciences are invited to submit a letter discussing career goals in teaching and research, curriculum vitae, and names and addresses of three references to: Basic Science Division, Northwestern College of Chiropractic, 1834 South Mississippi River Boulevard, St. Paul, Minnesota 55116.

FACULTY POSITION IN PEDIATRIC NEUROLOGY in Department of Pediatrics, University of Michigan available 1 July 1981. Board-certified or Board-eligible in pediatrics and Board-certified or Board-eligible in pediatric neurology. Patient care, teaching, and research. Contact: Dr. Gary Goldstein, Department of Pediatrics, University Hospital, Ann Arbor, Michigan 48109. A nondiscriminatory, Affirmative Action Employer. Code 1700HO.

FOUR FACULTY POSITIONS. Positions are open in: (i) biological oceanography, (ii) physical oceanography, (iii) geophysics or physical geology, and (iv) ocean engineering. Ph.D., desire to teach undergraduates and graduates, and ability to carry out active research program required. Full-time, 9 months; salary and rank are open. Send résumé, brief statement of research interests, and the names of three references to: J. Ernest Breeding, Jr., Department of Oceanography and Ocean Engineering, Florida Institute of Technology, Melbourne, Fla. 32901. Equal Opportunity Employer.

POSITIONS OPEN

FACULTY POSITION

The University of California, Irvine, Department of Biological Chemistry in the College of Medicine, invites applications for two appointments as assistant professor; under exceptional circumstances, applications will also be considered at other professional levels. Teaching responsibilities involve instructing medical and graduate students in selected areas of biochemistry. Research experience and interest in eukaryotic cell systems dealing with genetics, protein synthesis, DNA and RNA synthesis and metabolism, or macromolecular processing and its control is preferred. Faculty members are expected to develop a strong, independent research program. *The University of California is an Affirmative Action Employer.* Send curriculum vitae, three letters of reference, and a detailed description of proposed research program by 15 October 1980 to:

Search Committee
Department of Biological Chemistry
University of California, Irvine
California College of Medicine
Irvine, California 92717

FACULTY POSITIONS IN MICROBIOLOGY-MOLECULAR BIOLOGY

Applications are invited for a tenure-stream position in microbiology-molecular biology at the assistant professor rank commencing 1 September 1980 or 1 January 1981. Candidates for the position must have Ph.D. completed and relevant research and/or teaching experience. The position involves teaching in the appropriate area at undergraduate and graduate levels, plus development of an independent research programme. Salaries commensurate with qualifications and experience (floor for 1979-1980 was \$21,500). Applicants should send recent curriculum vitae and names of three referees to: **R. M. Roy, Chairman, Department of Biology, Concordia University, 1455 de Maisonneuve Boulevard West, Montreal, Québec, Canada H3G 1M8.**

FACULTY POSITION IN INDUSTRIAL HYGIENE/AIR POLLUTION

Department of Environmental Health Sciences, Tulane University, has available a tenure-track position beginning January 1981, in the area of industrial hygiene and air pollution.

The applicant should have a doctoral degree in occupation health, industrial hygiene, or air pollution. Applicants with doctoral degrees in related physical or biological sciences with experience in industrial hygiene or air pollution will also be considered.

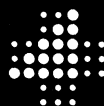
Applicants are expected to participate in the graduate level occupational health teaching program, contribute to existing research projects, and develop independent research. Salary to be negotiated commensurate with qualifications and experience. Candidate should send curriculum vitae and other supportive data, including three letters of reference, by 31 October 1980 to: **Dr. A. J. Englehardt, Acting Chairman, Department of Environmental Health Sciences, Tulane University School of Public Health and Tropical Medicine, 1430 Tulane Avenue, New Orleans, Louisiana 70112.** *Tulane University is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN PHYSIOLOGY

The Department of Animal Physiology, University of California, Davis, invites applications for an 11-month appointment as a visiting assistant professor, beginning 29 September 1980. Appointment will be made for 1 year, with reemployment possible for a second year. Teaching responsibilities will include participation in undergraduate systemic physiology lecture and laboratory courses. Although emphasis will be on teaching, the applicant will be expected to participate in a research project through collaboration with departmental faculty. The Ph.D. or its equivalent is required. Salary is to be in the range of \$14,500 to \$16,000. Applications including curriculum vitae, a statement of teaching and research background and interests, recent reprints, names and addresses of at least three references, and transcripts (required of recent graduates only) are to be sent to: **Dr. V. E. Mendel, Chairman, Search Committee, Department of Animal Physiology, University of California, Davis, Calif. 95616.** Applications will be accepted until 1 September 1980. *In compliance with federal and state laws and University policy, the University of California does not discriminate on the basis of race, color, national origin, religion, sex, handicap, age, or against disabled veterans or veterans of the Vietnam era. The University of California is an Affirmative Action/Equal Opportunity Employer.*

15 AUGUST 1980

Senior Research Investigator Toxicology



The Critical Care Division of American Hospital Supply Corporation continues to expand and is now in need of a Sr. Research Investigator in the area of Toxicology.

Responsibilities will include: the planning, implementation, and evaluation of pre-clinical toxicity studies on prospective drugs using in-house and contract facilities; the preparation of final reports for IND/NDA submissions; and an active role in the development of the Toxicology section.

Requirements are a Ph.D. in Toxicology, Pharmacology or related area, as well as some industrial experience, preferably in Pharmaceuticals.

Our strong commitment to R&D will continue to result in a constant flow of unique critical care products. If you'd like to join this process, please send resume to:

Personnel Manager
Department SRI

American Critical Care



A division of
American Hospital Supply Corporation
1600 Waukegan Road
McGaw Park IL USA 60085

We are an equal opportunity employer m/f

A UNIQUE OPPORTUNITY FOR CREATIVE RESEARCH BIO-ORGANIC CHEMIST

Kimberly-Clark has immediate need for a Ph.D.-level Bio-organic chemist. The position requires a strong background in organic chemistry with an understanding of medicinal/biochemical aspects. Must be a sound experimentalist and a self-starter. Some industrial research experience (1-5 years) or equivalent post-doctoral training is desirable. The position will involve development of concepts and initial laboratory work for the development of new products in the general area of consumer disposables.

For over half a century Kimberly-Clark has been known throughout the world for providing the finest in consumer products. Our commitment to growth, research and innovation is as important to us now as it has been in the past. We're offering salaries that exceed the accepted standard and a benefits package that remains unchallenged in the industry.

Our modern Corporate Research Center is located in an attractive Wisconsin community with nearby universities and year-round recreation. Research, Innovation and Growth are here at Kimberly-Clark. If you are interested and qualified, send your resume and/or letter in confidence to:

Corporate Recruiting-SUH



KIMBERLY-CLARK
NEENAH, WISCONSIN 54956

An Equal Opportunity Employer

POSITIONS OPEN

FISH PHYSIOLOGIST. Postdoctoral research on the utility of growth rate indicators (including protein synthesis) as rapid methods for toxicity testing. Experience in biochemistry and toxicology desirable. Salary: \$16,080 per year. Send letter, résumé, and three letters of recommendation to: **Dr. Ira R. Adelman, Department of Entomology, Fisheries, and Wildlife, University of Minnesota, St. Paul, Minn. 55108**, by 30 September 1980. Start November 1980 for 2 years. *Affirmative Action/Equal Opportunity Employer.*

Princeton University, Department of Geological and Geophysical Sciences, has an opening available for a postdoctoral research position for **GEOCHEMIST, CHEMIST, or CHEMICAL ENGINEER.**

Participate in and direct chemical aspects of interdepartmental program on solution mining of shallow and deep mineral resources. Entails design and operation of mineral leaching experiments including hydrothermal equipment; derivation of kinetic rate laws and mineral dissolution mechanisms; interaction with team of engineers and geochemists in numerically simulating solution mining processes. Ph.D. plus strong background in chemical kinetics/thermodynamics and laboratory expertise required; geochemical experience highly desirable.

Send résumés to: **D. A. Crerar, Department of Geological and Geophysical Sciences, Princeton University, Princeton, N.J. 08544.** *Princeton University is an Equal Opportunity/Affirmative Action Employer.*

DEPARTMENT HEAD—Nutrition/Food Sciences, College of Home Economics (50 percent), Agricultural Experiment Station (50 percent), University of Tennessee. Available 1 January 1981. Demonstrated potential for success in administration, college teaching, and research desirable. Doctorate in food science, nutrition, food systems administration, or related field. Degree/experience in home economics desirable. Send résumé by 15 October 1980 to: **Dr. John Smith, Nutrition/Food Sciences Department, Home Economics, University of Tennessee, Knoxville, Tenn. 37916.**

INSECT ECOLOGIST, Ph.D., to participate immediately in laboratory and field population studies in Pakistan on mosquitoes, malaria, and genetic control for approximately 18 months. Travel, housing, and American education for grade and high school dependents provided. Salary commensurate with training and experience. Send résumé and names of three references to: **Dr. Richard H. Baker, International Health Program, University of Maryland School of Medicine, 10 South Pine Street, Baltimore, Md. 21201.**

INSTRUCTOR—RESEARCH ASSOCIATE. The Department of Pediatrics at Loyola University Medical Center is seeking a Ph.D. in biochemistry to do research on the fetal alcohol syndrome; investigate bilirubin metabolism in the neonate; and provide resource for other departmental research interests. This is a nontenured, 1-year position. Interested parties should send their curriculum vitae to: **Dr. Lewis E. Gibson, Chairman, Department of Pediatrics, Loyola University Medical Center, 2160 South First Avenue, Maywood, Illinois 60163.**

MASS SPECTROSCOPIST RICE UNIVERSITY

The Department of Biochemistry of Rice University announces the availability of a staff position for an experienced bioorganic mass spectroscopist to operate GC-MS unit and to participate in research on sterol biosynthesis and chemistry of complex lipids. Additional experience in IR and NMR desired but not essential. Salary dependent on qualifications and experience. Position available immediately. Interested persons should send résumé and the names of three references to: **G. J. Schroepfer, Jr., Biochemistry Department, Rice University, Houston, Texas 77001.** *An Equal Opportunity/Affirmative Action Employer.*

MICROBIOLOGIST. Postdoctoral position available to study the intestinal microbial flora of the cockroach. This study includes biochemical and microbial interactions, the isolation and characterization of unique procaryotes, and the attachment and localization of bacteria in the gut. Experience with fastidious anaerobes and a background in microbial physiology are desirable. Position available immediately for two or more years. Curriculum vitae and letters of reference to: **A. J. Markovetz, Department of Microbiology, University of Iowa, Iowa City, Iowa 52242.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

INSTRUCTOR/ASSISTANT PROFESSOR. A position is open at the level of instructor or assistant professor. Teaching responsibilities will be in the area of medical school neuroanatomy and some participation in graduate school neuroanatomy programs. The thrust of the teaching, however, is oriented around a multidisciplinary unit embracing the neurosciences disciplines of anatomy, physiology, chemistry, and pharmacology. Applicants are expected to have experience in teaching programs and to be involved in ongoing research programs. Please send curriculum vitae and names and addresses of three references to: **Joe G. Wood, Ph.D., Chairman of Neurobiology and Anatomy, P.O. Box 20708, The University of Texas Medical School at Houston, Houston, Texas 77025.** Deadline for receipt of applications is 1 October 1980. *An Equal Opportunity/Affirmative Action Employer.*

QUEENSLAND INSTITUTE OF MEDICAL RESEARCH BRISBANE, AUSTRALIA

MEDICAL RESEARCH FELLOW/PRINCIPAL MEDICAL RESEARCH FELLOW AND SCIENTIST/SENIOR SCIENTIST.

The Queensland Institute of Medical Research is a statutory body funded mainly by the Queensland Government, and situated at the Royal Brisbane Hospital near the Medical School.

Research is organized into five main areas: cell biology, molecular biology, virology, oncology, and tropical medicine.

Applications for these two positions will be considered from persons with interests in any of these broad areas but for one appointment preference will be given to applicants with research experience in pathogenesis of viral infections. Current topics in virology include molecular markers for dengue haemorrhagic fever, pathogenic effects of Murray Valley encephalitis virus, immunology of epidemic polyarthritis virus in man, structure and genetics of orbiviruses, and virus persistence.

Appointments are for a term of 5 years, renewable. Annual salaries are:

Scientist/Senior Scientist: \$18,310 to \$22,891

Medical Research Fellow: \$29,166

Principal Medical Research Fellow: \$37,086

Detailed applications, including curriculum vitae and the names of three referees, should be forwarded by 30 September 1980 to: **The Director, Queensland Institute of Medical Research, Bramston Terrace, Herston, Queensland 4006, Australia,** from whom further information is available.

TEKNEKRON RESEARCH, INC.

Teknekron Research is a successful research/consulting firm specializing in the application of advanced technology. We are looking for **MICROBIOLOGISTS** and/or **MOLECULAR BIOLOGISTS** with expertise in genetic engineering to join our **Biotechnology Division.** Salaries are very competitive and commensurate with experience. Interested applicants please send résumé to:

**Director
Biotechnology Group
Teknekron Research, Inc.
1483 Chain Bridge Road, Suite 205
McLean, Va. 22101**

NEUROBIOLOGIST—Assistant professor-level or level commensurate with experience. Research and teaching position available after 1 January 1981. Ph.D. or M.D. and postdoctoral experience required as well as interest and aptitude for research on cellular basis of learned motor performance in mammals. Candidates with in vivo or in vitro experience in behavioral electrophysiology, cellular neurobiology, or membrane biophysics are particularly encouraged to apply. If interested, please send curriculum vitae and two letters of recommendation to: **Professor C. D. Woody, Department of Psychiatry, University of California, Los Angeles, Medical Center, 760 Westwood Plaza, Los Angeles, Calif. 90024.** *Equal Opportunity/Affirmative Action Employer.*

Ph.D. WITH BIOLOGIC ORIENTATION to work on the isolation and purification of new peptide hormone. Position available immediately. Stipend dependent on experience and qualifications. Send curriculum vitae and names of three references to: **University of California, Los Angeles, School of Medicine, Room 31-75, 1000 Veteran Avenue, Los Angeles, Calif. 90024.** *UCLA is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

PLANT MOLECULAR BIOLOGY University of California, Los Angeles (UCLA) POSTDOCTORAL POSITIONS

Applications are invited for two postdoctoral positions to study: (i) the structure and expression of soybean lectin genes, or (ii) the light regulation of the expression of nuclear genes encoding chloroplast proteins. These positions are available as early as 1 September 1980. For the first of these positions a background in nucleic acid biochemistry and electron microscopy is desirable. For the second, some experience with recombinant DNA and general nucleic acid techniques is desirable. Please send a résumé, including a statement of research interests, and the names of referees to:

**Dr. Robert Goldberg and Dr. Elaine Tobin
Department of Biology
University of California
Los Angeles, Calif. 90024**

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

POMOLOGIST/PLANT PHYSIOLOGIST

Tenure-track position in the Department of Pomology, University of California, Davis, at the assistant or associate level. Appointment is 100 percent research in the Agricultural Experiment Station and the Cooperative Extension Service. A Ph.D. in an area of plant science is required and experience with tree fruit crops and/or interest in perennial fruit species is desired. Appointee will be stationed at the University of California Horticultural Field Station, near Fresno, one of the nation's largest centers of fruit culture. The appointee will be expected to conduct imaginative research leading to improved production efficiency of deciduous fruit.

Applicants should submit curriculum vitae with a list and reprints of pertinent publications, thesis summary, undergraduate and graduate transcripts, and the names and addresses of three references to: **Dr. Adel A. Kader, Search Committee, Department of Pomology, University of California, Davis, Calif. 95616.** Candidates applying after 15 October 1980 might not be considered.

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

POSTDOCTORAL FELLOW—To study cellular growth control in a laboratory studying the regulation of DNA synthesis by the platelet derived growth factor as well as other hormonal growth factors. Ph.D. in molecular biology, cell biology, microbiology, or biochemistry desired. Position available immediately for 2 to 3 years, \$13,380 per annum. Please apply to: **Dr. Charles Scher, 44 Binney Street, Boston, Mass. 02115.** *The SIDNEY FARBER CANCER INSTITUTE is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

To study catecholamine neurotransmission in peripheral and central tissue of normal and hypertensive animals. Position available immediately. Send curriculum vitae and three references to:

**Dr. Thomas C. Westfall
Department of Pharmacology
St. Louis University Medical Center
1402 South Grand
St. Louis, Missouri 63104**

*An Equal Opportunity/Affirmative Action Employer.
M/F/H*

POSTDOCTORAL POSITIONS available for people holding an M.D. and/or D.V.M. degree, Ph.D. in biochemistry, virology, or molecular biology for the study of the pathology, immunology, and molecular biology of feline leukemia. Please contact: **William A. Haseltine, SIDNEY FARBER CANCER INSTITUTE, 44 Binney Street, Boston, Mass. 02115**, or **Myron Essex, Department of Microbiology, HARVARD SCHOOL OF PUBLIC HEALTH, 665 Huntington Avenue, Boston, Mass. 02115.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately to study the movement of pollutants in the environment. Applicants must have a strong background in aquatic chemistry, hydrology, and environmental biogeochemistry. Field experience is necessary. Apply giving résumé and names of three referees to: **Dr. F. H. Rigler, Chairman, Department of Biology, McGill University, 1205 Avenue Docteur Penfield, Montréal, Québec, Canada H3A 1B1.** Deadline for applications is 15 September 1980.

PHARMACEUTICAL RESEARCH

Ann Arbor, Michigan

A new position has been created in the Pharmaceutical Research Division of the Warner-Lambert Company for a PhD to conduct in-depth studies of the biochemical relationships among HDL-cholesterol, LDL-cholesterol and their apoproteins, as well as the formation of atherosclerotic lesions. You should be . . .

- . . . trained and have research experience in the area of lipoprotein metabolism.
- . . . experienced in the development and evaluation of animal models of atherosclerotic disease.
- . . . able to supervise technical personnel.
- . . . interested in drug discovery and development.
- . . . well regarded scientifically with two-five years experience beyond the PhD.
- . . . above all innovative in your approach to research.

Our modern, well-equipped laboratories are located adjacent to the campus of the University of Michigan. If you are interested in these challenging opportunities to become involved in the discovery and development of new drugs, contact:

Mr. D. Misner, Personnel Supervisor
Warner Lambert/Parile Davis
Pharmaceutical Research Division

2800 Plymouth Road
Ann Arbor, MI 48105

An Equal Opportunity Employer

SENIOR POSTDOCTORAL RESEARCH FELLOW DIVISION OF FISHERIES AND OCEANOGRAPHY SYDNEY, N.S.W., AUSTRALIA

CSIRO has a broad charter for research into primary and secondary industry areas. The Organization has approximately 7400 employees, 2500 of whom are research and professional scientists, located in divisions and sections throughout Australia.

FIELD: Fisheries biology/biochemical genetics.

GENERAL: The Division is Australia's principal marine research institution with over 90 scientists investigating the physical, chemical, and biological features, including fisheries, of the oceans around Australia. Headquarters of the division at Cronulla is Sydney, with regional laboratories in Perth, Brisbane, and a field laboratory at Karumba. However, in the near future the division will be reorganized into a Division of Fisheries Research and a Division of Oceanography and within 5 years the headquarters of both divisions will be transferred to Hobart, Tasmania. On-line access to a Cyber 76 computer is available. Two well-equipped (43 m and 53 m) chartered vessels are available for oceanographical and fisheries research and there are several smaller CSIRO vessels.

DUTIES: To organize and direct a small group comprising up to three research scientists and three assistants in a long-term program addressing the problem of stock delineation of marine populations important to Australia. Some of the populations studied will be of significance only to Australia, but most will be of significance over a broader region. The group will at times work closely with other units approaching the same problems of different methods.

QUALIFICATIONS: Ph.D. or equivalent qualifications in genetics with at least 6 years of postdoctoral research experience in biochemical and/or ecological genetics including at least 5 years in fisheries or wildlife research together with demonstrable (through publications) research ability.

SALARY: Senior research scientist/principal research scientist; A\$21,107 to A\$28,437 per annum.

TENURE: Three years; superannuation benefits available.

APPLICATIONS: In writing and stating full personal and professional details, the names of at least two referees, and quoting reference Number A3004 should reach:

The Chief, Division of Fisheries and Oceanography
CSIRO

P.O. Box 21
Cronulla, N.S.W. 2230, Australia

by 22 September 1980.

TECHNICAL PROCESS MANAGER

A large international industrial Gas and Chemical Company seeks a Technical Process Manager to direct research and development programs necessary for the growth and improvement of large scale chemical processes. These programs will be directed toward achieving increased rates at lower investments, energy savings, reduced effluents, increased product quality and improved safety and hygiene. Development and training of less experienced staff will be a key responsibility. The successful candidate will have a PhD in Chemical Engineering, 5-10 years experience in the polymer/plastic, catalyst and coal conversion industries and some supervisory experience. Salary commensurate with experience and qualifications in the \$30,000 to \$40,000 range. Excellent benefits/location. Send resume and salary history to:

Box 199, SCIENCE

An Equal Opportunity Employer
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NEW ENGLAND ENZYME CENTER

Special Projects
Manager

Unique opportunity for Biochemical Engineer with Ph.D. or equivalent experience to carry out custom, one of a kind fermentations and biopolymer purifications on a pilot plant scale. Must be able to make decisions independently and assume responsibility for all phases of the work. Excellent mechanical skills required in addition to proper scientific background.

Please submit c.v. stating salary history and requirements to Diane Miller, Personnel, 63 Kneeland Street, Boston, MA 02111.

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Council Canada

Conseil national
de recherches Canada

MOLECULAR BIOLOGIST Saskatoon, Saskatchewan

A limited term position (one year initial appointment with renewals to a maximum of 5 years) is available for a molecular biologist experienced with plasmid engineering and reverse transcription to join the NRC Prairie Regional Laboratory's modification group (Dr. Lawrence E. Pelcher). Salary will be commensurate with experience beyond Ph.D. Send curriculum vitae, brief description of current research and two letters of reference to:

The Employment Office
National Research Council
of Canada
Ottawa, Ontario K1A 0R6
In reply please quote PRL-4.

NRC

POSITIONS OPEN

POSTDOCTORAL POSITIONS (TWO). Two postdoctoral positions in radiopharmaceutical chemistry are available immediately in the Department of Medicinal Chemistry and Pharmacology at Northeastern University. (i) **Synthetic organo/medicinal chemist** to work with Dr. Robert Hanson on the synthesis of novel radiolabeled receptor-site-directed agents for detection and diagnosis of disease states. Synthetic background and HPLC experience preferred. (ii) **Protein biochemist** to work with Dr. Carol Meyer on developing ruthenium complexes as protein labeling reagents for diagnostic nuclear medicine. Experience in protein modification and purification required. Laboratory expertise in synthetic chemistry desirable. Submit résumé and three letters of recommendation to: **Dr. Hanson/Meyer, Department of Medicinal Chemistry and Pharmacology, Northeastern University, Boston, Mass. 02115.** An Equal Opportunity/Affirmative Action/Title IX University.

POSTDOCTORAL POSITION. Available immediately. Involves the use of the ion microscope and ion microprobe to study the chemical composition of tissues. Experience with tissue sectioning techniques is essential. Send curriculum vitae with names of two references to: **Dr. G. H. Morrison, Department of Chemistry, Cornell University, Ithaca, N.Y. 14853.**

POSTDOCTORAL POSITION. Study of metal interaction with enzymes using NMR and visible-infrared spectroscopy. Available immediately, \$13,000 per year. Send résumé and two letters of recommendation to:

Dr. J. M. Brewer
Department of Biochemistry
University of Georgia
Athens, Ga. 30602

POSTDOCTORAL RESEARCH ASSOCIATE

Available 1 September 1980. To study the biochemical composition of photosynthetic membranes derived from bacteria and higher plants. Experience in membrane isolation and purification, analysis of polypeptide organization by gel electrophoresis and associated techniques. Background in membrane structure/electron microscopy helpful but not essential. Salary: \$13,495 (12 months). Send curriculum vitae and three letters of reference to: **Dr. Kenneth R. Miller, Division of Biology and Medicine, Brown University, Providence, Rhode Island 02912.** Brown University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately in areas of structure, function, and biosynthesis of hemoglobin. Send curriculum vitae and three letters of recommendation to: **Dr. F. Taketa, Department of Biochemistry, The Medical College of Wisconsin, P.O. Box 26509, Milwaukee, Wisconsin 53226.** Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL/RESEARCH ASSOCIATE. Interdisciplinary group investigating ultrastructure of connective tissues needs experienced electron microscopist. Position available fall 1980. Send curriculum vitae and two references to: **Dr. LeRoy Klein, Department of Macromolecular Science, Case Western Reserve University, Cleveland, Ohio 44106.** Case Western Reserve University is an Equal Opportunity Employer.

The University of California, Los Angeles, (UCLA), School of Medicine, invites applications and nominations for:

- 1) **PROFESSOR AND CHAIRPERSON**, Department of Medicine, effective 1 July 1982,
- 2) **PROFESSOR AND CHAIRPERSON**, Department of Pathology, effective as soon as a suitably qualified candidate can be identified, and
- 3) **PROFESSOR AND CHAIRPERSON**, Department of Microbiology and Immunology, effective as soon as a suitably qualified candidate can be identified.

Candidates with distinguished academic records and with demonstrated ability or clearly evident potential for administrative leadership are sought.

Nominations or applications, including curriculum vitae and bibliography, should be forwarded to: **Dr. A. Frederick Rasmussen, Jr., The Associate Dean, UCLA School of Medicine, Los Angeles, California 90024**, by 1 October 1980.

UCLA is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH FELLOW IN VIRAL ONCOLOGY

A position is available in fall 1980 for studies at the nucleic acid level on the role of endogenous retroviral genomes in spontaneous and radiation-induced leukemias of mice. A background in DNA restriction enzyme analysis and/or gene cloning would be useful. The position offers an opportunity to work in the context of a group engaged in a broad program of research on viral leukemogenesis. Applications and letters of reference should be sent to: **Dr. Erwin Fleissner, Head, Viral Oncology Laboratory, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, N.Y. 10021.**

PROFESSOR AND CHAIRMAN, Department of Nutrition and Food Science, Faculty of Medicine, University of Toronto. The appointee should hold the Ph.D. or M.D., have extensive experience in human nutrition and related areas of food science, and be prepared to lead a department interested in basic and collaborative clinical research, and graduate and undergraduate education. Address nominations and applications to: **Dr. K. Dorrington, Associate Dean (Basic Sciences), Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada M5S 1A8.** Position available 1 July 1981.

REPRODUCTIVE PHYSIOLOGIST. Career federal service. To develop independent research program in bovine embryonic and fetal development. Position located at Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, Nebraska. GS-11/12/13; salary based on qualifications and experience. For applications, contact: **J. Brooks, USDA-SEA/AR-B2, 2000 West Pioneer Parkway, Peoria, Illinois 61615.** Telephone: 309-671-7813. An Equal Opportunity Employer.

RESEARCH ASSISTANT/ASSOCIATE

Master's or Ph.D. in cell, molecular, or microbiology or biochemistry. Research involves molecular mechanisms of gene expression in cultured mammalian cells. Methods of somatic animal cell genetics, tissue culture, nucleic acid, and protein biochemistry used routinely. Salary dependent on training and experience. Send curriculum vitae and two letters of reference by 1 September 1980 to:

Dr. Donald J. Roufa
Division of Biology
Kansas State University
Manhattan, Kansas 66506

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

RESEARCH ASSOCIATE

Permanent, nontenure-track position available to help direct research programs involving cell culture techniques, radioimmunochemical analysis of protein turnover, cell-free translation, protein purification and sequencing, and red blood cell ghost microinjection, among others. Desired qualifications include a Ph.D. degree in a biological or chemical area, postdoctoral training, and evidence of productivity. Position available 1 September 1980 or negotiable.

Please send curriculum vitae and two or three letters of reference. Salary and benefits negotiable.

Dr. Wesley D. Wicks
Department of Biochemistry
University of Tennessee
Knoxville, Tennessee 37916

The University of Tennessee is an Equal Opportunity/Title IX/Section 504 Employer.

RESEARCH EARTH SCIENTIST

Battelle, Pacific Northwest Laboratories at Richland, Washington, invites applications from earth scientists, geologists, and geochemists interested in conducting studies on the transport of waste radionuclides in geologic media. Both analytical and experimental studies will be made on radionuclide-rock interactions such as adsorption, precipitation, mineral formation and their effect on transport in ground waters. The selected applicant will assume a leadership role in conducting and reporting the research.

Academics must include a strong background in both chemistry and mathematics.

Please submit résumé, academic record, and salary requirement to: **E. P. Galbraith, BATTELLE-NORTHWEST, P.O. Box 999, Richland, Wash. 99352.**

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POSITIONS OPEN

RESEARCH ASSOCIATE (postdoctoral). Cellular or molecular immunologists to participate in collaborative and independent research in broad areas of genetic control of the immune response in mice using synthetic polymers of amino acids. Studies concentrate on T cell receptors, factors, idiotype (antidotype), and hybridomas. Contact: **Paul H. Maurer, Department of Biochemistry, JEFFERSON MEDICAL COLLEGE, THOMAS JEFFERSON UNIVERSITY, 1020 Locust Street, Philadelphia, Pa. 19107.** Equal Opportunity Employer.

RESEARCH ASSOCIATE, POSTDOCTORAL, IN NEUROCHEMISTRY, available after 1 October 1980. For a person with training in the area of synthetic organic chemistry and/or membrane-receptor characterization to work in the area of muscarinic acetylcholine receptor characterization. Salary: \$12,500 to \$14,500 per year, commensurate with experience. Please send curriculum vitae and have two letters of recommendation sent to: **Dr. Michael Schmeil, Department of Biochemistry and Biophysics, Oregon State University, Corvallis, Oregon 97331.** Closing date: 15 September 1980. Oregon State University is an Affirmative Action/Equal Opportunity Employer which complies with Section 504 of the Rehabilitation Act of 1973.

RESEARCH ASSOCIATE position, available 1 September 1980 for a person with cardiovascular and/or psychopharmacology background. Selected person will work in a group engaged in free clinical discovery and development of new drugs from marine sources. Send résumé to: **Dr. Pushkar N. Kaul, 9C-09 Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857**, or telephone: 301-443-3948.

RESEARCH ASSOCIATE AND POSTDOCTORAL POSITIONS IN MEMBRANE BIOCHEMISTRY

Several positions are available immediately in an expanding interdisciplinary group in the area of membrane biophysics and biochemistry.

The following topics of research are available:

- Membrane regulation of mitochondrial function,
- Calcium transport in membranes, liver cells, and organelles, and
- Metabolite transport in liver cells and organelles.

Salary is commensurate with experience. Send curriculum vitae and names of three references to:

Bob Simon
Hahnemann Medical College and Hospital
Personnel Relations Department
220 North Broad Street
Philadelphia, Pa. 19102

Equal Opportunity Employer, M/F

RESEARCH DIRECTOR RECLAMATION OF PHOSPHATE-MINED LANDS

The Florida Institute of Phosphate Research, a newly formed agency of the state of Florida, has a challenging opportunity for an individual in the area of reclamation of phosphate-mined lands. The applicant must have a B.S. degree in biological science, environmental science, or related physical science. A Ph.D. degree in one of the above areas or the equivalent experience in the area of reclamation research is preferred.

This individual will be responsible for establishing a research and development program in the area of reclamation of phosphate-mined lands. This includes monitoring of background environmental conditions prior to mining and the restoration of pre-mined conditions or alternative improved conditions.

Application deadline is 15 September 1980. Please submit detailed résumé, transcripts, and three letters of recommendation to: **Dr. D. P. Borris, Executive Director, Florida Institute of Phosphate Research, P.O. Box 877, Bartow, Florida 33830.**

Equal Opportunity/Affirmative Action Employer

RESEARCH INSTRUCTOR CLINICAL PHARMACOLOGIST. A position is available for a cardiovascular pharmacologist trained in cardiology and able to perform cardiac catheterization procedures to study the clinical pharmacology of antiarrhythmic drugs. Training in clinical pharmacology desired. Sex, race, religion, or national origin will not be factors in the selection process. Applicants should send curriculum vitae and the names of three references to: **Raymond L. Woosley, M.D., Ph.D., Division of Clinical Pharmacology, Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee 37232.**

CARDIOVASCULAR PHARMACOLOGIST CANADA

An immediate opening exists for a Research Pharmacologist. The applicant we seek should have a doctorate, preferably in cardiovascular pharmacology or physiology, and possibly two to three years of relevant postdoctoral experience.

The candidate will

- join our present team in cardiovascular pharmacology which is engaged in the discovery and evaluation of new therapeutic agents
- provide experimental skill and novel ideas
- direct and supervise additional staff.

The opening, in one of our key research areas, affords an excellent opportunity for professional recognition and growth. The publication of important findings is encouraged.

This position, reporting to the section head, cardiovascular pharmacology, is located in our central research facilities in Montreal, Quebec, Canada. An extensive benefits package includes relocation assistance.

Please send detailed résumé with salary history and expectations to Mr. A. P. de Kappelle, Personnel Department, AYERST RESEARCH LABORATORIES, 1025 Laurentien Boulevard, Saint-Laurent, Quebec, H4R 1J6

NATIONAL SCIENCE FOUNDATION

SEEKING DIRECTOR FOR DIVISION OF EARTH SCIENCES

AVAILABLE APRIL 1981

The National Science Foundation is seeking qualified candidates for the position of **DIRECTOR, DIVISION OF EARTH SCIENCES** on a permanent or temporary (noncareer, 2-year limit) appointment to the Federal Senior Executive Service. The division is responsible for managing and directing federal funding support of research in the earth sciences; determining division operating policies, procedures, research initiatives and priorities; allocating funding and staffing resources; and recommending changes in program goals and policies to high-level management.

Essential qualification requirements are: (i) experience in the planning, funding, staffing, and management of science research activities; (ii) experience in evaluating and balancing available resources between ongoing and major new programs to achieve objectives of the organization; (iii) experience in manpower management where responsible for the achievement of organization objectives through subordinate supervisors; (iv) Ph.D. or equivalent professional experience or combination of education and experience, in geology, petrology, seismology, geochemistry, geophysics, or other closely related field of science; and (v) research experience, including published results.

The Senior Executive Service covers managerial positions above GS-15 in the federal service. Salary ranges from \$49,499 to \$52,884 at one of the three established pay levels (currently limited to \$50,112 per annum).

HOW TO APPLY: persons interested in a *noncareer or temporary* (rotational—with leave of absence from present employer) appointment should apply to Announcement Number EPB 80-43. Those interested in a *career* (permanent) appointment should apply to Announcement Number EPB 80-33. **ALL APPLICANTS MUST SUBMIT A STANDARD FORM 171, Personal Qualifications Statement, and a supplemental narrative.** Interested applicants should **telephone: Teddy Haessig-Dyer, at 202-357-7857**, for information regarding application procedures. Send applications and narratives to: **National Science Foundation, DPM, Room 212, 1800 G Street, NW, Washington, D.C. 20550.** All applications must be received by **1 September 1980.**

MICROBIOLOGIST-PhD

Provide microbiological support
for research areas at
Merck, Sharp & Dohme
Research Laboratories

This position at our Rahway, New Jersey headquarters provide opportunity for research and publications. Your specific responsibilities will include: Preserving microorganisms for permanent storage . . . detailed record keeping . . . and performance of taxonomic studies on microorganisms.

The professional we're seeking must possess a PhD in Microbiology (or equivalent) supported by 1-5 years experience in basic microbiological procedures including microbiological taxonomy.

Salary, benefits and growth potential are all excellent. Our location—a campus-like setting 25 miles from N.Y.C. If qualified, send resume to Ms. S. R. Jenkins,



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 - ☐ \$76 USA ☐ \$90 Canada, PUAS ☐ \$93 Foreign
 - ☐ \$121 Air-surface delivery via Holland

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POSITIONS OPEN

SPECIALIST, BEACH AND NEARSHORE PROCESSES. Opening available on or before 1 January 1981 for assistant or associate professor in littoral processes; interactions of waves and beaches, shoreline erosion, sediment transport, coastal engineering. We are looking for someone with a strong mathematical background. Candidate should hold a Ph.D. Initial appointment will be for 3 years. Send curriculum vitae, or résumé, and three letters of reference by 1 October 1980 to: **J. R. Schubel, Director, Marine Sciences Research Center, State University of New York at Stony Brook, Long Island, N.Y. 11794.** *An Equal Opportunity/Affirmative Action Employer*

STAFF DIRECTOR INTERNATIONAL SECURITY AND ARMS CONTROL

The National Academy of Sciences is seeking a staff director for its Committee on International Security and Arms Control, to work with chairman and committee of experts in the many aspects of international security and the technical substance of arms control.

The staff director will prepare committee drafts, develop initiatives, structure, and report on committee meetings; must work closely with chairman and members, Academy officers and staff, and with representatives of government and private organizations.

Candidates should have advanced degree, or equivalent experience in the physical sciences, mathematics, or engineering, with minimum of 5 years of experience in weapons-related strategic research, analyses, evaluation, or planning. Experience in foreign relations and/or diplomacy is desired. A record of successful group interaction is important. A high level security clearance will be required.

Applicants should submit complete curriculum vitae, with brief letter explaining qualifications and interest in the position, and five references, including current employer/supervisor. Also, submit three examples of written work germane to the subject area which are suitable for evaluating author's style and ability. Confidentiality of material is assured.

Salary is negotiable. Relocation expenses will be paid. Candidates are expected to devote 2 years to this position. "On loan" arrangements may be desirable. Address material to:

**Commission on International Relations
National Academy of Sciences
2101 Constitution Avenue, NW
Washington, D.C. 20418**

The Academy is an Equal Opportunity Employer.

STAFF FELLOW RESEARCH APPOINTMENT at the National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health, Public Health Service.

This is a nontenured appointment at the staff fellow or senior staff fellow level (1 to 3 years of professional level experience beyond Ph.D.). This position involves research on mechanistic aspects of carcinogen-DNA interactions and DNA repair. The quantification of carcinogen-nucleoside adduct levels and DNA repair processes for use in low dose and species-to-species extrapolations will be a main focus of the research. The scientist will be a member of the Pharmacokinetic Program of the Laboratory of Pharmacology. The successful candidate must have a Ph.D. degree in pharmacology, biochemistry, or a closely related field. Postdoctoral experience and training is important but not mandatory. Research productivity in the area of carcinogen-DNA interactions and/or nucleic acid biochemistry must be documented by publications, and so forth. Please send curriculum vitae, bibliography, and three letters of recommendation from those who best know your qualifications to: **Dr. James Fouts, Laboratory of Pharmacology, National Institute of Environmental Health Sciences, P.O. Box 12233, Research Triangle Park, N.C. 27709.** *We especially encourage applications from minorities, handicapped, and women for this position. NIEHS is an Equal Opportunity Employer.*

PART-TIME TECHNICAL REVIEWERS WANTED for U.S. Environmental Protection Agency Clean Lakes Program to review lake restoration plans and projects as needed. Short-notice travel involved. Appropriate education and experience in lakes and non-point source pollution control necessary. Send two copies of résumé, availability, and other pertinent information within 14 days to:

**Dr. Ann N. Clarke
AWARE, Inc.
P.O. Box 40284
Nashville, Tennessee 37204**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATES

Applications are invited from persons with backgrounds in chemistry, molecular biology, or biophysics. Areas of current research interest include (i) molecular mechanisms of mutation, (ii) alteration of gene expression by carcinogens and mutagens at the molecular level, and (iii) physical interactions between hydrocarbons and DNA. Send curriculum vitae and two or more letters of recommendation to: **Dr. Thomas Meehan, 1910 West St. Andrews Road, Midland, Michigan 48640.** *Michigan Molecular Institute is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE, skills in (bio)physical chemistry and digital electronics. Ph.D. or equivalent training. Thermodynamics of Ca^{2+} translocation using biological microcalorimetry, fluorescence spectroscopy, membrane reconstitution, biochemical assay; 1 September 1980. Send curriculum vitae and three references to: **B. R. Lentz, Department of Biochemistry, School of Medicine, University of North Carolina, Chapel Hill, N.C. 27514.** *Equal Opportunity/Affirmative Action Employer.*

RESEARCH INSTRUCTOR—BIOCHEMISTRY

Applications are invited for a nontenure-track position in the Department of Biochemistry at the West Virginia University School of Medicine. Applicant should have a Ph.D. in biochemistry or closely related area. The position primarily involves research in the area of hormonal regulation of hepatic carbohydrate metabolism. Position available 1 November 1980. Salary commensurate with experience. Appointment renewable on a yearly basis. Send curriculum vitae and names of three references by 1 September to: **Dr. Rolf F. Kletzien, Department of Biochemistry, WEST VIRGINIA UNIVERSITY, School of Medicine, Morgantown, West Virginia 26506.** Telephone: 304-293-2494. *Affirmative Action/Equal Opportunity Employer.*

SCIENCE REPORT REVIEW OFFICER

Prestigious science and technological advisory organization in Washington, D.C., is seeking candidates for a professional position which calls for (i) rapid and critical reading of diverse scientific and technological reports; (ii) working with experts and staff members in discussing, adjusting, editing, and carrying out recommendations for revisions of reports; and (iii) conducting administrative responsibilities within the office. Preferably candidates should have science degree with several years of progressive experience, and demonstrated oral and written communication skills. Background in a science program would be helpful. Salary is negotiable. Excellent fringe benefits. Send résumé with letter showing desired salary to: **RRC, P.O. Box 57140, Washington, D.C. 20037.** *An Equal Opportunity Employer.*

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP available September 1980. Two years (American Heart). Experience in cardiovascular/cardiopulmonary/respiratory physiology. Acid-base/hypoxia effects on myocardial and whole body oxygen uptake. Send curriculum vitae, your letter stating career goals, and letters directly from three references to: **Dr. S. F. Sullivan, University of California, Los Angeles, School of Medicine, Los Angeles, Calif. 90024.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW IN ANATOMY

The Department of Anatomy, University of Rochester School of Medicine and Dentistry, has available funds for **TEACHING FELLOWSHIPS**. These fellowships require participation in teaching gross anatomy and research in the laboratory of one or more of the faculty members of the department. The gross anatomy course consists of 250 contact hours. The research strengths of the department lie in the area of morphological and functional studies of the central nervous system. Successful applicants will have a background in gross anatomy and demonstrated competence in research. Positions may start any time before September 1981. Correspondence to:

**Dr. Robert M. Herndon
Department of Anatomy
University of Rochester
School of Medicine and Dentistry
Rochester, New York 14642**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS available in a training program in molecular and cellular **IMMUNOLOGY** comprising clinical and preclinical departments of the Johns Hopkins Medical Institutions. These positions are open to individuals holding a Ph.D., M.D., or D.V.M. degree, and who are U.S. citizens or hold a permanent resident visa. Applicants should send their curriculum vitae to: **Immunology Postdoctoral Training Program, Department of Microbiology, The Johns Hopkins University School of Medicine, 725 North Wolfe Street, Baltimore, Md. 21205.**

POSTDOCTORAL FELLOWSHIP IN CELLULAR AGING

A postdoctoral position of 1 to 2 years' duration is available to study cellular aging. Appointee will participate in a National Institute on Aging Training Grant Program involving the development of in vitro model systems relevant to the study of aging. Emphasis of the training program is on the development and use of techniques for establishing cell cultures that retain tissue-specific functions in vitro. These systems will be used to study various aspects of aging. The appointee will join the laboratory of Dr. James R. Smith. This laboratory is currently engaged in a variety of studies including analysis of cellular aging by somatic cell hybridization and expression of differentiated functions of keratinocytes and vascular endothelial cells. Candidates must have a Ph.D. or M.D. degree in some area of the life sciences and have a demonstrable interest in aging research. Candidates must also be permanent residents of the United States and be committed to a career in aging research. Stipends range from \$13,000 to \$17,000, depending on previous postdoctoral experience. Interested candidates should send curriculum vitae, names of references, and specific areas of interest to:

**Personnel Office
W. Alton Jones Cell Science Center
Old Barn Road
Lake Placid N.Y. 12946**

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SYMPOSIUM

**"NEUROPEPTIDES: DEVELOPMENT, AGING
AND TRANSPLANTATION"
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SYMPOSIUM
2 to 5 September 1980; Rochester, New York**

The Department of Anatomy, University of Rochester School of Medicine, will host this fourth meeting in a series of international symposia on central endocrine systems. Endocrinologically important peptidergic neurons will be explored during development, aging, and brain transplantation. For information, write: **Dr. John R. Sladek, Jr., Department of Anatomy, Box 603, University of Rochester School of Medicine and Dentistry, 601 Elmwood Avenue, Rochester, New York 14642,** or telephone: **Dr. David E. Scott, 716-275-2594.**

MARKETPLACE

INTERFERON TESTING SERVICE

Bioassay Systems is offering an interferon testing service available for cell culture samples, blood specimens and commercial production lots. Interferon activity is measured using the inhibition of VSV-induced CPE effect in human foreskin fibroblasts (FS-7). Benefits of service include rapid turnaround time, reliability, experience and cost-effectiveness. For more details, write or call **BIOASSAY SYSTEMS CORPORATION, 225 Wildwood Avenue, Woburn, MA. 01801 (617) 933-9229.**

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