material not previously printed, some of it in the form of quotations. The text is liberally referenced, but by a somewhat laborious mechanism by which one is handed from the text to a section of references (no "notes") and thence to a general bibliography. The book includes a bibliography of Broca's writings that displays his wide interests.

Schiller traces Broca's scientific work carefully and also presents its cultural and social milieu. Thus, in addition to an engaging biography of a remarkably versatile man we are given an account of 19th-century France with all its political and social complexities. Broca's personality is also examined and he is shown to have been a man of charm, drive, originality, humor, aggressiveness when needed, humanity, and hatred of bias. He was much concerned with the practice of science in general, and, although not advising scientists to avoid philosophy, religion, politics, and social or humanitarian problems, he insisted that those concerns should never be allowed to enter their professional activities. He typified his ideals by his own involvement in the various disciplines he helped to advance.

As Schiller suggests, Broca, who toward the end of his life ranked with Louis Pasteur and Claude Bernard in the hierarchy of French biological science, has not been given his due in the history of medicine. The diversity of his activities has so far eluded the casual historian, as Schiller puts it. Now in his centennial year he has found a biographer who can encompass his life and work with skill, scholarship, and understanding.

EDWIN CLARKE
Sub-department of History of Medicine, University College, London WC1 E6BT, England

Books Received

Amyotrophic Lateral Sclerosis. Proceedings of a symposium, Tokyo, Feb. 1978. Tadao Tsubaki and Yasuo Toyokura, Eds. University Park Press, Baltimore, 1979. xii, 428 pp., illus. $49.50. Japan Medical Research Foundation Publication No. 8.

Analytic Arithmetic of Algebraic Function Fields. John Knopfmacher. Dekker, New York, 1979. vi, 130 pp. Paper, $16.50. Lecture Notes in Pure and Applied Mathematics, vol. 50.

The Biological Effects of Radio-Frequency and Microwave Radiation. H. M. Assenheim, D. A. Hill, E. Preston, and A. B. Cairnie. H. M. Assenhaim, Ed. National Research Council of Canada, Ottawa, 1979. ii, 244 pp., illus. Paper, $5. Publication No. NRCC 16448 of the Environmental Secretariat.

British Ascophoran Bryozoans. Keys and Notes for the Identification of the Species. P. J. Hayward and J. S. Ryland. Doris M. Kermack and R. S. K. Barnes, Eds. Published for The Linnean Society of London and The Estuarine and Brackish-Water Sciences Association by Academic Press, New York, 1979. vi, 312 pp., illus. Paper, $16. Synopses of the British Fauna, No. 14.

Cold Tolerant Microbes in Spoilage and the Environment. Papers from a meeting, Uxbridge, England, 1977. A. D. Russell and R. Fuller, Eds. Academic Press, New York, 1979. xii, 170 pp., illus. $21. Society for Applied Bacteriology Technical Series No. 13.

The Dose-Response Relation in Pharmacology. Ronald J. Tallarida and Leonard S. Jacob. Springer-Verlag, New York, 1979. xiv, 208 pp., illus. $24.50.

Duality for Crossed Products for von Neumann Algebras. Yoshiomi Nakagami and Masamichi Takesake. Springer-Verlag, New York, 1979. x, 140 pp. Paper, $9. Lecture Notes in Mathematics, vol. 731.

Ecology and Utilization of Desert Shrub Rangelands in Iraq. D. C. P. Thalen. Junk, The Hague, 1979. viii, 448 pp., illus. $78.95.

Economic Equality and Fertility in Developing Countries. Robert Repetto. Published for Resources for the Future by Johns Hopkins University Press, Baltimore, 1979. xviii, 186 pp. $14.50.

Functional Laws of Psychodynamics. Endre Székely. Springer-Verlag, New York, 1979. x, 354 pp. $26.80.

Fundamentals of Nuclear Pharmacy. Gopal B. Saha. Springer-Verlag, New York, 1979. xvi, 272 pp., illus. $19.90.

Fundamentals of Quantum Mechanics. V. A. Fock. Translated from the Russian edition (Moscow, 1976) by Eugene Yankovsky. Mir Publishers, Moscow, 1978 (U.S. distributor, Imported Publications, Chicago). 368 pp. $7.50.

German-Jewish Pioneers in Science, 1900–1933. Highlights in Atomic Physics, Chemistry, and Biochemistry. David Nachmansohn. Springer-Verlag, New York, 1979. xx, 388 pp., illus. $29.80.

Index to the Proceedings of the Lunar and Planetary Science Conference, Houston, Texas, 1970–1978. Compiled by Amanda R. Masterson. Pergamon, New York, 1979. xvi, 262 pp, illus. $30.

The Integral Urban House. Self-Reliant Living in the City. By the Farallones Institute. Sierra Club Books, San Francisco, 1979. x, 494 pp., illus. Paper, $12.95.

Integrated Optics. T. Tamir, Ed. Springer-Verlag, New York, ed. 2, 1979. xvi, 334 pp., illus. Paper, $19.80. Topics in Applied Physics, vol. 7.

International Thermodynamic Tables of the Fluid State. Vol. 6, Nitrogen. S. Angus, K. M. de Reuck, and B. Armstrong, Eds. Pergamon, New York, 1979. xxiv, 244 pp., illus. $60. International Union of Pure and Applied Chemistry Chemical Data Series No. 20.

Long-Term Hazards from Environmental Chemicals. Papers from a meeting, Dec. 1977. The Royal Society, London, 1979. vi, 198 pp., illus. £9.05. First published in *Proceedings of the Royal Society of London*, series B, vol. 204, No. 1158.

A Low Energy Strategy for the United Kingdom. Gerald Leach. International Institute for Environment and Development. London, and Science Reviews, London, 1979 (U.S. distributor, Humanities Press, Atlantic Highlands, N.J.). 260 pp., illus. Paper, $17.50.

Machines Who Think. A Personal Inquiry into the History and Prospects of Artificial Intelligence. Pamela McCorduck. Freeman, San Francisco, 1979. xiv, 376 pp., illus. $14.95.

The Morphogenesis of the Behavior of the Domestic Cat. With a Special Emphasis on the development of Prey-Catching. J. M. Baerends-van Roon and G. P. Baerends. North-Holland, Amsterdam, 1979 (U.S. distributor, Elsevier, New York). 116 pp., illus. Paper, $29.25. Verlandelingen der Koninklijke Nederlandse Akademie van Wetenschappen, Afd. Natuurkunde, Tweede Reeks, Deel 72.

National Parks. The American Experience. Alfred Runte. University of Nebraska Press, Lincoln, 1979. xiv, 240 pp., illus. $16.50.

Nutrition. Metabolic and Clinical Applications. Robert E. Hodges, Ed. Plenum, New York, 1979. xxii, 478 pp. $37.50. Human Nutrition, vol. 4.

On the Path of Albert Einstein. Papers from a meeting, Coral Gables, Fla., Jan. 1979. Arnold Perlmutter and Linda F. Scott, Eds. Plenum, New York, 1979. viii, 178 pp. $29.50. Studies in the Natural Sciences, vol. 15.

Papers in Mathematics. Paul R. Meyer, Ed. New York Academy of Sciences, New York, 1979. vi, 102 pp., illus. $20. *Annals of the New York Academy of Sciences*, vol. 321.

Parasites and Western Man. R. J. Donaldson, Ed. University Park Press, Baltimore, 1979. x, 220 pp., illus. $17.50.

Quantum Electronics. Part B. C. L. Tang, Ed. Academic Press, New York, 1979. xxii, 342 pp., illus. $36. Methods of Experimental Physics, vol. 15.

Radiation Biology and Chemistry. Research Developments. Proceedings of a meeting, Clwyd, Wales, Jan. 1979. Haydn E. Edwards, Suppiah Navaratnam, Barry J. Parsons, and Glyn O. Phillips, Eds. Elsevier, New York, 1979. xiv, 506 pp., illus. $78. Studies in Physical and Theoretical Chemistry, 6.

Radiotracers in Agricultural Chemistry. Michael F. L'Annunziata. Academic Press, New York, 1979. xxii, 536 pp., illus. $62.

Synthetic Estimates for Small Areas. Statistical Workshop Papers and Discussion. Joseph Steinberg, Ed. National Institute on Drub Abuse, Rockville, Md., 1979 (available from the Superintendent of Documents, Washington, D.C.). viii, 282 pp. Paper, $5. NIDA Research Monograph 24.

A System of Newborn Physical Examination. John W. Scanlon, Thomas Nelson, Lawrence J. Grylack, and Yolande F. Smith. University Park Press, Baltimore, 1979. xvi, 96 pp. Paper, $8.95.

Techniques and Applications of Fast Reactions in Solution. Proceedings of a NATO Advanced Study Institute, Aberystwyth, Wales, Sept. 1978. W. J. Gettins and E. Wyn-Jones, Eds. Reidel, Boston, 1979. xiv, 608 pp., illus. $57.90. NATO Advanced Study Institutes Series C, vol. 50.

Technology and Copyright. Sources and Materials. George P. Bush and Robert H. Dreyfuss, Eds. Lomond Books, Mt. Airy, Md., ed. 2, 1979. viii, 552 pp. Cloth, $22.50; microfiche, $15.50.

X-Ray Analysis and the Structure of Organic Molecules. Jack D. Dunitz. Cornell University Press, Ithaca, N.Y., 1979. 514 pp., illus. $55. The George Fisher Baker Non-Resident Lectureship in Chemistry at Cornell University.

Young and Weller's Baby Surgery. Nursing Management and Care. Revised by Daniel G. Young and Eleanor J. Martin. HM + M Publishers, Aylesbury, England, ed. 2, 1979 (U.S. distributor, University Park Press, Baltimore, 1979. vi, 168 pp., illus. + plates. Paper, $16.50.

PRODUCTS and MATERIALS

Disposable Bone Marrow Sampler

Prepacell is a sterile, disposable bone marrow filtration device that allows the collection of bone marrow particles with the withdrawal of only 5 milliliters of sinusoidal blood. The unit attaches to a 20-milliliter syringe and has a luer lock tip to attach a needle. Sinusoidal blood is drawn into the unit and, as it passes through the filter assembly, marrow particles are trapped on the pad. When the unit is disassembled, the marrow particles are available for microscopic examination. Applied Medical Devices. Circle 831.

Blood Serum Analyzer

PACE 4 can analyze 400 samples in 24 hours at a lower cost than some other analyzers. Up to 640 blood and other fluid samples may be analyzed in a single loading. Once a tray of samples is loaded, analysis is automated, results are compiled, and data are processed. Routine serum tests and tests involving radioimmunoassay are included in the protocols. Picker. Circle 832.

Water for HPLC

High-purity water for high-pressure (performance) liquid chromatography is available. It is suited to reversed phase and gradient elution techniques that require water purity equal to that of organic solvent mobile phases. This highly pure water features negligible ultraviolet absorbance and extremely low content of organic carbon and particulates. Burdick & Jackson Laboratories. Circle 836.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card (on pages 1410A and 1486G) and placing it in the mailbox. Postage is free.
—RICHARD G. SOMMER

Ultraviolet Spectrophotometer

Uvidec 100/II minimizes diffusion and other interferences by directly coupling the column to the detector. Wavelength is selectable with a digital readout. Both standard (8-microliter volume, 10-millimeter path length) and micro-sized (0.3-microliter volume) flow cells are available. Cells are easily interchanged. Ultraviolet optics include a deuterium lamp; a dual-beam, single-cell, Monk-Fillieson-mount grating monochromator; and two detectors. Jasco, Circle 833.

Histologic Clearing Agent

Histosol may substitute for toluene and xylene in automated tissue processors. It is miscible in all proportions with ethanol, isopropanol, and *t*-butanol. It is also miscible with paraffin-based tissue-embedding media and permanent mounting materials. Its flash point is well in excess of 100°F and it has a low rate of evaporation. National Diagnostics. Circle 837.

Portable Luminescence Meter

Lumac M1070 provides a digital readout in 10 seconds. A sample is pipetted into a cuvette and the cuvette is placed in the counting chamber. When the start button is pressed, the meter resets the display and integration and signal measurement start. Luminometry replaces certain microscopic estimations and colony-counting techniques. It is particularly useful in detection in microbial contamination. The unit operates on line current or for up to 6 hours by battery. Beta Analytical. Circle 838.

Clinical Chemistry Analyzer

COBAS-BIO is an automated centrifugal analyzer. Operator programs the tests desired and the test methods as well. Push-button selection of 30 different analyses is standard. Small samples are required and a complete line of test reagents and standards is marketed for this benchtop instrument. Roche Analytical Instruments. Circle 834.

Modal Analysis

The BASIC-MODAL system can define up to 20 modes of structural vibration and produce static or animated (dynamic) mode shapes with 150-point geometric descriptions. These dynamic pictures depict relative motion at resonant frequencies when a structure is subjected to impact, random, or sinusoidal excitation. The system comprises the 6080 multichannel fast Fourier-transform analyzer, BASIC-MODAL software, and a Tektronix 4050 graphic computing terminal. The technique is easily learned. Zonic Technical Laboratories. Circle 835.

Literature

Mobile Laboratories features custom-modified and equipped vans for field-work in geology, chemistry, and biologic disciplines. Van Tech. Circle 826.

Temperature Instruments illustrates a line of instrumentation for medical and scientific applications. Yellow Springs Instrument. Circle 827.

Microprocessor Self-Training introduces software and interfacing with a portable set of data-processing modules. Integrated Computer Systems. Circle 828.

High-Temperature Gas Chromatographic Phases includes applications and pertinent bibliographic information regarding the use of various polymers. Dexsil Chemical. Circle 829.

Dissection Instruments describes a complete line of laboratory tools for biologic applications. B. Braun Instruments. Circle 830.

HPLC Column Maintenance and Repair is a brief, thorough troubleshooting guide. MCB Manufacturing Chemists. Circle 839.

Laboratory Pumps covers operating principles, capacities, motor characteristics, and design specifications. Fluid Metering. Circle 841.

Fluid Dispensing System is devoted to application and operation of the model 280J-B system. Tridak Division, Indicon. Circle 842.

Colorimeter describes the Type 24 digital instrument that provides rapid liquid crystal display of sample concentration. Chemtrix. Circle 843.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising closing for a particular Friday issue is Wednesday, 3 1/2 weeks **before.** Advertising is accepted only in writing; no abbreviations. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, or handicap.

POSITIONS WANTED: 40¢ per word, plus $4 for use of box number, per insertion. $10 minimum, per insertion. Prepayment required. This rate is available only to individuals seeking jobs.

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Send copy for all **Positions Wanted** ads and **Display** ads less than 1/6 page in size (125 millimeters) to:

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1515 Massachusetts Ave., NW
Washington, D.C. 20005

POSITIONS WANTED

Cardiac/Circulatory Physiologist seeks research position. Experienced laboratory director. M.D., Ph.D., Ds.C. All inquiries welcome. Box 168, SCIENCE. X

Electron Microscopist (Biological), seeks challenging position. M.S. plus extensive training program in TEM and SEM. Two years of experience with responsibility for all phases of specimen preparation (including immunoelectron microscopy), operation, and maintenance of TEM. Box 169, SCIENCE. X

General Microbiologist. Ph.D. 1980. Diverse interests and experience; research interests—bacterial/algal associations (freshwater and marine), cell/cell recognition, electron microscopy (TEM, SEM, freeze-fracture); publications; broad university teaching experience. Desires an innovative teaching and/or research position. Box 163, SCIENCE. X

Graduate Librarian, M.L.S., 20 years of managing science/technology libraries in aerospace/automotive R & D. Seeks management of physical science, life science, agricultural, or engineering library/information center, North America, Latin America, or Europe. Innovative, experienced with on-line bibliographic systems and in-house automation. Also wants opportunity to start new library or information system. Box 170, SCIENCE. X

Medical Writer/Drug Information Specialist. Diversified experience—researching, developing, writing/editing scientific reports. Medical/pharmaceutical background. Pharmacy degree. Desires position with pharmaceutical/health care firm. Box 164, SCIENCE. 6/27; 7/4, 11

Pesticide Registration Specialist. Ph.D. 1966. Provides claim support and labeling data for pesticide registration. Plans and evaluates support experiments. Experience in environmental fate, metabolism, and toxicity of pesticides, including disinfectant chemicals. Laboratory, supervisory, and managerial experience. Publications. Industrial position desired. Box 145, SCIENCE. 6/27; 7/11

POSITIONS WANTED

Morphologist/Physiologist. Experience in electron microscopy, histology, microsurgery, feeding, excretion, development, endocrinology. Broad biological background. Ph.D. 1979, entomology. Postdoctoral experience. Seeks research/teaching position. Box 171, SCIENCE. X

POSITIONS OPEN

ANATOMIST. Prerequisites: Ph.D. in biological science, grantsmanship in ocular ultrastructural research, teaching experience. Responsibilities: ocular ultrastructural research, lecture and laboratory in microanatomy, limited participation in biological science laboratories. Requirements: curriculum vitae, statement of teaching and research interests with reprints, and names of three referees. Deadline: 30 July 1980. Send to: **P. Weiss, Office of the Vice President, Pennsylvania College of Optometry, 1200 West Godfrey Avenue, Philadelphia, Pa. 19141.** *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF MICROBIOLOGY
UNIVERSITY OF TENNESSEE, KNOXVILLE

Applications are invited for tenure-track position. Ph.D. and postdoctoral experience required. Candidate should have a major research interest in one of the following areas: (i) bacterial or fungal pathogenesis, using genetic/molecular/EM/immunological approaches; or (ii) applied microbiology (foods, industrial, agricultural, environmental) using a biochemical/molecular approach. Applicant should be committed to quality instruction at the undergraduate and graduate levels, and to development of an active research program. Applications should be received by 15 July 1980, and should include a résumé and three letters of reference. Send information to: **Dr. W. Stuart Riggsby, Chairman, Search Committee, Department of Microbiology, University of Tennessee, Knoxville, Tenn. 37916.** *The University of Tennessee is an Equal Opportunity/Title IX/Section 504 Employer.*

ASSISTANT PROFESSOR OF PHYSIOLOGY for September 1980, without tenure. **Major responsibilities:** coordinate and actively participate in the teaching of a general physiology course to undergraduates; participate in the teaching of medical students and graduate students in physiology; and develop an active research program in the area of cyclic nucleotide dependent protein kinase enzymology. **Qualifications:** Ph.D. in the general area of metabolic regulation; at least 2 years of experience in biochemical enzymology; and a demonstrable commitment to teaching and experience in the teaching of undergraduates. Send curriculum vitae, a statement of research interests, and names of three references to: **Professor C. R. Park, M.D., Chairman, Department of Physiology, Vanderbilt University, Nashville, Tenn. 37232.**

The University of Kentucky Institute for Mining and Minerals Research (IMMR), **Iron Works Pike, Box 13015, Lexington, Ky. 40583,** operator of the Kentucky Center for Energy Research Laboratory, has a professional position available for someone interested in applying his or her skills to a $7 million energy research and development program.

ASSOCIATE PETROGRAPHER will participate in the petrographic examination, description, and classification of Kentucky coals as they relate to various coal utilization processes. An M.S. in geology is required, with an understanding of coal processes preferred.

BIOMEDICAL ENGINEER

Position of Director of Biomedical Engineering is open in a large, dynamic, university-affiliated Cardiology Department. Qualified person should have experience in cardiovascular physiology, medical instrumentation, and computer programming. Will be responsible for research in radioisotope imaging of the heart as well as providing engineering support for cardiac catheterization electrophysiology, exercise physiology, animal research, and other laboratories. Job includes supervision of technical and graduate student personnel. Advanced degree and experience preferred. Open 1 July 1980. Contact:

Dr. Donald Schmidt
Mt. Sinai Medical Center
950 North 12 Street
Milwaukee, Wis. 53233
Telephone: 414-289-8058

POSITIONS OPEN

ASSOCIATE DIRECTOR, KIDNEY DISEASE INSTITUTE. The Division of Laboratories and Research of the New York State Department of Health announces a vacancy for associate director of the Kidney Disease Institute in Albany, New York. Duties include assisting the director in scientific management of the Institute's research program with 15 staff investigators in immunology and immunopathology of renal disease; medical supervision of the Home Dialysis Assistance Program now serving over 500 patients for the state of New York; and development of a research project preferably concerning immunologic, pharmacologic, or metabolic aspects of renal dialysis. An M.D. with training or experience in clinical dialysis and renal related basic science or clinical research desired. Clinical or basic science academic appointment and activities at Albany Medical College possible. Apply to: **Director, Kidney Disease Institute, Division of Laboratories and Research, New York State Department of Health, Empire State Plaza, Albany, N.Y. 12201.** *An Equal Opportunity/Affirmative Action Employer.*

BIOCHEMIST—Postdoctoral level appointment is available immediately for biochemically oriented scientist to work with a team of protein chemists and molecular biologists on the structure and function of connective tissue protein. Candidates must possess a Ph.D. and/or M.D. degree. Please send curriculum vitae, including summary of pertinent experience and names of three individuals who may be contacted for references, to: **Personnel Department, COLLEGE OF MEDICINE AND DENTISTRY OF NEW JERSEY—Rutgers Medical School, P.O. Box 101, Piscataway, N.J. 08854.** *Equal Opportunity/Affirmative Action Employer, M/F.*

TWO TENURE-TRACK POSITIONS
in the Department of Biological Sciences
State University of New York at Buffalo

We are looking for a **developmental biologist** and a **reproductive or endocrine physiologist.** Rank open. Applicants will be expected to teach in the area of developmental biology or comparative vertebrate anatomy and to establish a research program of excellence in their area of specialty. To apply for the rank of assistant professor a minimum of 2 years of postdoctoral experience is required.

Applicants must submit curriculum vitae, including bibliography, statement of research interests and/or program and teaching background, and have a minimum of four letters of reference sent directly to: **Chairman of Search Committee, Department of Biological Sciences, State University of New York at Buffalo, 109 Cooke Hall, Amherst, New York 14260.** Application deadline: 1 September 1980.

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

CHAIRPERSON, DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS, UNIVERSITY OF LOUISVILLE HEALTH SCIENCES CENTER. Applicant should have a Ph.D., M.D., or equivalent degree and a strong record of academic achievement as indicated by scientific contributions, scholarly publications, and peer recognition. Experience in teaching medical students is required and administrative experience is desired. The individual selected is expected to recruit high-quality faculty and graduate students and maintain a vigorous research program. Within 30 days of the appearance of this notice applications with curriculum vitae and names of three persons from whom letters of recommendation may be solicited should be sent to: **Chairman, Physiology and Biophysics Search Committee, Office of the Dean, University of Louisville School of Medicine, Health Sciences Center, Louisville, Kentucky 40292.** *The University of Louisville is an Equal Opportunity/Affirmative Action Employer.*

DIRECTOR OF RESEARCH AND PRODUCT DEVELOPMENT

Ph.D. in pharmacology with 3 to 5 years of experience in the U.S. human pharmaceutical industry with an understanding of both prescription and OTC products.

Duties are multiphased: new product development, including designing protocols for clinical testing and monitoring. Quality assurance and liaison with FDA to ensure compliance with CGMP and other FDA regulations. Interface with marketing and sales in preparation of advertising, and help with training of sales force in technical aspects of products.

Send résumé and salary history in confidence to: **The President, P.O. Box 827, Kansas City, Missouri 64141.**

POSITIONS OPEN

BOTANIST. RECON (Regional Environmental Consultants) is seeking applicants for the position of staff botanist. Applicants should have or be in the process of completing a Ph.D., should have strong leadership capabilities, and should have a background in southern California taxonomy and fieldwork. The staff botanist is responsible for the conduct and direction of the corporation's field efforts, including inventory, impact analysis, and species management programs. Submit résumé and curriculum vitae with names of three references no later than 18 July to: **Royce B. Riggan, Jr., President, RECON, 1094 Cudahy Place, Suite 204, San Diego, California 92110.**

Equal Opportunity Employer

THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE

Applications are invited for the position of

DIRECTOR

of the **Department of Physiology**. Applicants should be eminent scholars in physiology and related areas of science, as reflected by a distinguished record of publication, and have personal qualities of excellence in teaching and leadership.

Please send letter of application and curriculum vitae to: **Dr. David A. Blake, Secretary, Physiology Search Committee, Johns Hopkins University School of Medicine, 720 Rutland Avenue, Baltimore, Maryland 21205.**

Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer.

Deadline date for submission: 1 September 1980

ELECTRON MICROSCOPY TECHNICIAN

The central electron microscopy laboratory at Mayo Clinic is a service facility, the purpose of which is to provide technical assistance, graduate training, and professional collaborative support in clinical and basic research. The laboratory has one scanning and three transmission electron microscopes and an x-ray microanalyzer. A laboratory director and five technicians staff the facility.

The position of EM technician involves the coordination of the daily activities of the laboratory, maintaining the electron microscopes and major laboratory equipment, assisting with specimen processing and sectioning, training new laboratory personnel in such techniques, ordering supplies, and assisting the laboratory director in providing collaborative support for research and clinical studies for Clinic staff.

A bachelor's degree with a major in a relevant area is essential. A master's degree or other graduate training is considered helpful. At least 2 years of experience in all aspects of electron microscopy and ancillary techniques is considered minimal training. Salary is commensurate with background and experience. Starting date should be no later than 1 September 1980. Send curriculum vitae by 15 July 1980 to: **Dr. Steven S. Barham, Department of Cell Biology, Mayo Clinic, Rochester, Minnesota 55901.**

DEPARTMENT OF GENETICS
UNIVERSITY OF WASHINGTON, SEATTLE
EUKARYOTE GENETICS

Assistant professorship, beginning in September 1981. Qualifications for this position include the ability to initiate and maintain an active research program, to supervise graduate student training, and to teach genetics. Applicants should sent curriculum vitae and the names of three references by 1 September 1980 to:

Chairman, Department of Genetics, SK-50
University of Washington
Seattle, Washington 98195

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

BAYLOR COLLEGE OF MEDICINE
FACULTY POSITION IN NEUROCHEMISTRY

The Department of Biochemistry and the Program in Neuroscience invite applications for a faculty position in any area of neurochemistry. Candidates will be expected to participate in teaching and carry out an independent research program. Ample opportunity exists for collaborative research with the faculties of both programs, which at the present time numbers 61. Please send curriculum vitae, statement of research interests, and names of three individuals for letters of recommendation to: **Dr. Robert E. Anderson, Chairman, Faculty Search Committee, Department of Biochemistry, Baylor College of Medicine, Houston, Texas 77030.** *Affirmative Action/Equal Opportunity Employer.*

CHAIRPERSON, DEPARTMENT OF ENTOMOLOGY AND APPLIED ECOLOGY

The University of Delaware, College of Agricultural Sciences, invites applications for a chairperson of the Department of Entomology and Applied Ecology. Required qualifications include a Ph.D. in entomology or a closely related field, demonstrated research and teaching capabilties qualifying the applicant for the rank of professor, and knowledge and appreciation of research and service functions of land-grant institutions. Administrative experience, leadership ability, and experience with granting agencies are desired. Application must include curriculum vitae and names of three references. Please send application by 15 September 1980 to:

Dr. Charles R. Curtis, Chairperson
Search Committee
Department of Plant Science
University of Delaware
Newark, Delaware 19711

The University of Delaware is an Equal Opportunity/Affirmative Action Employer which encourages applications from qualified minority groups and women.

DEAN AND MEDICAL FACULTY

THE AMERICAN UNIVERSITY OF THE CARIBBEAN School of Medicine, located in Montserrat West Indies, has the following openings:

DEAN OF MEDICAL SCIENCE
Requirements: Experience in medical education, and M.D. and/or Ph.D. degree in medical science area. Duties include administration and teaching.

FACULTY OPENINGS
In the fields of anatomy, microbiology, pharmacology, physiology, pathology, biochemistry, psychology, and clinical medicine. Requirements: M.D. and/or Ph.D.; 12-month contract.

For consideration, send résumé and salary requirements to:

American University of the Caribbean
U.S. Office
100 Northwest 37 Avenue
Miami, Florida 33125

FACULTY POSITION IN AUDITORY RESEARCH

Assistant/associate professor for research/teaching position in Department of Otolaryngology and Communication Sciences. Doctoral degree with interest and experience in physiology/morphology of the auditory system. Position involves establishing an ongoing research program in above area, preparing grants, and teaching in medical/graduate school. Twelve-month, tenure-track appointment. Rank and salary competitive. Submit curriculum vitae, three letters of reference, and reprints by 1 August 1980 to: **C. Thomas Grimes, Ph.D., Chairman, Search Committee, Department of Otolaryngology, State University of New York, Upstate Medical Center, 766 Irving Avenue, Syracuse, New York 13210.** *An Affirmative Action/Equal Opportunity Employer.*

Stockton State College announces faculty openings beginning in September 1980.

INSTRUCTOR IN MARINE BOTANY to teach courses in phycology, coastal ecology, marine biology, general ecology, and in Stockton's General Education Program (M.S. required; base salary: $13,600).

VISITING FACULTY POSITION IN MICROBIOLOGY to teach courses in microbiology, genetics, introductory cell and molecular biology, and in Stockton's General Education Program. (This is a 1-year position. Rank and salary commensurate with experience.)

Stockton is a young, interdisciplinary state college, located in coastal southern New Jersey near the Pine Barrens and Atlantic City. *As an Affirmative Action/Equal Opportunity Employer, we encourage women and members of minority groups to apply.* Send résumé and three letters of recommendation by 15 July to: **Edward Paul, Dean, Faculty of Natural Sciences and Mathematics, Box 7440, Stockton State College, Pomona, New Jersey 08240.**

Laboratory

ELECTROPHYSIOLOGIST

To join multidisciplinary group in an analysis of the control of surface functions by the cytoskeleton with particular emphasis on endocytosis, mitosis, and surface receptor topography. Send application to: **Richard D. Berlin, Professor and Head,** or **Janet M. Oliver, Associate Professor,**

DEPARTMENT OF PHYSIOLOGY
University of Connecticut Health Center
Farmington, Connecticut 06032
Equal Opportunity Employer, M/F

INSECT ANTIHORMONE METABOLISM. Postdoctoral research position available on or after 1 July 1980 for studies on the metabolism of antijuvenile hormones in insects. Background in insecticide toxicology or a related field and experience in xenobiotic metabolism studies with insects essential. Starting salary: $12,000. Send detailed curriculum vitae, names of three references, and relevant publications to: **D. M. Soderlund, Department of Entomology, New York State Agricultural Experiment Station, Cornell University, Geneva, N.Y. 14456.**

INSTRUCTOR

Applicants at the M.A. or Ph.D. level are being sought for the position of instructor for an autotutorial, introductory biology course for majors. Candidates should have prior experience in teaching and administration at the introductory level. The successful candidate will be expected to work with the professor-in-charge on the academic content of the course and will handle the day-to-day operation of the course. This is a 3-year, renewable, nontenure-track position. Please send curriculum vitae and references to: **Dr. Ellis R. Loew, Section of Physiology, 723 VRT, Cornell University, Ithaca, New York 14853.** Closing date for applications is 14 July 1980. *Cornell University is an Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.*

LACTATIONAL PHYSIOLOGIST/
BOVINE MASTITIS
UNIVERSITY OF MASSACHUSETTS/AMHERST

Assistant professorship available 1 September 1980. Responsibilities include teaching of lactational physiology and related courses in department and the development of a strong bovine mastitis research program. Qualifications include Ph.D. in dairy or animal sciences and/or D.V.M. degree. Candidates should have training in lactational physiology and microbiology experience and interest in mastitis research. Submit résumé, description of research interests, and have three letters of recommendation sent by 1 July 1980 to: **Dr. James B. Marcum, Chairman, Department of Veterinary and Animal Sciences, University of Massachusetts, Amherst, Mass. 01003.** *An Equal Opportunity/Affirmative Action Employer.*

METALLURGY, MATERIAL SCIENCE, AND PUBLIC POLICY

The Department of Metallurgy and Material Science and the Department of Engineering and Public Policy at Carnegie-Mellon University have an opening for a joint faculty appointment for someone who has outstanding technical credentials and wishes to combine research in metallurgy or materials with research that involves the broader public policy aspects of this field. Our interests include, but are not limited to, development of strategies for reducing dependence on specific materials whose future supply is uncertain; technical, environmental, and other problems associated with new extraction and refining procedures; issues of reserve estimation; and resource economics. Send résumé with list of publications to: **Professor Robert Sekerka, Metallurgy and Material Science, Carnegie-Mellon University, Pittsburgh, Pennsylvania 15213.** *Carnegie-Mellon University is an Affirmative Action/Equal Opportunity Employer.*

MOLECULAR VIROLOGY

A position is available for a Ph.D. with at least 2 years of postdoctoral experience in molecular virology. The successful applicant will participate in studies on the molecular aspects of genetic variation in influenza viruses. Send curriculum vitae and the names of three referees to: **Robert G. Webster, Ph.D., Division of Virology, St. Jude Children's Research Hospital, 332 North Lauderdale, P.O. Box 318, Memphis, Tenn. 38101.** *Equal Opportunity/Affirmative Action Employer.*

SENIOR SUPERVISORY OCEANOGRAPHER

National Oceanic and Atmospheric Administration (NOAA), Pacific Marine Environmental Laboratory (PMEL), Seattle, Wash., is looking for a **group leader** for its Deep Sea Physics Group. Applicants for this position must have management or supervisory experience and a strong research background in the field studies of open-ocean physical processes and a good grasp of the theoretical basis for large-scale ocean/climate dynamical interactions. The group is engaged in process-oriented studies of equatorial and southern Pacific waters, with a view toward understanding the role of the tropical and subpolar ocean in establishing climate variability. A doctoral degree in physical oceanography is desired, with at least 3 years of appropriate research experience.

U.S. citizenship is required for appointment, which will be in the federal Civil Service at the GS-15 grade level ($40,832 to $50,112, depending on the present earnings and qualifications of the candidate selected for the position).

Applicants with federal status must submit a Personal Qualifications Statement (SF-171), curriculum vitae with references, and a list of publications. Nonstatus applicants should secure a copy of the Office of Personnel Management (OPM) Physical Sciences registration forms from their local OPM, Job Information Center, and forward the completed package to the personnel office noted below. Those applicants on the register need to submit a copy of their registration forms or SF-171, and transfer their eligibility to the Seattle Area Office if it was not noted as their primary area of consideration. Applications and/or inquiries should be directed to: **NOAA/PMEL, Area Personnel Officer, 7600 Sand Point Way, NE, Seattle, Wash. 98115; attention: Ron Theriot (telephone: 206-442-5585)**. To be considered, applications must be received by 25 July 1980. Date of entry on duty is open, but not later than January 1981. *An Equal Opportunity/Affirmative Action Employer.*

Physician/Scientist

Exceptional opportunity to contribute to important research programs in the Department of Clinical Pharmacology/International at Merck Sharp & Dohme Research Laboratories.

Reporting to the Sr. Director of Clinical Pharmacology, the successful candidate will be responsible for the early (Phase 1-11) clinical evaluation of new compounds.

An M.D. is required and a Ph.D. would be an advantage. A record of scientific scholarship and achievement must be demonstrated, and experience in academic or industrial clinical pharmacology is desirable, but not essential.

Merck is a pacesetter in the growing health care industry and a world leader in the manufacture of ethical pharmaceuticals, nutritional products, biologicals and related chemicals for human and animal use. We offer a commensurate salary plus outstanding benefits. Our location: a campus like setting 25 miles from New York City. For further information, please reply in confidence to Susan R. Jenkins,

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P.O. Box 2000,
Rahway, N.J. 07065
An equal opportunity employer, m/f

SUPERVISORY PHYSICAL SCIENTIST or **SUPERVISORY OCEANOGRAPHER**: The Great Lakes Environmental Research Laboratory of National Oceanic and Atmospheric Administration (NOAA) in Ann Arbor, Michigan, is seeking a senior level scientist to manage its Physical Limnology and Meteorology Group. The incumbent will direct a group of scientists, engineers, and technicians involved with research on Great Lakes water movements, temperature, waves and oscillations, and particle dynamics with theoretical and experimental approaches to improve Great Lakes prediction. In addition, the incumbent will participate in directing a Cooperative Research Program with the University of Michigan. This position is in the Competitive Service and may be filled at either the GS-15 or GS-14 level. Entrance level salaries are $40,832 and $34,713 per annum, respectively. Future salary adjustments are subject to the Merit Pay System. **QUALIFICATIONS**: B.S. or higher degree in oceanography, meteorology, or the physical sciences. In addition 3 years of professional experience which has equipped the candidate with the knowledges necessary to perform the above duties. **SELECTIVE FACTORS**: applicants must have experience in a research and development environment and be capable of directing research in the hydrodynamics of ocean, lakes, and the atmosphere, and in numerical prediction and simulation methods. Additional technical information may be obtained from: **Dr. Eugene J. Aubert, telephone: 313-668-2245 or FTS 378-2245. TO APPLY**: current or former federal employees should submit SF-171 and CD-332 (Employee Appraisal). Form CD-332 may be obtained by **telephoning: 303-499-1000, extension 5332 or FTS 323-6332**. Applicants not employed by the federal government should submit a complete application package for "Physical Science Positions-1300." These forms may be obtained from the nearest Office of Personnel Management (OPM) which was formerly the U.S. Civil Service Commission. **ALL APPLICANTS MUST SUBMIT THEIR PUBLICATIONS RECORD.** All applications should be submitted to: **NOAA/NTIA, Personnel Services Division (R566), Attention: L. Stoll, Boulder, Colorado 80303.** Reference Vacancy Number NOAA/ERL 80-176. Applications must be received by 15 August 1980 to receive consideration. *An Equal Opportunity Employer.*

DIRECTOR OF BIOLOGICAL RESEARCH

(Canada)

The Canadian affiliate of Merck & Co., Inc.'s world-wide research organization has a challenging senior research position available as Director of Biological Research in Canada. This position reports to the Executive Director of Immunology, Merck Sharp & Dohme Research Laboratories, Rahway, New Jersey and will be responsible for organizing a major basic research program in allergic and respiratory diseases.

The ideal candidate we are seeking will have an M.D. and/or Ph.D. degree in the biological sciences, 10–15 years university or industrial research experience, an established record of scientific achievement and recognition and a strong desire to contribute to therapy. He must have demonstrated strong leadership and communication skills, and expertise in immunology or respiratory pharmacology.

This senior research position offers an exceptional opportunity for growth and development within one of Canada's most successful and progressive industrial research organizations in the health care field. Excellent salary and full range of employee benefits.

Our research laboratories are located in modern facilities in Kirkland, Quebec, a suburb 15 miles from downtown Montreal.

Please send a curriculum vitae, a list of publications and the names of three references to:

MFL

Laboratoires **Merck Frosst** Laboratories

THE EMPLOYMENT MANAGER
MERCK FROSST LABORATORIES
P.O. BOX 1005
POINTE CLAIRE-DORVAL, QUEBEC
CANADA
H9R 4P8

CSIRO

POSTDOCTORAL RESEARCH FELLOW
DIVISION OF PLANT INDUSTRY
CANBERRA, A.C.T., 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: Physiological plant pathology.

GENERAL: The division, which has a large staff of experimental and research scientists, carries out research in a wide range of plant sciences on problems fundamental to agricultural production. Its program of research on plant diseases is concerned with the control of plant disease through a better understanding of disease resistance; the response of disease development to environment and genotype, and the discovery and evaluation of new antifungal agents.

The phytoalexins pisatin, phaseollin, and glycellin have been isolated from fungal inoculated tissues of peas, French beans, and soybeans. Previous research in the division has concerned the isolation and identification of pisatin and phaseollin and the biosynthesis of phaseollin. Current research is concerned with a comparative study of the role of pathogens and nonpathogens of the above three crop plants during infection with special reference to disease resistance.

DUTIES: The appointee will be expected to contribute to and assist with the development of a project concerned with the isolation and characterization of host-pathogen interaction metabolites involved in the elicitng of phytoalexins in legumes and a study of the mode of action of such elicitors. The long-term objective of the project is to develop new methods of disease control based on an understanding of the activation and regulation of natural defence mechanisms in plants.

QUALIFICATIONS: A Ph.D. degree or appropriate postgraduate research experience of equivalent standard and duration, with relevant training in plant and/or microbial biochemistry. Applicants should have research experience in modern biochemical techniques used in the isolation of biologically active macromolecules and the study of their effects on metabolic systems in plants. An interest in entering into collaborative projects within a small team to apply skills in, and knowledge of, these subjects to host-pathogen interactions is essential. Research experience in plant pathology and an interest in physiological problems in this area would be an advantage.

SALARY: Research scientist/senior research scientist: A$16,632 to A$24,165 per annum.

TENURE: A fixed term of 3 years. Superannuation benefits available.

APPLICATIONS in writing, quoting reference A4638 and stating full personal and professional details, together with the names and addresses of at least two referees, should reach:

The Chief
CSIRO
Division of Plant Industry
P.O. Box 1600
CANBERRA CITY, A.C.T. 2601, AUSTRALIA

by 1 August 1980.

Director of Program Planning

This executive-level position requires the technical expertise and professional stature to direct all program planning activities at one of the nation's most respected R & D organizations—Argonne National Laboratory.

Reporting to the Laboratory Director, you will work closely with top management, developing laboratory-wide objectives for critical, broad-based R & D areas. The scope of this position will require considering present and planned resources—particularly manpower, organization, facilities and technology—and coordinate the scientific and technical input needed for program development and selection.

Credentials must include an MS/PhD or equivalent in a technical discipline and a demonstrated record of achievement leading large programs or projects. Ideal candidate will combine 5-15 years of experience handling engineering/scientific responsibilities with 2-5 years as a manager.

We will provide a salary/benefits package fully commensurate with the importance of your role. Success will bring significant recognition both within Argonne and the technical community. For more details, send resume and salary history in confidence to:

Mr. Ronald Johns, Box PPC-1
Personnel Division
Argonne National Laboratory
9700 So. Cass Avenue
Argonne, IL 60439

ARGONNE NATIONAL LABORATORY

An Affirmative Action/Equal Opportunity Employer. Women, Minorities, the Handicapped and Veterans Urged to Apply.

POSITIONS OPEN

MICROBIOLOGY

Position available 1 August 1980. Assistant professor ($22,750), M.D., Ph.D., D.D.S., or D.V.M. with experience and interest in immunochemistry and/or parasitology; more than 2 years of postdoctoral training required. The position calls for teaching microbiology to students of medicine, dentistry, and health related professions as well as conducting research. Interested persons should send curriculum vitae and list of publications to: **Dr. Felix Milgrom, Professor and Chairman, Department of Microbiology, State University of New York at Buffalo, 203 Sherman Hall, Buffalo, N.Y. 14214.** *The University is an Equal Opportunity/Affirmative Action Employer. No person in whatever relation with the University will be subject to discrimination on the basis of age, color, national origin, race, religion, or sex.*

PHYSIOLOGY

Three tenure-track positions are available at the level of assistant professor. Ph.D. or M.D. and postdoctoral experience required. Areas of interest are mammalian behavioral neurophysiology, membrane hormone receptors, and molecular structure of membrane proteins. Faculty are expected to establish an independent research program, and to teach graduate students, medical students, or pharmacy students. Submit curriculum vitae, statement of research plans and interests, and names of three references to: **Donald J. Marsh, M.D., Chairman, Department of Physiology and Biophysics, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles, Calif. 90033.** *An Equal Opportunity/Affirmative Action Employer.*

PHYSIOLOGY

Assistant professor to teach medical and graduate students. Ph.D. with at least 2 years of postdoctoral experience. Research in human or animal physiology. Preference will be given to applicants with experience in muscle fatigue and cardiovascular, respiratory, and electromyographic studies. Send résumé to: **Dr. A. R. Lind, Professor and Chairman, Department of Physiology, St. Louis University Medical School, 1402 South Grand Boulevard, St. Louis, Mo. 63104.** *Affirmative Action/Equal Opportunity Employer.*

POPULATION ECOLOGIST (FISHERIES)

Academic position (assistant research biologist, University of California) available starting mid- to late-summer 1980 for a Ph.D. experienced in working with the population dynamics of nearshore marine fishes. The successful candidate will assist the principal investigator of a multidisciplinary research program assessing environmental impacts of a southern California power plant on the local fish fauna. Applicants must have: (i) quantitative experience in estimating the abundance, growth, and mortality of fish stocks, (ii) demonstrated ability in scientific writing, and (iii) some practical experience in environmental consulting. Salary to depend on experience. Send résumé, including a brief description of experience in applied research, and the names of three references, to: **Dr. E. DeMartini, 533 Stevens Avenue E-55, Solana Beach, California 92075,** before 11 July 1980. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW OR RESEARCH ASSOCIATE POSITION is available 1 September 1980, for a qualified candidate with training or experience in protein fractionation, purification, and characterization. Experience with membrane receptors would also be helpful. This position will involve work in the area of growth factor production and growth factor receptor changes in chemical transformation of cells in culture. Send curriculum vitae and three letters of reference to: **Dr. Harold L. Moses, Chairman, Department of Cell Biology, Mayo Clinic/Foundation, Rochester, Minnesota 55901.** *An Equal Opportunity/Affirmative Action Institution.*

POSTDOCTORAL POSITION

Opportunities for research training in cardiovascular physiology, covering all aspects of human and animal studies available for Ph.D. or M.D. applicants. Send résumé with references to: **Dr. Alexander R. Lind, Professor and Chairman, Department of Physiology, Saint Louis University School of Medicine, 1402 South Grand Boulevard, Saint Louis, Missouri 63104.** *Affirmative Action/Equal Opportunity Employer.*

The Presidential Search Committee of The Charles F. Kettering Foundation invites nominations and applications for the position of

PRESIDENT

The Charles F. Kettering Foundation is a private operating foundation, chartered in 1927, which seeks to make significant contributions toward the resolution of critical societal issues through innovative and collaborative processes. The Foundation operates programs in four main areas: Science and Technology (enhancement of food plant production), Education, International Affairs and Urban Affairs. Programs are directed by Foundation staff and implemented through a combination of internal staffing and grants and contracts. Annual expenditures in support of these programs totaled $7 million in fiscal 1979.

The President of the Foundation will become chief executive officer, responsible to the Board of Trustees of which the President is a member. The President is responsible for implementing the policies set by the Board of Trustees and directs the Foundation's staff of 160, headquartered in Dayton, Ohio. Eighty-four of the staff are employed at the Foundation's research laboratory located at Yellow Springs, Ohio, adjacent to the campus of Antioch College. The Foundation's endowment assets are currently valued at approximately $70 million.

Applications and nominations for the position of President should include a resume, references, and other relevant information. Communications should be addressed to:

Richard D. Lombard, Chairman
Presidential Search Committee
The Charles F. Kettering Foundation
P.O. Box 218
Rye, New York 10580

An Equal Opportunity Employer

RESEARCH PHYSIOLOGIST or RESEARCH MEDICAL OFFICER

The Armed Forces Radiobiology Research Institute, a component of the Defense Nuclear Agency, is recruiting for a Physiologist or Medical Officer to head the Physiology Department. The Department is assigned a broad research area related to the physiology and pathology of multiple organ systems including central nervous system, gastrointestinal system, cardiopulmonary system, and the endocrine system. The research is concerned with physiological and biophysical studies of the electrical, chemical, structural and functional responses of these systems after irradiation. The selected applicant will be responsible for the scientific and administrative direction of the department including its personnel and programs. This is a permanent civil service position at the GS-15 level (currently starting at $40,832 for a Physiologist and $46,276 for a Medical Officer). The position has been identified for inclusion in the Merit Pay System. The selectee may be required to serve a one year probationary period.

Applicants should possess an M.D. or a Ph.D. in physiology or a related field and evince a specific interest in radiation biology and the medical effects of nuclear weapons. Applicants will be rated on ability to manage a research and development program, professional status, research experience, experience of Federal budgeting methods and grants management, teaching and lecturing experience, and knowledge of National level government organizations and programs.

The position is located in Bethesda, Maryland, a suburb of Washington D.C. on the grounds of the National Naval Medical Center. For additional information, contact William Waldman (202) 295-1426 or autovon 8-295-1426.

Applicants should send a "Personal Qualifications Statement" (SF-171) and any additional information or supporting documents to Defense Nuclear Agency; Attn: PACV; Washington D.C., 20305. The Defense Nuclear Agency is an equal opportunity employer.

ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE

COAL FUNDAMENTALS RESEARCH

The Amoco Research Center is seeking candidates for expansion of fundamental research aimed at novel approaches to coal liquefaction. This interdisciplinary investigation encompasses the essential character and reactivity of coals with emphasis on organic structure.

SYNTHETIC ORGANIC CHEMIST

This position requires a Ph.D. in synthetic organic chemistry. Research experience in coal chemistry or selective reactions of complex natural products desirable.

COAL CHARACTERIZATION SCIENTIST

This position requires a Ph.D. level scientist with fundamental understanding of the heterogeneous nature of different coal types.

These key assignments provide outstanding exposure, with excellent long-range growth potential. Our Research Center is located in Naperville, Illinois, near Chicago, and offers a choice of urban, suburban or rural living. The salary is commensurate with experience and a comprehensive benefit package is provided. If you desire to work at the leading edge of coal research, please send a resume with a detailed qualifying letter in confidence to:

Professional Recruiting Coordinator

AMOCO

AMOCO RESEARCH CENTER
P.O. Box 400
Naperville, Illinois 60540
An Equal Opportunity Employer M/F

POSITIONS OPEN

POSTDOCTORAL FELLOW with experience in electron microscopy and interest in the peripheral and central vestibular and central oculomotor systems identified by intracellular injection of horseradish peroxidase. NIH postdoctoral stipend commensurate with experience. To start 1 September 1980. Apply to: **Dr. S. Highstein, Department of Neuroscience, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, N.Y. 10461.** *An Equal Opportunity Employer.*

POSTDOCTORAL POSITION on a National Institutes of Health Training Grant in Cell and Molecular Dermatology is available on and after 1 July 1980. Three major areas of investigation available to the applicant are: regulation at the biochemical level, cell physiology, and immunology. The candidate should be a recent Ph.D. who is interested in investigating control mechanisms. Salary will be commensurate with years of training. Interested applicants should send their curriculum vitae to: **Department of Dermatology, University of Michigan Medical School, R6558 Kresge Medical Building, Ann Arbor, Michigan 48109.** *The University of Michigan is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION in receptor-mediated endocytosis/vitamin transport oligosaccharide structure determination for recent Ph.D. beginning 1 September 1980. Send résumé and three references to: **Dr. Harold B. White, Chemistry Department, University of Delaware, Newark, Del. 19711.** *The University of Delaware is an Equal Opportunity Employer which encourages applications from qualified minority groups and women.*

POSTDOCTORAL POSITION IN VIROLOGY. Varicella virus project offers opportunity for cell-biologist or biochemist to broaden field of interest. Two-year appointment; salary: $13,500 to $14,500. Send résumé and names of three referees to: **Thomas H. Weller, Harvard School of Public Health, 665 Huntington Avenue, Boston, Mass. 02115.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION to study the biochemical pathways of glycosylation in animal cells using a variety of animal cell glycosylation mutants selected for resistance to plant lectins. These mutants are of particular interest for structure/function studies involving carbohydrate at the cell surface. Salary: $14,580 or more, depending on experience. **Pamela Stanley, Ph.D., Department of Cell Biology, Albert Einstein College of Medicine, Bronx, N.Y. 10461.**

Center for Demographic and Population Genetics
University of Texas Health Science Center
POSTDOCTORAL POSITION

Two-year position in genetic epidemiology and demography with emphasis on cancer genetics. Ph.D. in statistical or epidemiological genetics. Ability to innovate in statistical theory and analysis, in computer-oriented setting. Send curriculum vitae and three letters to: **Dr. Kenneth M. Weiss, Center for Demographic and Population Genetics, P.O. Box 20334, Houston, Texas 77025. Telephone: 713-792-4680.** *An Equal Opportunity Employer.*

POSTDOCTORAL POSITION IN IMMUNOCHEMISTRY. M.D. or Ph.D. to study viral-induced membrane glycoproteins expressed in cells infected with the Epstein-Barr virus or other oncogenic herpes viruses starting in summer 1980. Competitive stipend. Send résumé and the names of three references to: **Dr. Gary R. Pearson, Head, Section of Microbiology, Mayo Clinic, Rochester, Minnesota 55901.** *An Equal Opportunity/Affirmative Action Institution.*

MIT, RESEARCH ASSOCIATE. Massachusetts Institute of Technology (MIT), Department of Physics, has an immediate opening for a Ph.D. scientist to participate in the study of phase transitions in gels and polymers, and of cataract disease. This candidate should have a strong background in the field of experimental physics. The salary ranges from $16,000 to $21,000 per year. Please send curriculum vitae and the names of three references to: **MIT Personnel Office, 77 Massachusetts Avenue, Cambridge, Mass. 02139. Attention: Job Number R80-129.** *MIT is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS. Two immediate openings for studies in (i) nucleic acid enzymology and (ii) protein synthesis. Work includes (i) isolation of plasmid and viral genomes and derived restriction fragments, and their enzymatic and physical manipulation, and (ii) enzymatic synthesis of small runs of RNA oligomers and their examination in biochemical systems, especially ribosomal preparations. Salary commensurate with years of training. Positions available for 1 year, with renewal possible. Applicants should send curriculum vitae, indicating research experience and the names of two references, to: **Bioorganic Chemistry Department, Boston Biomedical Research Institute, 20 Staniford Street, Boston, Mass. 02114.**
An Equal Opportunity Employer

POSTDOCTORAL POSITION available immediately to study neurotoxicology of organophosphorous esters with electrophysiological techniques in the cat. Experience in electrophysiology and in working with mammals is preferable but not essential. Ph.D. in toxicology, pharmacology, or physiology is acceptable. Send curriculum vitae and three letters of reference to: **Dr. M. B. Abou-Donia, Department of Pharmacology, Duke University Medical Center, Durham, N.C. 27710.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL/RESEARCH ASSOCIATE position for study of immunoglobulin oligosaccharides: their structures and their biosynthesis as related to glycosyl transferases and to relevant protein phosphorylations. Send résumé, including references, to: **Dr. Franklin Mullinax, Division of Immunology and Connective Tissue Diseases, Box 263, Medical College of Virginia, Richmond, Virginia 23298.**

POSTDOCTORAL RESEARCH ASSOCIATE

Postdoctoral position available to study the structure and expression of the developmentally regulated actin multigene family in the sea urchin. Background in developmental biology or nucleic acid molecular biology desirable. Send résumé and three letters of reference to: **Dr. William Crain, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**
An Equal Opportunity/Affirmative Action Employer

The University of Texas Health Science Center at Dallas is seeking a **PROFESSIONAL** with a minimum of a master's degree, but preferably a doctorate, who will be concerned with **occupational safety and health particularly concerning all types of biohazardous materials, chemicals, and infectious agents.** This individual will be responsible for establishing, in conjunction with the faculty Institutional Biosafety Committee, the policies and regulations of the Health Science Center relating to control of biohazards resulting from academic and research projects. Other responsibilities will include periodic surveys and inspections of areas in which biohazardous materials are used; preparation of written reports on noncompliance situations; assessment of grant applications in conjunction with Institutional Biosafety Committee for appropriateness of handling biohazardous materials; investigation and implementation of the storage and disposal of waste materials according to the safety regulations of OSHA, EPA, FDA, and DHEW; and conduct of training programs for personnel in the use and disposal of such materials. Experience in health and safety management is desired, but not absolutely essential; however, a basic background in research in the biological sciences is a minimum requirement. Salary is negotiable. *The University of Texas Health Science Center at Dallas is an Equal Opportunity/Affirmative Action Employer, M/F/H.* Please send curriculum vitae, a brief statement of career goals, and the names of three or more references to: **Dr. Bettie Sue Masters, Chairman, Institutional Biosafety Committee, Department of Biochemistry, The University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235.**

RESEARCH ASSISTANT PROFESSOR. Position available immediately for **aquatic toxicologist** with background in bioassay procedures for study of coal conversion wastewaters. Ph.D. required, with postdoctoral experience preferred. Send curriculum vitae, names of three references, and representative publications to: **Dr. P. C. Singer, Department of Environmental Sciences and Engineering, School of Public Health, University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27514.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

Postdoctoral research associate position available starting 1 July 1980, for chemical and physical characterization of components of pathological bronchial secretions. Experience in protein-glycoprotein purification and characterization is desirable. Starting salary dependent upon years of postdoctoral experience. Send curriculum vitae and references to: **Dr. G. P. Sachdev, Oklahoma Medical Research Foundation, Biomembrane Research Laboratory, 825 Northeast 13 Street, Oklahoma City, Oklahoma 73104.** *Equal Opportunity/Affirmative Action Employer.*

NATIONAL SCIENCE FOUNDATION
Division of Civil and Mechanical Engineering

The National Science Foundation is seeking qualified applicants for the position of **PROGRAM DIRECTOR** in the Division of Civil and Mechanical Engineering, Structural Mechanics Program. This position is excepted from the competitive Civil Service, EC-14/EP (equivalent to GS-14/15), $34,713 to $53,081 per annum (limited by statute to $50,112.50 per annum) and will be filled on a rotational 1- or 2-year appointment. Applicants should have a Ph.D. or equivalent research experience and academic experience. Duties require directing, developing, and monitoring research program in structural mechanics. Applicants should submit résumés by 31 July 1980 to: **The National Science Foundation, Personnel Administration Branch, 1800 G Street, NW, Room 212, Washington, D.C. 20550.** For further information, **telephone: E. Paul Broglio, 202-357-7840.** *The National Science Foundation is an Equal Opportunity Employer.*

NATIONAL SCIENCE FOUNDATION (NSF)
PROGRAM DIRECTOR

The Chemical and Process Engineering Division is seeking candidates for the position of **Program Director for Kinetics, Catalysis and Reaction Engineering**. This position may be filled on a permanent or rotational basis, 1- to 2-year assignment, at the EC/GS-14/15 level, $34,713 to $53,081 ($50,112.50 per annum by statute), based on education and experience background. This position is to be filled before 31 August 1980. The program supports basic research into the phenomena and principles relating to the technology needs of chemical and process, kinetics, catalysis, and reaction engineering. Responsibilities include program planning and budgeting, proposal evaluation, grant administration, as well as liaison with other NSF programs and federal agencies. Applicants should have a Ph.D. or equivalent in chemical engineering or closely related fields and 6 to 8 years of research background. Teaching and industrial experience is desirable but not required. Applicants should forward résumé by 15 July 1980 to: **The National Science Foundation, Personnel Administration Branch, 1800 G Street, NW, Room 212, Washington, D.C. 20550. Attention: E. Paul Broglio. Telephone: 202-357-7841.** *NSF is an Equal Opportunity Employer.*

The University of Nebraska Medical Center, Department of Radiology, is seeking a **RADIATION PHYSICIST**, preferably with a Ph.D. and certification by the American Board of Radiology. Starting date for this position would be 1 August 1980 and the closing date for applications is 15 July 1980. Rank and salary commensurate with education and experience. Candidates should be qualified in therapy and diagnostic radiology and have research interest. The University of Nebraska Equal Employment Opportunity and Affirmative Action Guidelines place responsibility for evaluating the appropriateness of qualifications on administrative officers; deans, directors, department chairmen, and so forth shall determine whether such standards and criteria are relevant to the duties of the particular position in question. Send curriculum vitae to: **Harold A. Baltaxe, M.D., Chairman, Department of Radiology, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, Nebraska 68105.**
An Equal Opportunity/Affirmative Action Employer

RESEARCH ASSOCIATE—HYPERTHERMIA
Semipermanent (funded 5 years). Research consists primarily of cell culture studies designed to determine how hyperthermia modifies cell survival kinetics. Experience at postdoctoral level required. Knowledge of hyperthermia literature an advantage. Ph.D. in biophysics or related discipline. Salary: $20,000 plus, based on experience. Send curriculum vitae and names of two references to: **Dr. George M. Hahn, Department of Radiology, Stanford Medical School, Stanford, Calif. 94305.** *Stanford is an Affirmative Action Employer.*

Endocrinologists And Biochemists

Pfizer's Central Research Laboratories are seeking Ph.D. Endocrinologists/Biochemists to carry out research into diabetes, related cardiovascular and metabolic diseases, and gastrointestinal disorders.

The appointees will join a large established multidisciplinary team of researchers who are currently engaged in the development of new drug therapies for metabolic diseases and will be expected to pursue a research program within this framework. Exploitation of novel biological mechanisms and the publication of important findings will both be encouraged.

Applicants should hold a Ph.D. in Endocrinology, Biochemistry or Cell Biology and be able to demonstrate a successful record of publication. Previous experience is particularly sought in the areas of peptide hormone action, gastrointestinal endocrinology, and the neural regulation of the pancreas and the liver.

These positions offer an excellent opportunity for professional recognition and career growth. In addition, we offer a competitive compensation and benefit package and the opportunity to live in an attractive Connecticut Shore community.

Please send résumé, including salary history, to: **F. G. Ziegler, Pfizer Inc., Eastern Point Road, Groton, CT 06340.**

Pfizer

An Equal Opportunity Employer

CSIRO

POSTDOCTORAL RESEARCH FELLOW
DIVISION OF PLANT INDUSTRY
CANBERRA, A.C.T., 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: biological responses to the rising level of atmospheric carbon dioxide.

GENERAL: the division, which has a large staff of experimental and research scientists, carries out research in a wide range of plant sciences on problems fundamental to agricultural production and ecology. Its research program on the physiology of plant growth and development is concerned with subjects ranging from the molecular biology of hormone action, to crop responses to environmental factors. The division has a large phytotron, CERES, in which facilities will be available. These include controlled-temperature glasshouses, and both naturally and artificially illuminated reach-in growth cabinets. The cabinets can be modified for carbon dioxide enrichment. Equipment for carbon dioxide and water vapour exchange studies of leaves and whole plants, for determination of stomatal conductance, leaf, soil and solution water potentials, and measuring leaf areas, as well as standard laboratory equipment is available.

DUTIES: the appointee will be expected to contribute to the CSIRO component of a joint project between the Division of Plant Industry and the Environmental Biology Department in the Research School of Biological Sciences at the Australian National University. The objective of the project is to improve our ability to predict effects of the globally rising level of atmospheric carbon dioxide on agriculture production, natural vegetation, and global biomass. The research at the Australian National University is oriented towards the behaviour of natural ecosystems to possible future carbon dioxide levels. The CSIRO program is concerned with crop responses to changing atmospheric carbon dioxide concentration under various environmental conditions.

QUALIFICATIONS: a Ph.D. degree with research experience in plant physiology or an associated field or appropriate postgraduate research experience of equivalent standard and duration. An interest in CO_2 exchange would be an advantage.

SALARY: research scientist/senior research scientist: A$16,632 to A$24,162 per annum.

TENURE: a fixed term of 3 years. Superannuation benefits available.

APPLICATIONS quoting reference number A4761 and stating full personal and professional details, together with the names of at least two referees, should reach: **The Chief, CSIRO, Division of Plant Industry, P.O. Box 1600, CANBERRA CITY, A.C.T. 2600, AUSTRALIA**, by 1 August 1980.

CHEMICAL METABOLISM

Stauffer Chemical Company's new environmental health center seeks an individual for the above opening in the Farmington facility.

Challenging opportunity for a person with a Ph.D. and appropriate experience in metabolism and pharmacokinetics. Successful candidate is expected to design, conduct and interpret laboratory studies to characterize and quantitate the metabolism of chemicals in animals. Candidate is also expected to apply computer curve-fitting techniques and statistical analysis to elucidate and compare the pharmacokinetics of these chemicals in various animal species and at different dosage levels.

Stauffer Chemical offers you on-going growth opportunity, an excellent salary, and an attractive package of paid company benefits. For immediate consideration, send your salary requirements and qualifications to:

Ms. Pat Frutchey
Stauffer Chemical Company
400 Farmington Avenue
Farmington, CT 06032

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—for microbiologists with experience in industrial bacteriology and fermentation up to the pilot plant level

Salary (including fringe benefits) will be competitive and in accordance with experience and ability. Send curriculum vitae (with a description of previous experience and a list of publications) to BIOGEN S.A. 3 route de Troinex, 1227 GENEVA, Switzerland.

POSITIONS OPEN

POSTDOCTORAL RESEARCH POSITIONS available 1 August 1980. Research on metabolism and function of zinc and copper in mammalian systems, particularly hormonal and dietary regulation, at the cellular and molecular level. Primary cell culture and intact animals are used. Techniques include HPLC, RIA, in vitro mRNA translation, cDNA hybridization. Candidates should have a strong background in biochemistry or physiology. Send curriculum vitae and names of references to: **Dr. Robert J. Cousins, Cook College, P.O. Box 231, Rutgers University, New Brunswick, New Jersey 08903.** *Affirmative Action/Equal Opportunity Employer.*

RESEARCH ASSOCIATE—ENVIRONMENTAL TOXICOLOGY. The Department of Physiolgical Sciences, College of Veterinary Medicine, Oklahoma State University, seeks applications for a research associate on a project involving evaluation of indigenous fish as monitors of surface water quality. Candidates should have a Ph.D. or Sc.D. degree or equivalent with experience in enzyme assays or toxicology. Appointment is for 1 year and the individual may be reappointed. The position is available 1 July 1980. Salary: $15,000 for a 12-month appointment. Send résumé and names of three references to:

Dr. Everett C. Short, Jr.
Professor and Head
Department of Physiological Sciences
College of Veterinary Medicine
Oklahoma State Department
Stillwater, Oklahoma 74078

Affirmative Action/Equal Opportunity Employer

RESEARCH POSITION for interdisciplinary research on cancer at the submolecular level available immediately for a minimum of 2 years. Requirements: Ph.D. in analytical or physical chemistry, experience in NMR studies of the aldose-protein interactions, and familiarity with the analytical chemistry of these systems. Submit curriculum vitae and three letters of recommendation to: **Director, National Foundation for Cancer Research, Chemistry Department, American University, Washington, D.C. 20016.**

SCIENTIFIC ASSISTANT

Washington, D.C., trade association seeks B.S. or M.S. in biology and/or biochemistry, with excellent writing and oral communication skills, and ability to understand and critique complex literature on toxicology and safety evaluation. Opportunity for continued education on part-time basis. Submit résumé, college transcripts, and brief writing sample to:

Box 156, SCIENCE

SCIENTIFIC DIRECTOR. An internationally-known university research center has available the position of scientific director to administer a program concerned with scientific techniques as applied to archaeology: principally those developments in physics, electronics, chemistry, remote and near sensing, and geophysical prospecting. This research center recognizes the need to disseminate information to the research archaeologists concerning the scientific applications which have been proven in the laboratory and in the field. Qualifications: Ph.D. in physics, 10 to 15 years of experience in the field of archaeometry with a specialty in thermoluminescence dating (pre-dose method), radium-lead disequilibrium, lead isotope ratios, provenience studies. Art authenticity experience with museums a plus factor. Administrative and development experience in a similar research setting a must, as well as a history of publishing in international journals. Position available 1 August 1980. Salary to be determined. Curriculum vitae, plus names and addresses of five references, to be submitted by 15 July 1980 to: **Box 167, SCIENCE.**

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TRANSPORT FLUCTUATIONS IN SUBMICRON ELECTRONICS and exotic conducting materials. Postdoctoral position available for experimental research on fundamental conduction processes in the restricted geometries and disordered, quasimetallic, ionic, and semiconducting structures made possible by technological advances in submicron thin-film electronics. Measurement and analysis of low-frequency fluctuation phenomena as a probe of the fundamentals of dissipative processes comprise the strategic theme of this research. Contact: **Professor Watt W. Webb or Professor Mark Nelkin, Applied Physics, Clark Hall, Cornell University, Ithaca, New York 14853.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

HAVE GRANT—WANT TO TRAVEL TO SEATTLE? A well-equipped biomedical research center affiliated with a major hospital in the Seattle area has space suitable for **research laboratories in biochemistry, cell biology, or pharmacology**. Applicants should be competitive nationally for grant funding and will be required to obtain their own grants to support themselves. Moving expenses, laboratory space, and some general equipment funds are available to help in establishing a new laboratory and the potential of local funding through the community cannot be promised but is always there. Interested applicants should submit their bibliography to: **Box 166, SCIENCE.** *The Research Center is an Equal Opportunity Employer. Women and minorities are encouraged to submit applications.*

SURFACE PHYSICIST/CHEMIST

Fusion energy research on plasma-surface interaction phenomena involving atomic hydrogen chemical sputtering and surface cleaning. Uhv and surface physics/chemistry experience appropriate. Appointment at postdoctoral level for 2 years. Salary to $20,000, depending on qualifications.

Write: **Professors P. C. Stangeby and A. A. Haasz, Institute for Aerospace Studies, University of Toronto, 4925 Dufferin Street, Downsview, Ontario, Canada, M3H 5T6; telephone: 416-667-7729.**

VISITING SCIENTISTS—SOLAR RESEARCH AND BIOCONVERSION. The Center for Energy and Environment Research (CEER) of the University of Puerto Rico invites applicants for the positions of visiting scientists for 1- to 2-year appointments. Applicants must have a Ph.D. degree in engineering or science, a minimum of 5 years of experience in solar- or bioconversion-related research/development, and a demonstrated ability to obtain research funds through competitive proposals to DOE and/or other funding agencies. Bilingual in English/Spanish an asset but not necessarily a requirement. Positions available 1 October 1980.

Qualified applicants should send résumés and three letters of reference to: **Dr. Juan A. Bonnet, Jr., Director, Center for Energy and Environment Research, Caparra Heights Station, Rio Piedras, Puerto Rico 00927.**

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

TRAINING PROGRAM

POSTDOCTORAL TRAINING. Positions available now for U.S. citizens or permanent residents who wish to receive postdoctoral training in caries research (Dr. H. Retief, director), or in nutritional biochemistry-oral biology (Dr. Juan M. Navia, director). Postdoctoral candidates (D.M.D., D.D.S., Ph.D., M.D., or D.V.M.) may choose a research program among those offered by the faculty of the Departments of Microbiology, Nutrition Sciences, Biochemistry, Oral Biology, and the Institute of Dental Research at the School of Dentistry. Stipends from $13,340 to $17,040, depending on experience. For information, write: **Dr. Juan M. Navia, Director of Research Training, School of Dentistry, University of Alabama in Birmingham, University Station, Birmingham, Alabama 35294.** *The University is an Equal Opportunity/Affirmative Action Employer.*

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP

A postdoctoral fellowship in the area of immunology of parasitic infections is available starting 15 August 1980 in the Laboratory of Parasitology, Department of Pathobiology, School of Veterinary Medicine, University of Pennsylvania. Persons holding a Ph.D., D.V.M., or M.D. degree and with a strong background in immunology or parasitology will be considered for this position. Individuals must also be citizens or resident aliens of the United States. Initial appointment is for 1 year.

Interested individuals should send a summary of their previous research and its significance and a statement of their career goals, together with the names of three referees, to: **Dr. G. A. Schad, Department of Pathobiology, University of Pennsylvania, School of Veterinary Medicine, 3800 Spruce Street, Philadephia, Pa. 19104.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP IN HEMOGLOBIN RESEARCH for biochemical and biophysical studies on normal and abnormal hemoglobins. Excellent opportunity for collaborative studies on structure and function of hemoglobin in well-staffed and well-equipped laboratory. Interaction with many research programs at University of Pennsylvania. Candidate must be U.S. citizen or have U.S. immigrant visa. Please respond to: **Toshio Asakura, M.D., Ph.D., Joseph P. Stokes Jr. Research Institute, The Children's Hospital of Philadelphia, 34th Street and Civic Center Boulevard, Philadelphia, Pa. 19104.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOWSHIP—Assistant research scientist, recent Ph.D. with interest in membrane biochemistry or cell biology to do research in the study of tumor antigens and macromoleculars on surface of human melonoma and normal cells. Send curriculum vitae to: **Dr. Jean Claude Bystryn, Department of Dermatology, NEW YORK UNIVERSITY MEDICAL CENTER, 560 First Avenue, New York, N.Y. 10016.** *An Equal Opportunity/Affirmative Action Employer, M/F.*

TRAINEESHIPS

POSTDOCTORAL POSITIONS

Lipids-Atherosclerosis-Nutrition Training Program funded by NHLBI. Postdoctoral traineeships for 1 or 2 years are available (beginning 1 July 1980) for research and training in areas of: (i) lipoproteins structure, (ii) apolipoprotein metabolism, (iii) interaction of apoproteins with lipoprotein lipase, (iv) effect of diet on plasma lipoprotein and apolipoprotein content and metabolism, (v) pediatric nutrition, (vi) developmental of cholesterol and bile acid haemostatic mechanism, (vii) pathogenesis of atherosclerosis including the role of prostaglandins, (viii) role of trace minerals in lipid metabolism and atherosclerosis, (ix) vascular pathology in juvenile diabetes, and (x) epidemeological and behavioral aspects of hyperlipoproteinemia. Faculty includes V. Finelli, Ph.D.; J. Fischer, M.D.; C. J. Glueck, M.D.; R. L. Jackson, Ph.D.; J. M. Vander Bel-Kahn, M.D.; M. L. Kashyap, M.D.; L. Murthy, Ph.D.; M. J. Mellies, M.D.; E. A. Stein, M.D.; M. T. R. Subbiah, Ph.D.; and R. Tsang, M.D. Candidates with a Ph.D. degree in biomedical or behavioral fields and those with M.D. degree, with appropriate research experience, are eligible to apply. Applicants must be U.S. citizens or hold immigrant visas. Send curriculum vitae with three letters of recommendation indicating the special area of research interest to: **Dr. M. T. R. Subbiah, Program Director, Lipids-Atherosclerosis-Nutrition Training Grant, University of Cincinnati Medical Center, 234 Goodman Street, K Pavilion 4th Floor, Cincinnati, Ohio 45267.**

MARKET PLACE

RESEARCH GRANTS

Research Funding Journal (RFJ) is published monthly. RFJ is an ongoing source of information on both governmental and foundation funding sources for the biological, medical, and physical sciences. Funding sources along with their eligibility, deadlines, and application procedures are described in each issue. Price: $39 per year. **Warren Research, Department 109. Box 1771, Decatur, Illinois 62525.**

Instructions for Contributors

The Editors of *Science*

Manuscripts submitted to *Science* for consideration for publication can be handled expeditiously if they are prepared in the form described in these instructions.

Submit an original and two duplicates of each manuscript. With the manuscript send a letter of transmittal giving (i) the name(s) of the author(s); (ii) the title of the paper and a one- or two-sentence statement of its main point; (iii) the name, address, and field of interest of four to six persons in North America but outside your institution who you think are qualified to act as referees for your paper; (iv) the names of colleagues who have reviewed your paper for you; and (v) the field or fields of interest of readers who you anticipate will wish to read your paper.

Editorial Policies

All papers submitted are considered for publication. The author's membership or lack of membership in the AAAS is not a factor in selection. Papers are accepted with the understanding that they have not been published, submitted, or accepted for publication elsewhere. Authors will usually be notified of acceptance, rejection, or need for revision in 4 to 6 weeks (Reports) or 6 to 10 weeks (Articles).

Types of papers. Five types of signed papers are published: Articles, Reports, Letters, Technical Comments, and Book Reviews. Familiarize yourself with the general form of the type of paper you wish to submit by looking over a recent issue of the journal, and then follow the instructions for that type of paper.

Reviews. Almost all Articles, Reports, and Technical Comments, whether solicited or not, are sent to two or more outside referees for evaluation of their significance and soundness. Papers that depend on statistical inferences for their conclusions are sent to statisticians (in addition to other referees) for review. Forms showing some of the criteria reviewers are expected to consider are available on request.

Editing. Papers are edited to improve the effectiveness of communication between the author and his readers. The most important goal is to eliminate ambiguities. In addition, improvement of sentence structure often permits readers to absorb salient ideas quickly. When editing is extensive, with consequent danger of altered meanings, papers are returned to the author for correction and approval before type is set. Authors are free to make additional changes at this stage.

Proofs. One set of galley proofs or an equivalent is provided for each paper. Keep alterations to a minimum, and mark them only on the galley, not on the manuscript. Extensive alterations may delay publication by 2 to 4 weeks.

Reprints. An order blank for reprints accompanies proofs.

Writing Papers

Organize your material carefully, putting the news of your finding or a statement of the problem first, supporting details and arguments second. Make sure that the significance of your work will be apparent to readers outside your field, even if you feel you are explaining too much to your colleagues. Present each step in terms of the purpose it serves in supporting your finding or solving the problem. Avoid chronological steps, for the purpose of the steps may not be clear to the reader until he finishes reading the paper.

Provide enough details of method and equipment so that another worker can repeat your work, but omit minute and comprehensive details which are generally known or which can be covered by citation of another paper. Use metric units of measure. If measurements were made in English units, give metric equivalents.

Avoid specialized laboratory jargon and abbreviations, but use technical terms as necessary, defining those likely to be known only in your field. Readers will skip a paper they do not understand. They should not be expected to consult a technical dictionary.

Choose the active voice more often than you choose the passive, for the passive voice usually requires more words and often obscures the agent of action. Use first person, not third; do not use first person plural when singular is appropriate. Use a good general style manual, not a specialty style manual. The University of Chicago style manual, the style manual of the American Institute of Physics, and the *Style Manual for Biological Journals*, among others, are appropriate.

Manuscripts

Prepare your manuscript in the form used by *Science*. Use bond paper for the first copy. Submit two duplicates. Double-space title, abstracts, text, signature, address, references (including the lines of a single reference), figure legends, and tables (including titles, column headings, body, and footnotes). Do not use single spacing anywhere. Put the name of the first author and the page number in the upper right-hand corner of every page.

Paging. Use a separate page for the title; number it page 1. Begin each major section—text, references and notes, and figure legends—on a new sheet. Put each table on a separate sheet. Place figure legends and tables after the references.

Title. Begin the title with a word useful in indexing and information retrieval (not "Effect" or "New").

References and Notes. Number all references to the literature, footnotes, and acknowledgments in a single sequence in the order in which they are cited in the text. Gather all acknowledgments into a single citation, and keep them short ("I thank," not "I wish to thank"). Cite all references and notes but do not cite them in titles or abstracts. Cite several under one number when feasible. Use *Bibliographic Guide for Editors & Authors* with the few suggested revisions in *International List of Periodical Title Word Abbreviations* for abbreviations of journal names. If the journal is not listed there, provide the full name. Use the following forms:

Journal: H. Smith, *Am. J. Physiol.* **98**, 279 (1931).

Book: F. Dachille and R. Roy, *Modern Very High Pressure Techniques* (Butterworth, London, 1961), pp. 163–180.

Chapter: F. Dachille and R. Roy, in *Reactivity of Solids*, J. H. de Boer, Ed. (Elsevier, Amsterdam, 1960), p. 502.

Illustrations. Submit three copies of each diagram, graph, map, or photograph. Cite all illustrations in the text and provide a brief legend, to be set in type, for each. Do not combine line drawings and photographs in one illustration. Do not incorporate the legend in the figure itself. Use India ink and heavy white paper or blue-lined coordinate paper for line drawings and graphs. Use heavier lines for curves than

you use for axes. Place labels parallel to the axes, using initial capital and lowercase letters; put units of measurement in parentheses after the label—for example, Length (m). Plan your figures for the smallest possible printed size consistent with clarity.

Photographs should have a glossy finish, with sharp contrast between black and white areas. Indicate magnification with a scale line on the photograph.

Tables. Type each table on a separate sheet, number it with an Arabic numeral, give it a title, and cite it in the text. Double-space throughout. Give each column a heading. Indicate units of measure in parentheses in the heading for each column. Do not change the unit of measure within a column. Do not use vertical rules. Do not use horizontal rules other than those in the heading and at the bottom. A column containing data readily calculated from data given in other columns can usually be omitted; if such a column provides essential data, the columns containing the other data can usually be omitted.

Plan your table for small size. A one-column table may be up to 42 characters wide. Count characters by counting the widest entry in each table column (whether in the body or the heading) and allow three characters for spaces between table columns. A two-column table may be 90 characters wide.

Equations and formulas. Use quadruple spacing around all equations and formulas that are to be set off from the text. Most should be set off. Start them at the left margin. Use the solidus for simple fractions, adding the necessary parentheses. But if braces and brackets are required, use built-up fractions. Identify handwritten symbols in the margin, and give the meaning of all symbols and variables in the text immediately after the equation.

Articles

Articles, both solicited and unsolicited, may range in length from 2000 to 5000 words (up to 20 manuscript pages). Write them clearly in reasonably nontechnical language. Provide a title of one or two lines of up to 26 characters per line and an objective summary of 50 to 100 words indicating the scope and main finding. Do not break words at the ends of lines. Write a brief author note, giving your position and address. Do not include acknowledgments. Place title, subtitle, and author note on page 1. Begin the text on page 2.

Insert subheads at appropriate places in the text to mark your main ideas. The set of subheads should show that your ideas are presented in a logical order. Keep subheads short—up to 35 characters and spaces.

Do not submit more than one illustration (table or figure) for each four manuscript pages unless you have planned carefully for grouping. With such planning many illustrations can be accommodated in the article. Consult the editorial office for help in planning.

Reports

Short reports of new research results may vary in length from one to seven double-spaced manuscript pages of text, including the bibliography. Long papers are subject to delays in reviewing and editorial consideration. Short papers receive preferred treatment. Limit illustrative material (both tables and figures) to two items, occupying a total area of no more than half of a published page (30 square inches). A research report should have news value for the scientific community or be of unusual interest to the specialist or of broad interest because of its interdisciplinary nature. It should contain solid research results or reliable theoretical calculations. Speculation should be limited and is permissible only when accompanied by solid work.

Title. Begin the title with an important word (preferably a noun) that identifies your subject. The title may be a conventional one (composed primarily of nouns and adjectives), a sentence (containing a verb), or a structure with a colon (Jupiter: Its Captured Satellites). Limit it to two lines of complete words of no more than 55 characters per line (spaces between words count as one character each). Do not use abbreviations. Type the title in the middle of page 1.

Abstract. Provide an abstract of 45 to 55 words on page 2. The abstract should amplify the title but should not repeat it or phrases in it. Qualifying words for terms used in the title may be used. Tell the results of the work, but not in terms such as "____ was found," "is described," or "is presented."

Text. Begin the text on page 3. Put the news first. Do not refer to unpublished work or discuss your plans for further work. If your paper is a short report of work covered in a longer paper to be published in a specialty journal, you may refer to this paper if it has been accepted. Name the journal. If the manuscript has not been accepted, refer to it as "in preparation." Do not use subheads.

Signature. List the authors on the last page of the text and give a simple mailing address.

Received dates. Each report will be dated the day an acceptable version is received in the editorial office.

Letters

The Letters section provides a forum for discussion of matters of general interest to scientists. Letters are judged only on clarity of expression and interest. Keep them short and to the point; the preferred length is 250 words. The editors frequently shorten letters.

Technical Comments

Letters concerning technical papers in *Science* are published as Technical Comments at the end of the Reports section. They may add information or point out deficiencies. Reviews are obtained before acceptance.

Book Reviews

The selection of books to be reviewed is made by the editors with the help of advisers in the various specialties; arrangements are then made with reviewers. A sheet of instructions accompanies each book when it is sent to the reviewer.

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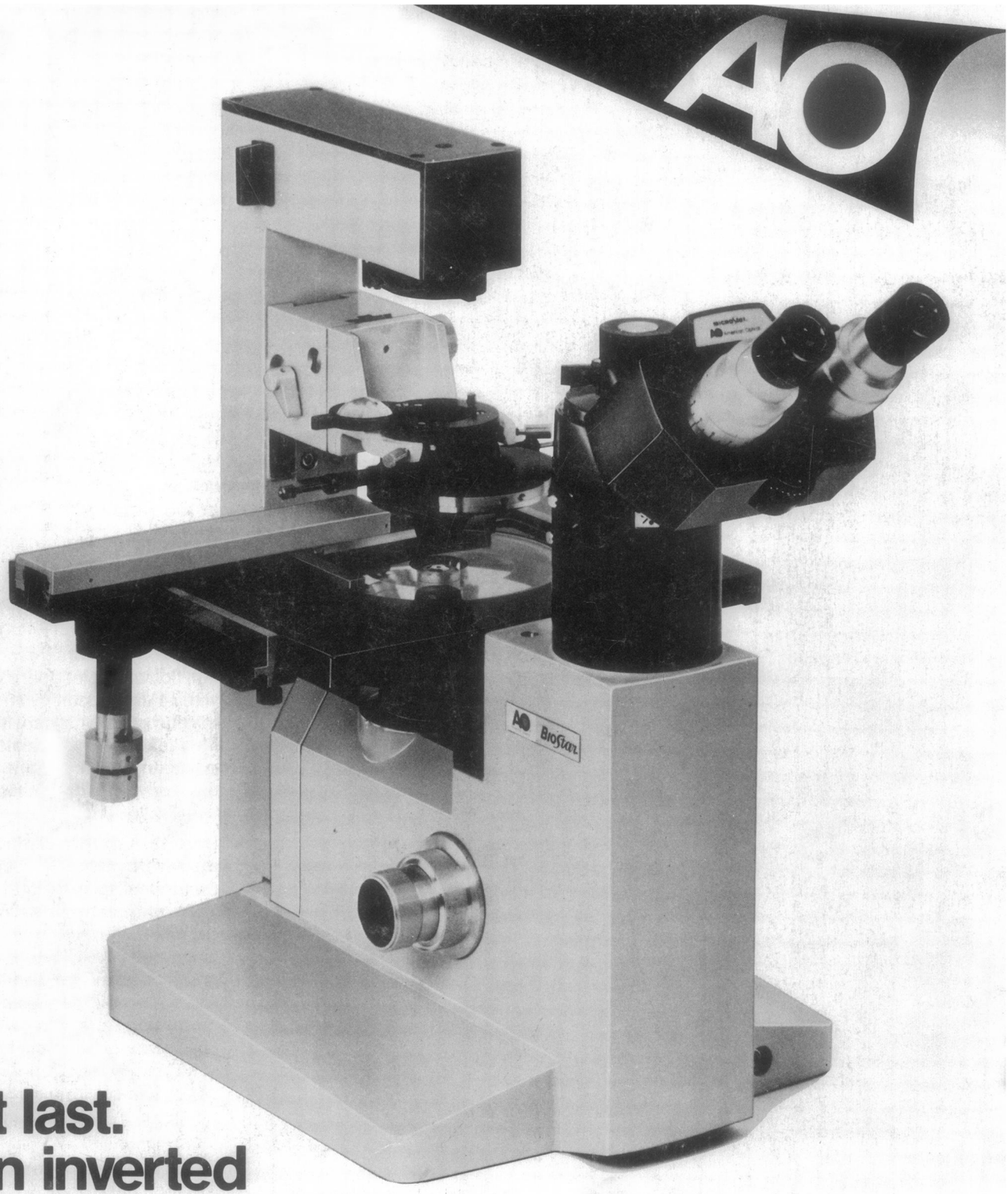

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