

tion of the dorsal horn, and the various ascending pathways in the cord and finally by an interesting survey of the sensory channels and descending control mechanisms. Each section is followed by a short summary and each chapter by a list of the main ideas and conclusions. Illustrations are used liberally and are, on the whole, well chosen.

For the present reviewers, more definite statements of the authors' own positions on the various topics of disagreement would have been interesting and useful. The authors have trodden very carefully in certain places, for example in their treatment of the substantia gelatinosa, where more forthright opinions would have been stimulating (even if they turned out to be incorrect). The cautious approach does, however, help to emphasize their many valid comments on the relationship of clinical studies on humans to the basic physiological and anatomical data from other mammalian species that make up most of our current knowledge.

The book will appeal to research workers, especially those just entering this exciting field, and teachers. Advanced students will also find the book most useful. It conveys the excitement that only authors who have been closely associated with some of the important developments in the field can transmit.

A. G. BROWN

R. E. W. FYFFE

*Department of Veterinary Physiology,
University of Edinburgh,
Edinburgh EH9 1QH, Scotland*

Physicist's Memoir

What Little I Remember. OTTO R. FRISCH. Cambridge University Press, New York, 1979. xii, 228 pp., illus. \$14.95.

"I am a lucky man!" Otto Frisch exclaims at the end of *What Little I Remember*. Lucky he was indeed; he lived in exciting times, and times that were particularly so for a physicist. Frisch's life span so paralleled the development of nuclear physics that his autobiographical account brushes on almost every phase of it. Frisch, furthermore, has a felicitous touch when it comes to explaining nuclear physics. His procedure in the book is essentially to alternate chapters that are almost purely autobiographical with chapters that are entirely concerned with physics. Naturally this method dictates a historical approach to the physics involved. His coverage is complete enough and his explanations clear

enough that the didactic chapters by themselves constitute an adequate popular account of the development of nuclear physics.

A refugee from Hitler's Austria and Germany, Frisch, with his aunt Lise Meitner, was the first to work out the explanation of Hahn and Strassman's discovery of barium as a product of neutron bombardment of uranium. He even had the privilege of dubbing the process in question "nuclear fission" after he had experimentally demonstrated the high-energy recoiling fragments at Bohr's institute in Copenhagen. Then a little later in Britain, still fleeing the Nazi terror, he joined with other "enemy aliens" such as Peierls, von Halban, Simon, and Kowarski to rough out the first design of a bomb. The amount of uranium-25 they estimated such a device would require was small, and the estimate provided much of the impetus on both sides of the Atlantic for the tremendous effort that eventually produced nuclear explosions. Ironically, the German effort so much feared by the Allied scientists turned out to have been ineffective—leaving a question of moral responsibility for history to answer.

Frisch became a member of the "British mission" when in 1943 the English effort was joined to that of the Americans at Los Alamos in the attempt actually to assemble a bomb. He shows the scientists at Los Alamos working at a frenzied pace in selfless dedication to prevent the unthinkable catastrophe that might have occurred had the Germans succeeded with their own effort, which was known, through Niels Bohr, to have started much earlier. The experience of working in beautiful country with agreeable colleagues was, of course, not completely dreadful, particularly for a person who loved to play and listen to music and who loved good conversation. Frisch's account of his life with the Manhattan Project is similar in many ways to other memoirs and full of the nostalgia that wartime Los Alamosians feel for their sojourn there. Recent books and articles have been critical of this attitude and have insinuated that these people were heartless and amoral scientists who ignored the human suffering resulting from their efforts. Times change and so do attitudes. During World War II the scientists felt that they were working in a great common effort to save the world from the Nazi threat to civilization and to every principle of just government. With the announcement of the devastation of Hiroshima, however, Frisch (along with many others) felt "unease, indeed nausea." Years later, writing his

book he regrets that scientists who "are trained to think objectively and dispassionately, an asset in making decisions of any kind," were not more involved in the decision-making.

It might be added that it was not for lack of trying on the part of the Los Alamos scientists that their involvement was not to be greater. Almost to a man they immediately organized themselves to educate the public in the danger presented by the new weapon, the probability of an arms race, and the unique opportunity presented by the new United Nations Organization to control the new force by international agreement.

Despite his modest title, what Frisch "manages to remember" is quite impressive. He loved to tell stories and his many vignettes of his associates (they include nearly every outstanding physicist who worked in nuclear physics) will be a valuable supplement to flesh out the sometimes arid accounts that have already been written. Historians, too, are lucky that Frisch managed to remember and to record so much before his death.

R. R. WILSON

*Department of Physics,
University of Chicago,
Chicago, Illinois 60637*

Books Received

Antihormones. M. K. Agarwal, Ed. Elsevier/North-Holland, New York, 1979. viii, 458 pp., illus. \$61.

Applied Fibre Science. Vol. 2. F. Happey, Ed. Academic Press, New York, 1979. xx, 512 pp., illus. \$73.50.

Brazil's Minimum Price Policy and the Agricultural Sector of Northeast Brazil. Roger Fox. International Food Policy Research Institute, Washington, D.C., 1979. 118 pp., illus. Paper.

Cation Flux across Biomembranes. Proceedings of a symposium, Kobe, Japan, Sept. 1978. Yasuo Mukohata and Lester Packer, Eds. Academic Press, New York, 1979. xx, 444 pp., illus. \$32.

Cell Biology and Immunology of Leukocyte Function. Proceedings of a conference, Beer Sheva, Israel, June 1978. Michael R. Quastel, Ed. Academic Press, New York, 1979. xxx, 960 pp., illus. \$45.

Data Structures and PL/I Programming. Moshe Augenstein and Aaron Tenenbaum. Prentice-Hall, Englewood Cliffs, N.J., 1979. xii, 644 pp. \$22.50.

Electromagnetics and the Environment. Remote Sensing and Telecommunications. Warren L. Flock. Prentice-Hall, Englewood Cliffs, N.J., 1979. x, 326 pp., illus. \$25.

Electronic Data Reference Manual. Matthew Mandl. Reston (Prentice-Hall), Reston, Va., 1979. x, 324 pp., illus. \$15.95.

Fish and Invertebrate Culture. Water Management in Closed Systems. Stephen Spotte. Wiley-Interscience, New York, ed. 2, 1979. xviii, 180 pp., illus. \$13.95.

(Continued on page 1106)

BOOKS RECEIVED

(Continued from page 1068)

Flames. Their Structure, Radiation and Temperature. A. G. Gaydon and H. G. Wolfhard. Chapman and Hall, London, and Halsted (Wiley), New York, ed. 4, 1979. xiv, 450 pp., illus. \$49.95.

Guidelines for the Control of Insect and Mite Pests of Foods, Fibers, Feeds, Ornamentals, Livestock, Forests, and Forest Products. John Wm. Neal, Jr., Ed. U.S. Department of Agriculture, Washington, D.C., 1979. iv, 822 pp. Paper. Agriculture Handbook No. 554.

Handbook of Drugs and Chemicals Used in the Treatment of Fish Diseases. A Manual of Fish Pharmacology and Materia Medica. Nelson Herwig. Thomas, Springfield, Ill., 1979. xvi, 272 pp. \$17.50.

Invertebrate Populations of the Deciduous Forest. Fluctuations and Relations to Weather. S. Charles Kendeigh. University of Illinois Press, Urbana, 1979. viii, 110 pp., illus. Paper, \$10. Illinois Biological Monographs, 50.

Jahrbuch Überblicke Mathematik 1979. S. D. Chatterji, Benno Fuchsteiner, Ulrich Kulisch, Detlef Laugwitz, and Roman Liedl, Eds. Bibliographisches Institut, Mannheim, 1979. 206 pp. Paper, DM 28.

The Mycoplasmas. Vol. 2, Human and Animal Mycoplasmas. J. G. Tully and R. F. Whitcomb, Eds. Academic Press, New York, 1979. xiv, 510 pp., illus. \$42.

The Natural Vegetation of North America. An Introduction. John L. Vankat. Wiley, New York, 1979. x, 262 pp., illus. Paper, \$8.95.

Papers in Anthropology and Linguistics. Papers from meetings, New York, 1976 and 1977. May Ebihara and Rosamond Gianutsos, Eds. New York Academy of Sciences, New York, 1978. viii, 114 pp. \$19. *Annals of the New York Academy of Sciences*, vol. 318.

Parapsychology. The Link between Science and Metaphysics. Robert Jackson Lanter. Vantage Press, New York, 1978. xii, 62 pp. \$4.95.

Quasi One-Dimensional Conductors. Proceedings of a conference, Dubrovnik, Sept. 1978. S. Barisic, A. Bjelis, J. R. Cooper, and B. Leontic, Eds. Springer-Verlag, New York, 1979. Two volumes. Vol. 1. x, 372 pp., illus. Paper, \$17.80. Vol. 2. xii, 462 pp., illus. Paper, \$21.30. Lecture Notes in Physics, vols. 95 and 96.

Recent Advances in the Developmental Biology of Central Nervous System Malformations. Papers from a symposium. Ninos C. Myrianthopoulos, Natalie W. Paul, and Florence Dickman, Eds. Liss, New York, 1979. xiv, 130 pp., illus. \$16. Birth Defects: Original Article Series, Vol. 15, No. 3.

Systems Ecology. H. H. Shugart and R. V. O'Neill, Eds. Dowden, Hutchinson and Ross, Stroudsburg, Pa., 1979 (distributor, Academic Press, New York). xiv, 370 pp., illus. \$29.50. Benchmark Papers in Ecology, vol. 9.

Technology Transfer to Cities. Processes of Choice at the Local Level. W. Henry Lambright with the assistance of Paul J. Flynn, Albert H. Teich, and Alfreda B. Lakins. Westview Press, Boulder, Colo., 1979. xvi, 188 pp. \$16.50. Westview Special Studies in Science, Technology, and Public Policy.

Vasectomy. Immunologic and Pathophysiologic Effects in Animals and Man. Proceedings of a workshop, Airlie, Va., Apr. 1978. Irwin H. Lepow and Ruth Crozier, Eds. Academic Press, New York, 1979. xiv, 600 pp., illus. \$34.

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.

DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKET PLACE, and so forth): \$7.20 per millimeter; \$180 minimum, per insertion (minimum charge covers 25 millimeters on a single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing information required for all other advertising.

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

SCIENCE, Room 207
1515 Massachusetts Ave., NW
Washington, D.C. 20005
Telephone: 202-467-4456

Send copy for **Display** ads 1/6 page and larger to:

Scherago Associates, Inc.
1515 Broadway
New York, N.Y. 10036
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

Box (give number)
SCIENCE
1515 Massachusetts Ave., NW
Washington, D.C. 20005

POSITIONS WANTED

Biomedical Engineer—B.S.E.E., physiology Ph.D. (1975). Industrial instrumentation and diverse research instrumentation experience. Seeks teaching/research position in university or industry. Teaching and postdoctoral experience. Well published. Box 52, SCIENCE. X

Medical Entomologist/Insect Pathologist. Ph.D. 1978. Main interests: bio-control of vectors and effects of agents on nontarget organisms. Two years of experience in Amazon Basin. Teaching experience; 20 plus publications. Seeks research/teaching position. Tropics preferred. Box 54, SCIENCE. X

Physical Chemist, Ph.D., experience in various spectroscopic techniques (6 years), computer software development (6 years), enzymology (4 1/2 years), microbiology (2 years). Outstanding grades. Highly creative. Seeks challenging position. Box 53, SCIENCE. X

Experienced **Science Editor** will make your writing (articles, reports, grant proposals, theses, books) more readable and effective. Proficient in fields of medicine, biology, environmental sciences, and engineering. S. Rose, P.O. Box 2053, Chapel Hill, N.C. 27514. Telephone: 919-933-0512. X

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

POSITIONS OPEN

ANATOMY

Assistant professor, tenure-track position. To take charge of dental anatomy program, September 1980. Superb research conditions. Salary negotiable. Apply before 1 May 1980 to: **Chairman, Department of Anatomy, University of Utah College of Medicine, Salt Lake City, Utah 84132.** The University of Utah is an Equal Opportunity Employer.

POSITIONS OPEN

ACADEMIC PATHOLOGISTS. Faculty positions are available in the Department of Pathology, University of California, San Francisco, for Board-certified or Board-eligible (anatomical pathology or anatomical and clinical pathology) pathologists with an interest in modern surgical pathology. An area of expertise in a special field of surgical pathology is desired, as well as interest in or evidence of investigative work. Rank and salary are negotiable. Please direct inquiries to: **Edward A. Smuckler, M.D., Ph.D., Professor and Chairman, Department of Pathology, University of California, San Francisco, California 94143.** The University of California is an Equal Opportunity/Affirmative Action Employer and welcomes applications from women and minority group members as well as other qualified persons.

ANATOMY DEPARTMENT OPENING

The West Virginia School of Osteopathic Medicine (WVSOM) seeks a 1-year replacement for an assistant professor to teach histology/embryology to first and second year medical students. Ph.D. required.

Term of employment: 1 July 1980 to 30 June 1981. Salary competitive.

Please submit curriculum vitae and three letters of recommendation by 15 April 1980 to: **Charles A. Roberts, Ph.D., c/o Personnel Office, West Virginia School of Osteopathic Medicine, Lewisburg, West Virginia 24901.**

WVSOM is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR position anticipated fall 1980. Ph.D. in planning or related field. Competency in quantitative analytical methods; specialization in economic and fiscal planning, emphasis on housing and urban development or urban or regional systems design; also teach departmental core courses. Submit résumé, names and addresses of references, and selected publications by 7 April 1980 to: **Dr. Stephen Born, Chairman, Department of Urban and Regional Planning, University of Wisconsin-Madison, Madison, Wis. 53706.** Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR. The Hormel Institute, a Research Unit of the Graduate School of the University of Minnesota, invites applications for a faculty position at the level of assistant professor. Doctorate degree and postdoctoral experience are required. The successful candidate is expected to establish an independent research program in the physical, chemical, or biological sciences complementing ongoing institute programs related to lipid and membrane research. The position is available after September 1980. Please submit, before 1 June 1980, curriculum vitae, complete list of publications, brief description of research plans, and the names of three references to: **Dr. Douglas R. Pfeiffer, Chairman, Search Committee, The Hormel Institute, University of Minnesota, Austin, Minnesota 55912.** An Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSORS. The Department of Chemistry of Seton Hall University anticipates two tenure-track positions, at least one beginning September 1980. Research preferences (Ph.D. required) are in physical biochemistry, analytical biochemistry, clinical chemistry, and synthetic organic. Applicants with demonstrated research excellence and a commitment to teaching at the undergraduate and graduate levels should submit a résumé, a brief description of future research plans, and the names of three references to: **Faculty Search Committee, Department of Chemistry, Seton Hall University, South Orange, N.J. 07079.** Applications from women and minority group members are especially welcome. An Affirmative Action/Equal Opportunity Employer.

RESEARCH/TEACHING POSTDOCTORAL POSITION. The Chemistry Department of Seton Hall University is seeking applicants to carry out research and teaching responsibilities. Research may be in any area active in the department, including analytical chemistry, electrochemistry, enzymes, heterocycles, inorganic chemistry, lanthanide chemistry, physical organic chemistry, polyelectrolytes, atomic and molecular spectroscopy. Teaching will be primarily in general chemistry and courses for nonscience students. Position available 1 July or 1 September 1980 and will be for 12 months. Send résumé and names of three references to: **Teaching Postdoctoral Search Committee, Department of Chemistry, Seton Hall University, South Orange, N.J. 07079.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

VISITING ASSISTANT PROFESSORSHIPS (two positions available). Each to teach a nonmajors introductory biology course. Each to collaborate in one of two ongoing research programs: *Drosophila* genetics/biochemistry (Dr. John Rawls) or molluscan (*Limax*) neurobiology (Dr. David J. Prior). Ph.D. required. Academic year salary plus summer research support available. Reappointment possible to maximum of 4 years. Send curriculum vitae and names of three references by 15 April 1980 to either: **Dr. Prior or Dr. Rawls, c/o Search Committee, T. H. Morgan School of Biological Sciences, University of Kentucky, Lexington, Kentucky 40506. An Equal Opportunity Employer.**

ASSISTANT PROFESSORSHIPS IN ANATOMY

The Department of Anatomy at the University of Minnesota seeks one or two assistant professors to begin 1 July 1980. Candidates should have strong research program in cell biology employing multidisciplinary approaches to their problems. One position will be filled by a person with interests in cellular aspects of mammalian reproductive biology, and the other by a person with more general interests in cell biology, or with interests in the gastrointestinal system. Successful candidates will be expected to teach in medical and/or dental gross anatomy and to teach at least one course in their field of interest to graduate students. Letters of application, curriculum vitae, a proposed research program, and three letters of reference must be received by 1 April 1980, and should be addressed to: **Dr. David W. Hamilton, Professor and Head, Department of Anatomy, 4-135 Jach, 321 Church Street, SE, University of Minnesota, Minneapolis, Minn. 55455. An Equal Opportunity Educator and Employer.**

ASSISTANT PROFESSOR—BIOLOGY

Eureka College, an undergraduate liberal arts and sciences college, is seeking a biology faculty member to teach courses in zoology and microbiology. This is a tenure-track position. The qualified applicant must have demonstrated teaching excellence and be prepared to teach courses in general zoology, field ecology, anatomy, physiology, and microbiology. The applicant must have at least a master's degree while a doctorate in the biological sciences or science education is preferred.

Please send a letter of application, credentials, and a résumé, including letters of reference, to: **Ronald B. Greek, Chairman, Science and Mathematics Division, Eureka College, Eureka, Ill. 61530, by 21 March 1980.**

Eureka College is an Equal Opportunity Employer.

ASSISTANT PROFESSOR ENDOCRINE PHYSIOLOGY

The Department of Physiology in the College of Medicine at the University of California, Irvine (UCI), is seeking an assistant professor. We intend to fill the position by autumn 1980.

The research interests of candidates should be at the molecular and/or cellular level and related to important problems of endocrine physiology. Candidates should hold a doctoral degree (Ph.D. or M.D.), have postdoctoral training, and have shown the excellence and originality in research expected of potential leaders in their fields. Duties will include teaching endocrinology to medical students and biophysics and physiology to graduate students.

Send curriculum vitae, several representative publications, and the names of four references to:

**Professor Stephen H. White, Chairman
Department of Physiology
University of California
Irvine, California 92717**

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

ASSISTANT PROFESSOR, VIROLOGY

The Department of Plant Pathology at the University of California, Riverside, has a full-time, 11-month, tenure-accruing position open for an assistant professor in virology with emphasis on virus diseases of citrus and vegetables. A Ph.D. degree with an academic background in plant pathology and virology are required. Send résumé, three confidential letters of recommendation, and complete transcripts to: **Dr. David J. Gumpf, Department of Plant Pathology, University of California, Riverside, Calif. 92521.** Application deadline is 2 May 1980, or later if a suitable applicant has not been selected. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR OF NEUROSCIENCES AND EDUCATION beginning September 1980, to assume leadership in the development of a new graduate program. Candidate should have a firm background in neurobiological sciences as applied to human development, to language/reading, and to neuropsychological assessment with demonstrable ability to bring these competencies to bear on problems of education and rehabilitation. Responsibilities include graduate instruction, doctoral research supervision, and program development. Address inquiries to:

**Professor R. J. Baken, Box 3
Chair, Neurosciences Search Committee
Teachers College, Columbia University
525 West 120 Street
New York, N.Y. 10027**

An Affirmative Action/Equal Opportunity Employer

ASSISTANT PROFESSOR OF PHARMACOLOGY

Applications are invited for a tenure-track faculty position in a research-oriented Department of Pharmacology. Minimal qualifications include a Ph.D. or M.D. degree with strong postdoctoral experience. Candidates must be capable of mounting a vigorous research program and participating in the teaching of medical, dental, and graduate students. Field of research interest is secondary to demonstrable research capability. Prefer September 1980. Send curriculum vitae to: **E. G. Anderson, Department of Pharmacology, College of Medicine, University of Illinois at the Medical Center, P.O. Box 6998, Chicago, Illinois 60680.**

To assure full consideration, apply by 15 April 1980.

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

ASSISTANT PROFESSOR—PHARMACOLOGY

Louisiana State University Medical Center, New Orleans, invites applications for a tenure-track appointment beginning in academic year 1980-1981 as assistant professor. A minimum of 1 to 2 years of postdoctoral experience is required. The appointee will be expected to establish a strong program of research and scholarship in pharmacology and to participate in graduate and Medical Center teaching. *We welcome women and minority applicants.*

Send curriculum vitae, résumé of past and present research, and the names of three references by 15 April 1980 to:

**Dr. Lee Roy Morgan
Professor of Pharmacology
Louisiana State University Medical Center
1542 Tulane Avenue
New Orleans, Louisiana 70112**

Louisiana State University Medical Center is an Equal Opportunity/Affirmative Action Institution.

ASSISTANT/ASSOCIATE PROFESSOR POPULATION/QUANTITATIVE GENETICS

The Department of Poultry Science in the Faculty of Agricultural Sciences at the University of British Columbia at Vancouver invites applications from qualified individuals for a position in population/quantitative genetics. Qualifications: Ph.D. degree in poultry genetics, competence in population/quantitative genetics. Experience in animal behaviour would be advantageous. The candidate must have demonstrated interest, aptitude, and experience in classroom teaching and demonstrated capability in research. Lecture and laboratory instruction in the areas of poultry genetics and ethology in accordance with departmental teaching responsibilities in the professional curriculum. Graduate: opportunity to instruct graduate students in formal courses and/or individual study in areas of the candidate's interest and competence. Research: the development of a creative, productive research program in the field of population/quantitative genetics is a fundamental responsibility associated with the position. Willingness to interact with the poultry industry is essential.

Applications will be accepted until 31 March 1980 or when a suitable candidate is identified. Salary commensurate with qualifications and experience.

Send letter of application, curriculum vitae (including list of publications), transcripts, a statement of research interests, and names of three references to: **Dr. D. B. Bragg, Chairman, Poultry Science Department, Suite 248, 2357 Main Mall, The University of British Columbia, Vancouver, British Columbia, Canada V6T 2A2.**

The University of British Columbia is an Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR, ORGANIC CHEMISTRY, tenure-track. Available September 1980. Background in medicinal chemistry or toxicology preferred. May involve some general chemistry teaching. Expected to generate an active research program. Send curriculum vitae, research directions, and three letters of recommendation to: **Dr. Charles Carraher, Department of Chemistry, Wright State University, Dayton, Ohio 45435. Equal Opportunity/Affirmative Action Employer.**

DEPARTMENT OF PHARMACOLOGY AND THERAPEUTICS UNIVERSITY OF FLORIDA COLLEGE OF MEDICINE

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

ASSOCIATE DIRECTOR MEDICAL ELECTRONIC RESEARCH

An immediate opening exists for an associate director of the Engineering Design Center, a large medical electronic research group at Case Western Reserve University, Cleveland, Ohio 44106. This is a tenure-track position at the associate or full professor level, and will be based in either the Electrical Engineering and Applied Physics Department or the Biomedical Engineering Department. The successful candidate must hold a doctorate in either electrical engineering or biomedical engineering, with established research competence in the areas of solid state electronic devices and technology or biomedical instrumentation. Candidates for this position should have strong administrative abilities and experience in the management of large research groups. The associate director is expected to assume responsibility for all internal administrative functions of the Design Center, and to manage the development of research proposals and contracts for submission to federal agencies, foundations, and industrial corporations.

The Engineering Design Center is currently supported at a funding level of \$1.5 to \$2 million per year. Complete facilities are available for: solid state electronics device study (including CMOS and bipolar integrated circuits), Auger and SEM analysis, telemetry and stimulation system design, and clinical applications and evaluation.

Persons interested in applying for this position should send current curriculum vitae, samples of recent research work, and letters of reference to: **Dr. Wen H. Ko, Director, at the above address, or telephone: 216-368-2934.**

ASSOCIATE IN RESEARCH to work on the **IMMUNOLOGY OF MALARIA**. Research experience in immunology and/or biochemistry; M.S. or equivalent degree required. Send résumé and three letters of recommendation to: **Dr. Anil N. Jayawardena, Department of Pathology (Immunology), Yale University School of Medicine, 310 Cedar Street, New Haven, Conn. 06510. An Affirmative Action Employer. All interested persons are encouraged to apply.**

BIOLOGICAL OCEANOGRAPHY

The Department of Oceanography of Texas A & M University solicits applications for a tenure-track academic faculty position in biological oceanography which is expected to become available 1 September 1980. Appointment will be made at the senior assistant professor/junior associate professor level. Salary will be commensurate with experience. Candidates with process-oriented research experience in marine microbiology and/or marine productivity are especially encouraged to apply. The successful applicant should expect to develop independently funded research and graduate study programs by the second year of appointment. Applicants are invited to submit curriculum vitae, one-page summary of their current and prospective research, and names of three references to: **Dr. D. C. Biggs, Deputy Head, Department of Oceanography, Texas A & M University, College Station, Texas 77843. Telephone: 713-845-7211.**

Texas A & M University is an Equal Opportunity/Affirmative Action Employer. Deadline for applications: 1 April 1980.

POSITIONS OPEN

BEHAVIORAL TOXICOLOGIST. A position at the rank of instructor is available immediately for research involving assessment of health hazards of environmental chemicals as determined by measurement of behavioral effects. Applicants must have Ph.D. in toxicology and experience in assessment of impaired behavior and nerve function, competence in relevant equipment design and computer program development. Send curriculum vitae and arrange to have three letters of reference forwarded by 31 March 1980 to: **P. L. La Celle, Department of Radiation Biology and Biophysics, University of Rochester, School of Medicine, Rochester, N.Y. 14642.** *The University of Rochester is an Equal Opportunity/Affirmative Action Employer.*

BIOCHEMISTRY FACULTY POSITIONS UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES (USUHS)

Applications are invited for junior and senior tenure-track positions (two) to be filled during fiscal year 1980. Responsibilities include medical and graduate level teaching, and an independent research program. Ph.D. or M.D. degree and appropriate postdoctoral experience required. Preference will be given to applicants with research interests in immunology and immunobiology, biophysical chemistry, and eukaryotic molecular biology. Submit curriculum vitae (including names of three professional references) and brief statement of research interests. Send to:

**Personnel/Manpower Division
F. J. Bollum, Biochemistry
Uniformed Services University of the
Health Sciences
4301 Jones Bridge Road
Bethesda, Md. 20014**

USUHS is an Equal Opportunity/Affirmative Action Employer.

BIOCHEMIST

Opening for a position of investigator at the Institute for Steroid Research. Applicant should have a Ph.D. in biochemistry or related field with several years of postdoctoral experience. Preference will be given to applicants with interests in steroid enzymology or mechanism of steroid hormone action. Send curriculum vitae, statement of research interests, and three letters of recommendation to: **Dr. David K. Fukushima, Director, Institute for Steroid Research, Montefiore Hospital and Medical Center, 111 East 210 Street, Bronx, N.Y. 10467.** *Affirmative Action/Equal Opportunity Employer.*

DEAN, SCHOOL OF MEDICINE, University of Nevada, Reno. Chief executive officer for a developing, community-based, primary care medical school. This position requires understanding of and experience and ability in administration, medical education, and research. Essential to this position is a high level of interpersonal skill. Applicants should have an earned doctorate in medicine and/or philosophy in an appropriate science basic to medicine (or its equivalent). The position demands willingness and ability to work closely with practicing physicians, legislators, and others. Applications (including résumé and names of three or more references) and nominations must be in by 1 April 1980. Send inquiries to:

**John N. Chappel, M.D.
Chairman, Dean's Search Committee
Dean's Office, School of Medicine
University of Nevada
Reno, Nevada 89557
Telephone: 702-784-4917**

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

ENTOMOLOGIST—LIVESTOCK

Tenure-track assistant professor position for Ph.D. in entomology with interest, experience, and publications in livestock entomology. Full-time research and involvement in graduate program; probable involvement in teaching and extension later. Preferred area of interest in biting flies on beef and dairy cattle, sheep, and other livestock. Cooperative research is expected with faculty of the College of Veterinary Medicine and Department of Animal Science. Salary competitive. Send letter, résumé, and three letters of recommendation to: **Dr. Milton W. Weller, Head, Department of Entomology, Fisheries and Wildlife, University of Minnesota, 219 Hodson Hall, 1980 Folwell Avenue, St. Paul, Minnesota 55108** by 15 April 1980. Position to be filled by 1 July 1980. *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

WESTERN CONNECTICUT STATE COLLEGE

BIOLOGIST. Tenure-track position, assistant professor rank, opening for fall 1980. Teach anatomy/physiology with strong background in endocrinology and/or immunology; will share teaching general biology for nonmajors. Opportunity to teach biology specialty. Earned doctorate required; teaching experience desirable. Send letter of application and résumé by 31 March 1980 to: **Dr. Robert M. Dole, Jr., Chairperson, Biology, Western Connecticut State College, 181 White Street, Danbury, Conn. 06810.** *An Equal Opportunity/Affirmative Action Employer.*

The Bryn Mawr College **DEPARTMENT OF BIOLOGY** invites applications for two temporary 1-year appointments for the 1980-1981 academic year from persons qualified to teach undergraduate and graduate courses among the following areas: biochemistry, cell and/or molecular biology, neurobiology and/or physiology, and developmental biology. A Ph.D. is required. Facilities are available for independent or collaborative research. Send a résumé and two letters of recommendation to: **Search Committee, Department of Biology, Bryn Mawr College, Bryn Mawr, Pa. 19010.** *Bryn Mawr College is an Affirmative Action/Equal Opportunity Employer.*

CHAIRPERSON

Department of Geology, University of Florida

The department is seeking an individual of outstanding academic achievement and administrative ability to assume the position of chairperson at the rank of professor. Salary and area of specialization are open. Submit inquiries or applications with curriculum vitae and names of three references before 1 April 1980 to: **Dr. D. L. Smith, Department of Geology, University of Florida, Gainesville, Florida 32611.** *The University of Florida is an Equal Opportunity/Affirmative Action Employer.*

CLINICAL PATHOLOGY—UNIVERSITY OF MICHIGAN. The Clinical Pathology program of the Department of Pathology of the University of Michigan is seeking a Board-certified clinical anatomic pathologist at the instructor/assistant professor level. Duties will include assistance with administration and medical direction of the Clinical Pathology Laboratories, especially in the areas of chemical pathology and laboratory data processing. The applicant should also have interest in clinical hematologic pathology. Responsibilities will also include instruction of medical students and residents, and there will be ample opportunity for applied research. Faculty rank and salary will be commensurate with experience and qualifications. Please direct inquiries to: **Peter A. Ward, M.D., and Harold A. Oberman, M.D., Department of Pathology, The University of Michigan, 1335 East Catherine Street, Ann Arbor, Mich. 48109.** Code 2100F0. *A nondiscriminatory, Affirmative Action Employer.*

DIRECTOR OF THE MEDICAL CENTER DEAN OF THE COLLEGE OF MEDICINE UNIVERSITY OF SOUTH FLORIDA (USF)

The University of South Florida invites nominations and applications for the position of director of the Medical Center and dean of the College of Medicine. The College of Medicine is one of ten colleges at the University of South Florida, an urban institution with more than 23,500 students on four campuses in Tampa, St. Petersburg, Sarasota, and Ft. Myers, with a total budget of \$100 million, and situated in one of the most rapidly growing areas in the United States.

The director of the Medical Center and dean of the College of Medicine is responsible for the overall operation of the center and college, including instruction, research, patient care, and public service. The director of the Medical Center reports directly to the president and as dean reports to the vice president for academic affairs.

Candidates should possess an M.D. degree and have had substantial experience in medical education and research.

Salary is competitive and negotiable. The position is available 1 September 1980, and application deadline is 1 May 1980.

According to Florida law, applications and meetings regarding this position are open to the public. *USF is an Equal Opportunity Employer.*

Nominations or applications should be sent to: **Dr. James A. Hallock, Secretary, Search Committee, Associate Dean, Box 5, University of South Florida, College of Medicine, 12901 North 30 Street, Tampa, Fla. 33612.**

POSITIONS OPEN

The **BIOLOGICAL SCIENCES DEPARTMENT** at the University of California, Santa Barbara, invites applications for an appointment at the level of **LECTURER.** Candidates should possess a strong background in physiology and cell biology, and a demonstrated commitment to excellence in teaching and research. The department is particularly interested in persons whose training and research is in the area of ultrastructure and cell biology of sensory systems. Teaching duties will include contributions to two neurobiology courses, plus one course in human physiology. The duration of the appointment can be up to a maximum of 4 years. Applicants should submit curriculum vitae, a summary of teaching interests and research experience, copies of two representative publications, and names of three references to: **Chairman, Department of Biological Sciences, University of California, Santa Barbara, California 93106.** Applications must be postmarked no later than 15 April 1980. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

COPP CHAIR OF BIOCHEMISTRY

San Diego State University, Department of Chemistry, is seeking candidates and nominations for the **E. F. F. Copp Chair of Biochemistry.** This chair will form an integral part of an active molecular biology group with doctoral and postdoctoral programs. The Search Committee is interested in candidates who are outstanding scientists and whose research interests lie in the area of diabetes and carbohydrate metabolism, preferably with special emphasis on hormone receptors, cell membranes, or mechanisms of hormone action. The chair includes a tenurable position at the full professor level with annual remuneration that is negotiable up to \$60,000 under an endowment by the California Metabolic Research Foundation. The amounts of personal research space and start-up funds allocated for the chair is substantial, but they are negotiable and depend on the grant support of the awardee. Applications should be submitted with curriculum vitae by 1 June 1980 to:

**Copp Chair Search Committee
Department of Chemistry
San Diego State University
San Diego, Calif. 92182**

An Affirmative Action/Equal Opportunity/Title IX Employer

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

Position available 1 July 1980 for **DIRECTOR OF AUDIOLOGY/PROFESSOR** in the Department of Otorhinolaryngology. Responsibilities will include the organization and direction of a diagnostic and rehabilitative audiologic service program. Activities will include patient care, teaching, and basic or clinical research. Candidates must have a Ph.D. degree and at least 5 years of experience. Reply to: **Box 57, SCIENCE.** Code 800B0. *A nondiscriminatory, Affirmative Action Employer.*

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

Position available 1 July 1980 for **INSTRUCTOR TO PROFESSOR** in the Department of Otorhinolaryngology. Responsibilities will include patient care, medical student teaching, and house officer education. Will also be expected to engage in basic or clinical research. The majority of these activities will be carried out at the VA Hospital. M.D. degree; must be eligible for or certified by the American Board of Otorhinolaryngologists. Must be competent in all phases of clinical otorhinolaryngology. Reply to: **Box 58, SCIENCE.** Code 200H0. *A nondiscriminatory, Affirmative Action Employer.*

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

Position available 1 July 1980 for **INSTRUCTOR THRU PROFESSOR** in the Department of Otorhinolaryngology. Responsibilities will include patient care, medical student teaching, and house officer education. Will also be expected to engage in basic or clinical research. This person will possibly have similar responsibilities at the VA Hospital and Wayne County General Hospital. M.D. degree; must be eligible for or certified by the American Board of Otorhinolaryngologists. Must be competent in all phases of clinical otorhinolaryngology. Experience or interest in neuro-otology is required. Reply to: **Box 59, SCIENCE.** Code 100H0. *A nondiscriminatory, Affirmative Action Employer.*

AQUATIC QUANTITATIVE ECOLOGIST AND FISHERIES MANAGEMENT BIOLOGIST

The Biology Department at Montana State University (MSU) is seeking applicants for the following two positions:

QUANTITATIVE AQUATIC ECOLOGIST, with research strengths in aquatic primary production and applied systems analysis. Teaching responsibilities will include an introductory course in freshwater algae and a graduate course in population dynamics or community ecology serving graduate programs in both terrestrial and aquatic ecology. The successful candidate will be expected to develop a strong research program and to work with faculty and students in applying mathematical techniques to the analyses of diverse problems.

FISHERIES MANAGEMENT BIOLOGIST, with emphasis on applied, problem-oriented aspects of coldwater fish population and habitat relations. Teaching responsibilities will include an undergraduate course in biology and a graduate course in fisheries management. Responsibilities also include the advising of undergraduate students in the fish and wildlife curriculum and supervising graduate students in fisheries management research projects. The appointee will be expected to work closely with state and federal resource management agencies.

These will be tenure-track positions, with responsibilities expected to be divided about equally between teaching and research. The successful applicants will be expected to develop strong research programs in the respective areas of specialization mentioned above. Ph.D. or equivalent degrees are required; appointments will be at the level of assistant or associate professor depending on qualifications and experience. Starting date will be 1 September 1980. Inquiries or applications should be addressed to the appropriate selection committee, Department of Biology, Montana State University, Bozeman, Montana 59717. Applications should include curriculum vitae and the names of three references, and are due by 15 April. MSU is an Equal Opportunity/Affirmative Action Employer.

ACADEMIC OPENINGS UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Applicants are sought for full-time and split-time positions starting July 1980. Applicants must possess superior academic credentials in teaching and research and must have a Ph.D. or M.D. and appropriate post-doctoral experience. (a) Two full-time, tenure-track positions at assistant professor level (other levels may also be considered) are anticipated in the following areas: (i) epidemiology or public environmental health, and (ii) biomechanics. Applicants for these positions should be capable of teaching both undergraduate and graduate courses and show promise of developing an active and independent research program. Positions subject to available funding. (b) Split-time appointments, composed of half-time teaching positions in Department of Ergonomics and half-time research positions in the Institute of Environmental Stress, University of California, Santa Barbara, are also available. Candidates must have the potential to obtain extramural support. (i) Perception and motor-learning: emphasis on physiological and psychological mechanisms of attention, learning, and control. (ii) Physiology and pathophysiology: emphasis in cardiovascular and environmental physiology. (iii) Toxicology: emphasis on identification and evaluation of environmental pollutants. Positions subject to available funding.

Applicants are invited to submit curriculum vitae, names and addresses of three references, and a brief description of their research and teaching interests to:

Steven M. Horvath, Chairman
Department of Ergonomics
University of California
Santa Barbara, California 93106

Deadline for receipt of application is 1 April 1980.

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

Assistant or Associate Scientist

Applications are invited for the position of Assistant or Associate Scientist, depending on experience, in the Department of Physical Oceanography. Both open-ocean and near-shore or estuarine research talents are being sought along with specific interest in upper ocean and/or climate projects. Applicants should have an academic background (Ph.D. preferred) in physical oceanography and some experience in conducting independent basic research. Sea-going and/or observation-based capabilities are desirable, and predilection for the application of remote-sensing technology is specifically pertinent. The successful candidate will be appointed for a two-year or four-year term with reappointment to be considered at the end of that term.

Please send resume, reprints, and transcripts to the Personnel Manager.



**WOODS HOLE
OCEANOGRAPHIC
INSTITUTION**
Woods Hole, MA 02543

An equal opportunity employer M/F/H

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

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

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

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

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

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

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

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

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

SR. RESEARCH MICROBIOLOGIST

Merck, Sharp & Dohme Research Laboratories has an impressive record for the development of breakthrough products covering a wide spectrum of human and animal diseases. Our laboratory offers the experienced professional a sophisticated research and development environment with research projects that will challenge and broaden your technical expertise.

Responsibilities of this position will include investigating respiratory infections of major importance in stock animals. Research programs involve identifying causative organisms, studies on hostcell parasite interaction, developing model infections in laboratory or target species and developing innovative approaches to prevention and control of these infections.

We are presently seeking an individual with a Ph.D. or equivalent experience in the microbiology of infectious diseases. The successful candidate will have a record of scientific achievement, and demonstrated capability to conduct research independently.

Salary, benefits and growth potential are excellent. If interested, please send résumé to Ms. Susan R. Jenkins,



MERCK & CO., INC.

P.O. Box 2000
Rahway, New Jersey 07065

An equal opportunity employer, m/f

POSITIONS OPEN

CHAIR, GRADUATE PROGRAM IN MARINE-ESTUARINE-ENVIRONMENTAL SCIENCES (MEES) UNIVERSITY OF MARYLAND COLLEGE PARK CAMPUS

An interdisciplinary Program in Biological, Physical, and Chemical Sciences and Resource Management. The chair will handle administrative matters, work with MEES chairs from other campuses of the university, and be responsible for recruitment and admission of students to the program and development and management of curricular and other matters to ensure a high-quality graduate program. The chair will devote one-half time to administration and the remainder to research and teaching.

Qualifications: an earned doctorate and eligibility for a tenured faculty appointment in botany, chemistry, entomology, geology, microbiology, zoology, or one of the agricultural sciences. Must have a record of quality research and teaching.

Send nominations and applications with curriculum vitae and three letters of recommendation by 11 April 1980 to:

Dr. George R. Helz, Chairman
MEES Chair Search Committee
University of Maryland
Department of Chemistry
College Park, Md. 20742

An Equal Opportunity/Affirmative Action Employer

CLINICAL IMMUNOLOGY SUPERVISOR

The Microbiology Laboratory of the North Carolina Memorial Hospital, a 600-bed teaching hospital affiliated with the University of North Carolina, is seeking a qualified individual to supervise its Clinical Immunology Laboratory. This progressive laboratory offers diagnostic procedures in the areas of immunodeficiency, rheumatology, autoimmunity, and infectious diseases. Applicants should have a degree in medical technology or a related major, with at least 3 years of experience in immunology. Contact: Jane Grissom, Employment Office, North Carolina Memorial Hospital, Chapel Hill, N.C. 27514.

An Equal Opportunity/Affirmative Action Employer

ENVIRONMENTAL SCIENTIST—The Minnesota Department of Health is seeking a research scientist to function as a member of a health risk assessment unit which studies a broad spectrum of problems involving human exposure to toxic materials. Advanced degree in environmental health required. Training in air pollution, epidemiology, toxicology, and bachelor's degree in basic science preferred. Salary: \$1,470 to \$1,985 per month. Send résumé to: David Gray, Health Building, 717 Delaware Street, SE, Minneapolis, Minn. 55440.

An Equal Opportunity Employer

ENVIRONMENTAL SCIENTISTS

HAZLETON ENVIRONMENTAL SCIENCES CORPORATION providing environmental and ecological consulting services throughout the United States and abroad anticipates expansion during the first half of 1980 in the following disciplines:

OCEANOGRAPHER/LIMNOLOGIST: mathematics and hydrology background, Ph.D. or M.S. plus experience.

FISHERIES BIOLOGIST-STATISTICIAN: statistics and population dynamics background; M.S. plus experience.

WATER QUALITY SCIENTIST—DIRECTOR: Ph.D. plus 8 years of experience in analytical chemistry.

MAMMALIAN ECOLOGIST: ornithological and mammalian Midwest field experience; M.S.

LAND USE/SOCIOECONOMIC PLANNER: M.S. experienced in utility siting, corridor analysis, ER/EIS preparation.

PLANT ECOLOGIST: M.S. with broad geographical experience, Midwest emphasis.

We offer competitive salaries complemented by an excellent benefit program. Interested qualified candidates are encouraged to forward their résumés to: **Personnel Administrator, Hazleton Environmental Sciences Corporation, 1500 Frontage Road, Northbrook, Illinois 60062.**

Equal Opportunity Employer, M/F/H/V

POSITIONS OPEN

FACULTY POSITION DEPARTMENT OF BIOLOGY THE UNIVERSITY OF CHICAGO

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

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

FACULTY POSITION IN EPIDEMIOLOGY

Applications are invited for appointment as associate professor of epidemiology in the Department of Biomedical and Environmental Health Sciences, School of Public Health, University of California, Berkeley. The responsibilities of the position include the development of courses and a research program in the epidemiology of occupationally related diseases as well as participation in the epidemiology and occupational health teaching program. The incumbent will also be expected to develop collaborative relationships at the Medical Center in San Francisco through the Northern California Occupational Health Center. Applicants should possess the M.D. or Ph.D. degree and demonstrated research, teaching, and professional competence in epidemiology. The appointment will be at a tenured level and salary is negotiable. *The University of California is an Affirmative Action Employer.* Submit curriculum vitae, names of four references, and a reprint of the single publication most relevant to the position by 15 May 1980 to: **Dr. Robert C. Spear, 206 Warren Hall, School of Public Health, University of California, Berkeley, Calif. 94720.**

FACULTY POSITION

The University of Wisconsin-Madison is seeking a tenured or tenure-track faculty member to teach and do research in the Departments of Nuclear Engineering and Metallurgical and Mineral Engineering. The applicant should be experienced in the fields of both electron microscopy and radiation damage to materials. Rank up to full professor. Position available summer 1980. In order to ensure consideration for the position, send résumé by 1 April 1980 to:

Professor Max W. Carbon, Chairman
Nuclear Engineering Department
University of Wisconsin-Madison
Madison, Wis. 53706

The University of Wisconsin is an Equal Opportunity Employer.

MARINE GEOCHEMIST

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

MEDICAL ENTOMOLOGIST

Field staff director at Bakersfield, California, in the research specialist series concerned with evaluating the bionomics, genetic control, and vector competence of mosquito vectors of arboviruses. Graduate degrees and experience required in medical entomology including the biology, physiology, and genetics of mosquitoes. Supervisor of a scientific and research staff of six persons and responsible to co-directors of project in Berkeley. Send three letters, transcripts, curriculum vitae, and statement of research interests to: **Dr. W. C. Reeves, Department of Biomedical and Environmental Health Sciences, Earl Warren Hall, University of California, Berkeley, Calif. 94720.** Application deadline is 1 April 1980. *The University of California, Berkeley, is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

HEAD, BIOENGINEERING PROGRAM UNIVERSITY OF ILLINOIS AT CHICAGO CIRCLE CAMPUS

The University of Illinois at Chicago Circle Campus invites nominations and applications for the position of head of the Bioengineering Program and professor of bioengineering, beginning 1 September 1980. Candidates should possess a doctorate, a distinguished record of research, strong commitment to teaching commensurate with the professional rank in this university, and demonstrated leadership ability. The program offers the bachelor's and master's degrees, and the Ph.D. degree through a joint program with the University of Illinois at the Medical Center campus. Salary is open. Send nominations and applications, including curriculum vitae, within 30 days of appearance of this ad and not later than 30 April 1980 to:

Professor Wolfgang-M. Boerner
Chairman, Search Committee
Department of Information Engineering
University of Illinois at Chicago Circle
Box 4348
Chicago, Ill. 60680
Telephone: 312-996-5489 or 996-2331

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

HEALTH PROFESSIONAL. Requires an advanced degree in public health or epidemiology with background in statistics. To be staff expert on major project on assessment of health and environmental problems associated with coal mining and use. Should be well versed on epidemiological studies and on public health effects associated with various air and water pollutants including SO₂, NO_x, trace elements, and radionuclides. Sufficient experience to have developed credentials within the health community is desirable. Salary commensurate with qualifications and experience. Apply to: **J. Garvey, President, Bituminous Coal Research, Inc., 350 Hochberg Road, Monroeville, Pennsylvania 15146.** *An Equal Opportunity Employer.*

IMMUNOCHEMISTRY/ IMMUNOCYTOCHEMISTRY

Immediate opening for B.S.-M.S. level scientist with experience in immunological techniques to assist in immunocytochemical research projects in cell biology. A good background in biochemistry with experience in preparation and purification of antibodies, immunochemistry, and immunofluorescence microscopy are mandatory. A background in biology and experience in tissue preparation, sectioning and analysis of tissues by electron microscopy is highly desirable. Salary commensurate with experience. Send résumé to:

Dr. Marilyn Gist Farquhar
Section of Cell Biology
Yale University School of Medicine
333 Cedar Street
New Haven, Connecticut 06510

Yale is an Affirmative Action/Equal Opportunity Employer.

IMMUNOLOGIST: ASSISTANT PROFESSOR

Opening for a tenure-track faculty position is anticipated for summer 1980. Applicants should have a Ph.D. in biochemistry or immunology and postdoctoral training. Candidates are expected to develop an independent research program and to teach medical and graduate students. Send curriculum vitae, names of three references, and a detailed description of proposed research interests by 31 March 1980 to: **Dr. Barry Harris, Division of Genetics and Molecular Medicine, Meharry Medical College, 1005 18th Avenue North, Nashville, Tennessee 37208.**

Meharry is an Equal Opportunity/Affirmative Action Employer.

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

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

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

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

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

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

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

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

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

OR

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

**SUMMER-TERM
TEACHING POSITIONS
IN BOTANY
AT OREGON STATE UNIVERSITY**

The following teaching positions are available for summer term 1980:

Position 1

Bot 201-202—General Botany, 17 June to 11 July; 14 July to 8 August.

Lecture and laboratory on: phylogenetic survey of the plant kingdom, morphology; structure and physiology of seed plants.

Position 2

Bot 451—Plant Disease Diagnosis, 17 June to 8 August.

Field trips and laboratory on plant disease identification and control. For advanced undergraduate and graduate students.

Position 3

Bot 572T—Morphology and Anatomy of Seed Plants, 17 June to 8 August.

Structure, development, and reproduction of seed plants.

Position 1 could be divided, each person having responsibility for only one course, if necessary. All positions are for summer term only.

Qualifications include: completion (or near completion) of the Ph.D. degree; prior college-level teaching experience in equivalent course(s); and, in the case of Bot 451, detailed familiarity with plant diseases of the Pacific Northwest and local region. Salaries are negotiable.

Address inquiries and applications (including curriculum vitae and two letters of recommendation) prior to 15 April 1980 to:

**Dr. Thomas C. Moore, Chairman
Department of Botany and Plant Pathology
Oregon State University
Corvallis, Oregon 97331**

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

Marine Chemist

Applications are invited for a staff position at the Assistant Scientist to Associate Scientist level in the Chemistry Department at the Woods Hole Oceanographic Institution. Applicants should have a Ph.D. and demonstrated excellence in research in the area of marine chemistry. Starting dates are open but the successful applicant would be expected to commence before the fall of 1980. Starting salary will be dependent on experience.

Send resume, transcripts, and reprints to:

Personnel Manager

WOODS HOLE OCEANOGRAPHIC INSTITUTION

Woods Hole, MA 02543



An Equal Opportunity Employer M/F

**UNIVERSITY OF OKLAHOMA
COLLEGE OF MEDICINE**

Applicants are solicited for **FACULTY POSITIONS** in the following departments:

GYNECOLOGY-OBSTETRICS (Number 220), assistant professor, patient care supervision. Research in reproductive biology. Education of gynecology and obstetrics students and residents, and residents from other services. Approved residency and completion of written examination of the American Board of Obstetrics and Gynecology, Inc. **PEDIATRICS** (Number 213), assistant professor, infectious diseases program. Supervise the diagnostic laboratory in a large children's hospital and to participate in teaching and research. Experience in electron microscopy, fluorescence, RIA, and ELISA required. M.D. or Ph.D. **PHARMACOLOGY** (Number 219), assistant professor, responsibilities include: teaching medical, dental, allied health, and graduate students. Conducting independent, externally fundable research in one of the following areas: neuro-endocrine, toxicology, drug metabolism, or molecular pharmacology. Requirement: Ph.D. in pharmacology or M.D.; 1 to 2 years of postdoctoral training required. **PSYCHIATRY** (Number 209), clinical instructor/assistant professor, consult with pediatricians regarding psychological problems of patients and family who have been assigned to the neonatal unit. Responsibilities will include educating staff in child management techniques. Ph.D. in psychology. Experience in child assessment and family counseling required. (Number 222), clinical assistant professor, clinical social worker. Responsibilities will include coordination of admissions, treatment planning, assist in supervising those trainees who are assigned to the unit. Ph.D. or master's degree in social work. (Number 223), clinical assistant professor, provide liaison service to the orthopaedic service and provide individual patient-oriented consultation as requested by the Orthopaedic Staff, will be responsible to the Chief, Mental Health Services and Chief of Orthopaedic Services at Oklahoma Children's Memorial Hospital. Ph.D. clinical psychologist. (Number 224), clinical assistant professor, Chronic Care Unit at Oklahoma Children's Memorial Hospital, administer and/or supervise psychological testing as required on an individual basis, provide therapy, individual and group. Supervision of trainees assigned to the Department of Psychiatry and Behavioral Sciences.

Applicants should send curriculum vitae, identifying vacancy number for which they are applying, to: **Dr. Thomas N. Lynn, Dean, College of Medicine, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, Okla. 73190.** We are an Equal Opportunity Employer.

ENVIRONMENTAL BIOLOGIST/ECOLOGIST (two positions). The Office of Marine Pollution Assessment, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce in Rockville, Maryland, is seeking an environmental biologist or ecologist with scientific expertise in the study of marine pollution problems and marine ecosystem research to serve on a 2-year IPA Assignment. The assignee will participate in reviewing ongoing and planned studies to recommend refining biological/ecological program content to improve applicability and timeliness to national needs and priorities. Advises management of the implications and effects of ongoing, new, or proposed programs in marine ecosystems research, marine pollution, and man's activities in coastal and marine environments and recommends appropriate actions for effective and orderly integration of efforts and resources.

PROGRAM ANALYST. The Office of Marine Pollution Assessment in Rockville, Maryland, is also seeking a program analyst with expertise in oceanography, biology, ecology, or general physical science as it applies to marine pollution studies and marine ecosystem research. Assignee participates in programmatic reviews, maintaining a working knowledge of the ongoing programs and familiarity with investigators and their research activities. Analyzes all aspects of the current NOAA program in relation to national needs and priorities. Identifies new programmatic needs based on program evolution, enacted legislation, and newly perceived needs in socioeconomic and ecological realms. Analyzes programs for cost-effectiveness, utility for decision-making, scientific soundness, and suitability to the overall program. When new program requirements are identified, prepares support documentation for new budget initiatives.

For the above noted positions only employees of state or local governments or institutions of higher education, who can obtain a 2-year leave of absence, are eligible to apply. Assignee will remain an employee of his/her respective organization. Base salary range is \$20,611 to \$32,110 per annum. Final salary determination will be based on candidate's current salary and qualifications. Reimbursement for salary, travel, benefits, moving expenses, and so forth, is negotiable between employee's organization and NOAA. To apply, submit an SF-171, Personal Qualifications Statement, which can be obtained from any federal office or by telephoning: 303-499-1000, extension 6586, to: NOAA/NTIA, Personnel Services Division, R561, Boulder, Colo. 80303, Attention Ms. Stoll. Applications must be postmarked no later than 15 April 1980, to receive consideration.

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

FACULTY POSITION— OCCUPATIONAL HEALTH NURSING

NIOSH-funded graduate program in occupational health nursing seeks qualified nurse faculty to teach, advise students, and participate in research activities. Purpose of program is to prepare occupational health nurses at the master's and doctoral levels for positions in education, management, consultation, and research. Position requirements include earned doctoral degree, experience as graduate faculty, and research interest in occupational health. Send letter of application, curriculum vitae, and references to:

Dr. Diane Fogleman, Director
Occupational Health Nursing Program
Department of Environmental Health Sciences
The Johns Hopkins School of Hygiene
and Public Health
615 North Wolfe Street—Room 7032
Baltimore, Maryland 21205

An Equal Opportunity/Affirmative Action Employer

IMMUNOLOGY FACULTY POSITION

Applications invited for a faculty position available 1 July 1980 in immunology at the Department of Microbiology, Boston University School of Medicine. Applicant should be engaged in vigorous and creative research program and should have demonstrated independence as a laboratory investigator. Applicant should also be an effective teacher and be able to direct graduate students. Shared teaching responsibilities involve instructing medical and graduate students.

Applicants should provide curriculum vitae, a short statement of research interests and accomplishments, and the names of three scientists willing to write letters of recommendation. Salary and rank will be commensurate with experience. Please reply before 1 April 1980 to: **Paul H. Black, M.D., Chairman, Department of Microbiology, Boston University School of Medicine, 80 East Concord Street, Boston, Massachusetts 02118.**

Equal Opportunity/Affirmative Action Employer

IMMUNOLOGIST—ASSISTANT PROFESSOR

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

Send curriculum vitae to:

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

UNIVERSITY OF OTAGO Dunedin, New Zealand VISITING LECTURER IN BIOCHEMISTRY

Applications are invited from graduates with appropriate experience for appointment as visiting lecturer in biochemistry for a maximum term of 1 year. The post will be available from mid-August 1980.

Salary: lecturer: NZ\$13,722 to NZ\$16,861 per annum, depending upon qualifications and experience.

A portion of the salary may be paid as a direct grant for fares and travel expenses of the appointee and his or her family. The residue will be subject to New Zealand income tax.

Further particulars are available from: **Secretary-General, Association of Commonwealth Universities, 36 Gordon Square, London, WC1H 0PF, England,** or from: **D. W. Girvan, Registrar, P.O. Box 56, Dunedin, New Zealand.**

Applications, quoting Reference A.80/5, close in London and New Zealand on 15 March 1980.

POSITIONS OPEN

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

Position available 1 July 1980 for **INSTRUCTOR/ASSISTANT PROFESSOR** in the Department of Surgery. Duties include performance and supervision of orthopaedic surgery patient care, teaching of medical students, residents, participation in continuing medical education programs, participation in clinical and/or laboratory research. Completion of orthopaedic training program in the United States or its equivalent and eligibility or certification by the American Board of Orthopaedic Surgery. Evidence of participation in teaching and research. Documented experience in teaching and clinical laboratory research and ability to compete for external funding for investigation desirable. Reply to: **Box 55, SCIENCE, Code 400H0. A nondiscriminatory, Affirmative Action Employer.**

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

Two positions available 1 July 1980 of **INSTRUCTOR THRU PROFESSOR** in the Department of Surgery. Duties include perform and supervise general surgery clinical care. Participate in student and resident continuing medical education programs. Participate in clinical or laboratory investigations. Must have completed a general surgery residency program and be eligible or Board-certified in general surgery. Training or experience in investigation. Desired qualifications: have participated in academic program during or after training with in-depth clinical experience in the specific area of general surgery, author or co-author of scientific publications, and active participation in a clinical or laboratory project. Reply to: **Box 56, SCIENCE, Code 500D0 and 600H0. A nondiscriminatory, Affirmative Action Employer.**

EXPERIENCED SECONDARY SCIENCE INSTRUCTOR needed to teach biology and a science elective at highly competitive, rural, Roman Catholic, college-preparatory boarding school for boys. Elective need not be biology-related. Some graduate work and experience required. Extracurricular interests desirable. Send résumé and references to: **Headmaster, Portsmouth Abbey School, Portsmouth, R.I. 02871.**

JUNIOR RADIOTHERAPIST DEPARTMENT OF RADIATION ONCOLOGY

A junior staff appointment will be available 1 July 1980 in the Department of Radiation Oncology, Rhode Island Hospital, with appointment at Brown University, Section on Radiation Medicine, as instructor to assistant professor. Predominantly a clinical position with three-quarters of the time devoted to the management of cancer patients. Participation in the various teaching conferences of the department and in conjunction with the other departments of the hospital (for example, medical oncology, pediatrics oncology, gynecology, and so forth). Research facilities in radiobiology, biophysics, computer sciences, and clinical investigation available for individual projects. Send résumé by 15 April to:

Dr. Arvin S. Glicksman
Department of Radiation Oncology
Rhode Island Hospital
Providence, R.I. 02902

Rhode Island and Brown University are Equal Opportunity Employers.

MICROBIAL MOLECULAR GENETICIST CORNELL UNIVERSITY

The Department of Plant Pathology invites applications for a tenure-track appointment. The successful applicant will be expected to develop a program of research on the genetics and molecular biology of plant pathogens and to contribute expertise in microbial genetics to the graduate level teaching program. Research will focus on application of molecular biological methods to studies of the molecular bases of pathogenicity in fungi and/or bacteria. Training and research experience should be in microbial molecular genetics and include recombinant DNA technology. Knowledge of plant pathology is not essential. A Ph.D. is required and postdoctoral experience is preferred. Submit a letter of application, transcripts, résumé, including publication list, and names and addresses of five referees to: **O. C. Yoder, Department of Plant Pathology, 356 Plant Science Building, Cornell University, Ithaca, N.Y. 14853. Telephone: 607-256-3243.** Applications must be complete by 1 May 1980. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

MICROBIOLOGIST. A position is immediately available for a Ph.D. with research skills in mycobacteriology, aquatic microbiology, and microbial taxonomy, to study the epidemiology of nontuberculous mycobacteriosis. The salary will range from \$13,000 to \$16,450, depending on experience. Send résumé and three references to: **Dr. Howard Guff, Division of Laboratories and Research, New York State Department of Health, Empire State Plaza, Albany, N.Y. 12201.**

MOLECULAR BIOLOGIST/GENETICIST with at least 2 years of postdoctoral experience and experience in teaching medical microbiology. Assistant professor level, expected to establish independent research program and direct graduate students. Teaching includes participation in medical microbiology course and development of alternate year one-semester graduate course in molecular biology/genetics. Salary competitive. Available 1 September 1980. Send curriculum vitae and names of three references to: **Dr. Arthur K. Saz, Department of Microbiology, Georgetown University Schools of Medicine and Dentistry, Washington, D.C. 20007.**

An Equal Opportunity/Affirmative Action Employer

NEUROSCIENTIST

Distinguished professorship available. The University of Pittsburgh seeks a renowned scholar and scientist to join an ongoing interdisciplinary program in neuropsychobiology.

Applicants should be interested in maintaining a strong research career and providing leadership within the local neuroscience community.

Joint appointments in two or more of the following four departments are negotiable: in the Faculty of Arts and Sciences, Biological Sciences and Psychology (Psychobiology); in the School of Medicine, Pharmacology and Psychiatry.

For further information, please contact: **Dr. Edward M. Stricker, Chairman, Neuroscience Search Committee, 479 Crawford Hall, University of Pittsburgh, Pittsburgh, Pennsylvania 15260.**

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

NUTRITION/ANTHROPOLOGY. A postdoctoral research associate is needed to participate in a study on the effects of undernutrition on agricultural labor productivity in Bolivia. Duties will be to coordinate field and laboratory research components of an international and interdisciplinary research team. Candidates must have experience in human nutrition surveys, work physiology, and international rural development, and speak fluent Spanish. Appointment begins 1 June for 12 to 18 months. Send curriculum vitae and three letters of recommendation to: **Dr. Jere D. Haas, Division of Nutritional Sciences, N206 MVR, Cornell University, Ithaca, N.Y. 14853 by 15 April 1980. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOWS AND VISITING SCHOLARS IN HEALTH LAW 1980-1981

Two or three stipends for 3 months to 1 year each will be awarded on a competitive basis, to start 1 September 1980. Minimum requirement: a doctoral degree or equivalent (Ph.D., M.D., Dr.P.H., J.D., L.L.B., and so forth). Applicants should have a degree or experience in a field related to health law. Stipends will be determined on the basis of experience.

FELLOWS AND SCHOLARS will study in a new Institute which is a cooperative venture of the University of Houston College of Law and The University of Texas Health Science Center at Houston. Emphasis will be placed on scholarly research.

FELLOWS will conduct an in-depth study of a topic approved by the faculty. Topics of special interest to the resident faculty include environmental and occupational health law, genetics and the law, mental health law, professional-client relationships, and human values in professional school education.

SCHOLARS may choose to pursue research and writing in an area of health law which is outside the expertise of the resident faculty and will be encouraged to offer a one-semester seminar to graduate and/or professional students.

Application deadline is 15 April 1980. All applicants will be notified by 1 May 1980. For application forms (which contain detailed information), write: **Margery W. Shaw, M.D., J.D., Acting Director, Institute for the Interprofessional Study of Health Law, P.O. Box 20334, Houston, Texas 77025.**

MARINE BIOCHEMIST

Interstate Electronics Corporation is a major defense contractor working on the leading edge of high technology. We currently have an opening for a Marine Biochemist who is a recent PhD to join the Ocean Sciences group heavily committed to ocean environmental studies. Position will involve applied research on the implications of trace metal fates and toxicity to marine life.

Please send resume with salary history to: **Tony Pardi**.

**INTERSTATE
ELECTRONICS
CORPORATION**

SUBSIDIARY OF **ATO**

Employment Department
707 E. Vermont Ave.
Anaheim, CA 92805

Equal Opportunity Employer M/F

NAVAL RESEARCH LABORATORY

Space Science Division

PHYSICIST POSITIONS

IONOSPHERIC PLASMA PHYSICIST or ASTROPHYSICIST

GS-11 (\$20,611 to \$26,794 per annum)

GS-12 (\$24,703-\$32,110 per annum)

Salary dependent upon qualifications

ASTROPHYSICIST, GS-11 or 12, Announcement #41-083

Participates in a wide range of experimental research in Solar Physics. The research is concentrated largely on ultraviolet spectroscopy using state-of-the-art instrumentation flown on sounding rockets, satellites, and Space Shuttle missions. Applicants should have some background and a strong interest in experimental research in the field of Optics, Astrophysics or Solar Physics.

RESEARCH PHYSICIST (Ionospheric Plasma) GS-12 Announcement #42-076

Plans and conducts research on ionospheric plasma phenomena, particularly as it applies to experimental studies of ionospheric irregularities, instability mechanisms, and turbulence occurring naturally in the ionosphere or generated by artificial means (chemical releases, beam-plasma interaction, etc.) Provides liaison activities between scientific requirements, hardware interfaces, and space-craft design for research programs related to the Space Shuttle. Participates in field operations; presents research results to professional organizations and coordinates research projects with other groups.

These are career Civil Service Positions with all normal fringe benefits.

Interested applicants should submit a Standard Form 171, (Personal Qualifications Statement), or detailed resume, by 23 March 1980 to:

Naval Research Laboratory
Civilian Personnel Office
Attention: (appropriate announcement number)
4555 Overlook Avenue, S.W.
Washington, D.C. 20375

An Equal Opportunity Employer



U.S. Citizenship is required.

Metabolism Scientist

Ph.D in Pharmacology or Biochemistry is preferred, but not essential. A college degree is required, with minimum 3 years experience in metabolism of xenobiotics in animals and fate of chemicals in the environment. Should be familiar with biochemical techniques, separation science and analytical instrumentation.

Primary assignment is to conduct studies on the pharmacokinetics and metabolism of chemicals in laboratory animals and plants. Will also be involved in studying the environment fate of chemicals.

Position is located in Chicago. Generous relocation policy included in excellent employee benefit program. Send resume with salary history, in confidence, to:

Manager, Professional Recruitment

**Velsicol Chemical
Corporation**

341 E. Ohio St.
Chicago, IL 60611

An Equal Opportunity Employer M/F



RESEARCH PHARMACOLOGIST

Merrell Research Center, the domestic ethical pharmaceutical research division of Richardson-Merrell, Inc., has an immediate opening for a research pharmacologist in C.N.S. pharmacology. This position assumes responsibility for establishment, overall direction and supervision of a C.N.S. pharmacology group to complement our current cardiovascular/autonomics groups in the development of new drug candidates.

We seek a PhD in pharmacology or physiology with 2-3 years post-doctoral or industrial experience in the C.N.S. area with special emphasis of behavioral aspects. Experience in gross observational behavior is essential; experience in neurochemical techniques is desirable. Direct laboratory involvement in establishing a program for evaluation of general C.N.S. and behavioral effects of acute/chronic drug administration is expected; recruitment and supervision of additional staff as required is anticipated.

If you have an interest and are qualified for this position, please submit your curriculum vitae and salary requirements to:

Dr. J. K. Woodward

Head, Preclinical Pharmacology Dept.

**MERRELL RESEARCH CENTER
MERRELL-NATIONAL LABORATORIES**

Division of Richardson-Merrell, Inc.

2110 East Galbraith Road
Cincinnati, Ohio 45215

An Equal Opportunity Employer M/F

Merrell

POSITIONS OPEN

PHARMACOLOGISTS

The University of South Carolina School of Medicine invites applications for a faculty position in its Department of Pharmacology. Candidates should have a Ph.D. and/or M.D. degree. Individuals will be involved in teaching medical pharmacology and will be expected to maintain an active, independent research program. Preference will be given to those applicants with an interest in cyclic nucleotides or metabolic research, although outstanding individuals in all areas will be considered. Rank and salary will be commensurate with the candidate's qualifications and experience. Interested individuals should send their curriculum vitae, names of three references, and a statement of career goals to: **Dr. Donald O. Allen, Department of Pharmacology, University of South Carolina, School of Medicine, Columbia, S.C. 29208.** *An Equal Opportunity/Affirmative Action Employer.*

PHYSIOLOGIST, Ph.D., temporary position, fall semester 1980-1981. Team-teaching of medical physiology course (4 credits) for first-year WAMI medical students. Must be thoroughly familiar with excitable membrane physiology, energy metabolism, striated, smooth, and cardiac muscle physiology, and biological control systems. Opportunity available for research. Send curriculum vitae and the names and addresses of three references to: **Guy R. Anderson, WAMI Program, University of Idaho, Moscow, Idaho 83843** by 15 April.

PHYSIOLOGIST (Marshall University School of Medicine). Salary: commensurate with qualifications. Tenure-track appointment at rank of assistant or associate professor. Candidates must have completed a 1- or 2-year postdoctoral program. Preference will be given to individuals with experience in endocrinology, especially neuroendocrinology. Appointee will be responsible for developing an independent research program and will participate in teaching medical and graduate students. Application deadline: 1 April 1980. Send curriculum vitae and names of three references to: **Dr. Eugene Aserinsky, Professor and Chairman, Department of Physiology, School of Medicine, Marshall University, Huntington, W. Va. 25701.** *An Equal Opportunity Employer.*

POSTDOCTORAL ASSOCIATE. Position available 1 September 1980 for research in quantitative genetics and evolution of mammalian thermoregulation, renewable for one additional year. Prefer applicants with training in statistics, quantitative genetics, or evolutionary and population biology. Minimum salary: \$12,000. Send curriculum vitae and three letters of reference by 20 March to: **Dr. Carol B. Lynch, Department of Biology, Wesleyan University, Middletown, Conn. 06457.** *An Equal Opportunity/Affirmative Action Employer*

The Department of Anatomy at the School of Medicine, University of California, Los Angeles, invites applications from qualified candidates for appointments as **POSTDOCTORAL FELLOWS** in the following areas: cell biology, neuroanatomy, neurophysiology, and neuroendocrinology. Support for these positions may be obtained by the candidate with the help of a faculty member by applying to government or private sources or by applying to faculty member(s) for positions on their research grants. Inquiries may be made to: **Dr. A. M. Adinolfi, Vice Chairman for Graduate and Postdoctoral Programs, Department of Anatomy, University of California School of Medicine, Los Angeles, California 90024.** *The University of California is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION AVAILABLE in lipid-protein interactions and lipoprotein structure. Electron microscopic, ultracentrifugal, and electrophoretic aspects of the problem as well as relevant biological and medical considerations are of interest. **Professor Rudy Haschemeyer, Department of Biochemistry, Cornell University Medical College, 1300 York Avenue, New York, N.Y. 10021.**

POSTDOCTORAL POSITION available. Nitrogen fixation and photosynthesis in blue-green algae, for candidates with biochemistry and/or biophysics background. Send inquiry and résumé to: **Dr. Bacon Ke, Charles F. Kettering Research Laboratory, Yellow Springs, Ohio 45387.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS— mRNA PROCESSING

Postdoctoral positions will be available in the laboratory of Dr. Thoru Pederson to participate in molecular studies of the relationships between nuclear structure, gene transcription and hnRNA → mRNA processing. Send curriculum vitae, synopsis of Ph.D. thesis research, and names of three references to: **Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Massachusetts 01545.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION available immediately. For study of the role of calcium, calmodulin, and cAMP in neurosecretion. Candidates should have strong background in biochemistry. Position is for 1 year subject to renewal for second year. Apply with curriculum vitae and three references to: **Dr. Carole J. Coffee, Department of Biochemistry, School of Medicine, University of Pittsburgh, Pittsburgh, Pa. 15261.**

POSTDOCTORAL POSITIONS. Studies of acetylcholinesterase and receptor. Preparation of substrates and inhibitors, kinetics of hydrolysis and inhibition, labeling of active site and receptor. Salary: \$13,000. Send résumé and recommendations to: **Professor Saul G. Cohen, Department of Chemistry, Brandeis University, Waltham, Mass. 02254.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION IN IMMUNOLOGY. Research involves study of immunological aspects of multiple sclerosis and experimental allergic encephalitis. Recent Ph.D. in immunology preferred. Write: **Lynn E. Spitzer, M.D., Children's Hospital, 3700 California Street, San Francisco, California 94119.**

POSTDOCTORAL POSITION IN NEUROPHYSIOLOGY. Available from 1 May 1980. Intracellular recording from rat astroglia cells in primary culture. Project involves studying membrane electrical properties (ongoing, see *Brain Res.* 177, 533-550, 1979) and intracellular ion and pH measurements. Position available 1 May 1980 and funding on the current grant is through 30 April 1982. Salary: \$13,000. Write to: **Dr. H. K. Kimelberg, Division of Neurosurgery, Albany Medical College, Albany, N.Y. 12208.**

POSTDOCTORAL POSITION available immediately for study of the regulation of gene expression by steroid hormones in mammals. The system involves the major secretory proteins of the rat seminal vesicle (see *J.B.C.* 254, 383, 1979). Experience in handling nucleic acids and recombinant DNA desirable but not mandatory. Send curriculum vitae and names of references to: **Dr. W. S. Kistler, Department of Chemistry, School of Medicine, University of South Carolina, Columbia, S.C. 29208.**

POSTDOCTORAL POSITION available for Ph.D. in biochemistry or cellular biology to study protein synthesis in brain microvasculature. Experience in light and electron microscope autoradiography or subcellular fractionation desirable but not essential. Send curriculum vitae and names of three referees to: **Dr. F. P. White, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3V6.**

POSTDOCTORAL POSITION in neurophysiology/neurogenetics. Available immediately to study genetic perturbation of neuromuscular mechanisms. Background in cellular electrophysiology and/or *Drosophila* genetics desired. Send curriculum vitae and names of references to: **Dr. C. F. Wu, Department of Zoology, University of Iowa, Iowa City, Iowa 52242.** *The University of Iowa is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION AQUATIC ECOLOGY/BIOCHEMISTRY

Candidate expected to pursue research on the biochemical aspects of trace metal-plankton interactions. Position available now. Funding guaranteed for 2 years. Send résumé to:

Professor Francois Morel
Massachusetts Institute of Technology
Building 48-425
Cambridge, Massachusetts 02139
Equal Opportunity/Affirmative Action Employer, M/F

POSITIONS OPEN

POSTDOCTORAL POSITIONS NEUROBIOLOGY

The Neurobiology Group at the Worcester Foundation for Experimental Biology announces the availability of postdoctoral fellowships. The members of this group are: William Forbes, Robert Hall, Behrus Jahan-Parwar, Foteos Macrides, James McKearney, Peter Morgane, Robert O'Connell, Steven Treisman, and Oscar Resnick. These are 1-year appointments (institutional underwriting of salary) with possible renewal. Accepted candidates will be expected to develop an individual research project with a faculty sponsor, and to prepare a federal research fellowship proposal. Applicants should submit curriculum vitae, a summary of research interests, a synopsis of their Ph.D. thesis research, and the names of three persons from whom references may be requested. Applications should be sent to: **Neurobiology Group, Postdoctoral Fellowship Program, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION available in laboratory whose major emphasis is the purification, characterization and study of the mechanism of action of mammalian growth promoting polypeptides. A background in biochemistry and immunochemistry highly desirable and a background in cell biology would be useful. Please send curriculum vitae and references to: **Dr. Michael Klagsbrun, HARVARD MEDICAL SCHOOL/CHILDREN'S HOSPITAL MEDICAL CENTER, Departments of Surgery and Biological Chemistry, Enders Room 1008, 300 Longwood Avenue, Boston, Mass. 02115.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS. Available immediately. Research areas will involve: (i) pathogenesis of *E. coli* responsible for infectious diarrhea, (ii) immunological aspects of diarrheal disease, and (iii) molecular and genetic studies of *E. coli* adhesions and enterotoxins. Position available for 1 to 2 years. Interested persons submit curriculum vitae and names and addresses of two references to: **Dr. Dolores G. Evans, Program in Infectious Diseases and Clinical Microbiology, The University of Texas Medical School at Houston, Houston, Texas 77030.** *Equal Opportunity Employer.*

The Division of Environmental Toxicology of the Department of Environmental Health Sciences, The Johns Hopkins University has **POSTDOCTORAL POSITIONS** available in biochemical, toxicokinetics, and neuro and behavioral toxicology. Positions available for U.S. citizens and permanent residents. Send curriculum vitae and three letters of recommendation to: **Dr. Alan M. Goldberg, Acting Director, Division of Toxicology, The Johns Hopkins University, School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, Md. 21205.** *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL/RESEARCH FELLOW positions available (two): (i) to study the chemistry of the actomyosin systems of brain, experience in protein isolation and purification required; and (ii) to study by immunocytochemical techniques the distribution of the actomyosin proteins in developing nervous tissue; experience in immunochemistry required. EM experience would be desirable. Please send curriculum vitae and names and addresses of three references, and indicating which position you are applying for, to: **Dr. Soll Berl, Department of Neurology, THE MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, N.Y. 10029.** *An Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH POSITION

Applications are invited for a postdoctoral research position in experimental solid state physics at the Ames Laboratory-U.S. Department of Energy and Iowa State University. Areas of special interest to the research group include synthesis of novel ternary metallic and semiconducting phases and the characterization of their low temperature properties, superconductivity and magnetism. The position is for 1 year with the expectation of renewal for a second year. The salary will be at least \$16,500. Send résumé and the names of three persons who would be willing to give an evaluation to: **R. N. Shelton, Department of Physics, Iowa State University, Ames, Iowa 50011.** *Iowa State University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE

Successful candidate for this position will work at Bristol Laboratories and be appointed to the Department of Pathology at the Upstate School of Medicine in Syracuse, New York.

Research will emphasize work in membrane biochemistry, employing microtechniques and tumor markers in human tumor specimens.

To qualify, you must have a PhD in Biochemistry or Cell Physiology with up to 3 years post-doctoral experience preferred. Salary (higher than NIH Fellowship guidelines) is negotiable. Benefits are excellent.

For prompt, confidential consideration, forward your resume to Manager of Employment

BRISTOL LABORATORIES

Division of Bristol-Myers Company
P.O. Box 657
Syracuse, New York 13201

An equal opportunity employer M/F/V/H

MICROBIOLOGIST/ BIOCHEMIST

In order to find solutions to today's critical energy problems, The Institute Of Gas Technology, a leader in energy research and development since 1941, continues to search for talented professionals who seek involvement in the pursuit of new energy sources. We work in a dynamic, professional atmosphere, which blends academic and scientific environments, to develop technology which can be applied commercially.



A unique opportunity exists for a scientist to assume the management of lab scale research on methods for conversion of biomass to methane and other high energy products: supervision of technical personnel as well as report and proposal preparation.

Qualifications include an MS or PhD in Microbiology or Biochemistry with documented experience in anaerobic fermentation processes including methanogenesis, degradation of cellulosic biomass and hydrolysis.

Our remunerative schedule is commensurate with background and experience, and is enhanced by a comprehensive benefits program. Interview and relocation expenses offered to candidates outside the Chicago area. Address professional vitae to **MS. A. PRUSS.**



INSTITUTE OF GAS TECHNOLOGY

IIT Center

3424 S. State Street • Chicago, IL 60616

equal opportunity employer m/f

JOHN E. FOGARTY INTERNATIONAL CENTER FOR ADVANCED STUDY IN THE HEALTH SCIENCES NATIONAL INSTITUTES OF HEALTH PUBLIC HEALTH SERVICE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Opening Date: March 3, 1980

Closing Date: March 31, 1980

(All applications must be postmarked by closing date)

Director, John E. Fogarty International Center

The National Institutes of Health invites nominations and applications for the position of Director, John E. Fogarty International Center, NIH, who will have primary responsibility in coordinating the international research activities of the NIH, maintaining liaison with other Federal components and multinational organizations, and serving as the principal advisor to the Director, NIH, on all matters relating to the substance, quality and effectiveness of these programs.

This is a Civil Service position in the Senior Executive Service with a salary range from \$47,889 to \$50,112 per year, depending on qualifications. (Alternately, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service). The SES individual selected, if not presently in the Senior Executive Service, must serve a one-year probationary period. Mandatory qualifications are: the M.D. degree, or other professional degree(s) in a biomedical science such as Biology, Microbiology, or Chemistry, or equivalent amount of education and/or experience which demonstrates a broad knowledge and understanding of the major public health problems in this country and abroad, plus research experience in a biomedical science. In addition, candidates must meet the following managerial/executive

qualifications: experience necessary to select, manage, and motivate a staff and carry out organizational goals, including the ability to implement EEO objectives. Candidates who meet the mandatory qualifications will be further evaluated by the Search Committee on the extent to which they possess the following: experience in international health activities, scientific reputation/peer recognition, honors and awards, training and education, and the extent to which they exceed the level of managerial/executive qualifications specified above.

Applications (Personal Statement of Qualifications—SF-171) are to be sent to the Chairman, FIC Search Committee, National Institutes of Health, Building 1, Room 132, 9000 Rockville Pike, Bethesda, MD 20205. A current curriculum vitae, references and/or appraisals of performance, and bibliography must accompany all applications.

The National Institutes of Health is an equal opportunity employer.

**NATIONAL INSTITUTES
OF HEALTH**

POSITIONS OPEN

POSTDOCTORAL OR RESEARCH ASSOCIATE (FACULTY) POSITION available for biochemist with a background in lipid and protein biochemistry, lipoprotein metabolism, and separation of sub-cellular organelles. The position involves the isolation and characterization of lipoprotein particles of plasma and from livers. These biochemical studies will be correlated with morphological (light and electron microscopy) and immunocytological studies on the pathogenesis of fatty livers. Position is available immediately for a minimum of 2 years. Salary negotiable. Please send curriculum vitae to: **Dr. Phyllis M. Novikoff, Pathology Department, ALBERT EINSTEIN COLLEGE OF MEDICINE, 1300 Morris Park Avenue, Bronx, N.Y. 10461.** An Equal Opportunity/Affirmative Action Employer.

PRESIDENT

The New England
College of Optometry

The Presidential Search Committee of the college is seeking applications and nominations for the position of president.

Founded in 1894, the college is a free-standing, nonprofit institution. Located in Boston, Mass., the college offers a 4-year professional curriculum leading to the degree of doctor of optometry.

An earned doctorate will be required in addition to those qualifications expected in a president of a professional institution of higher education.

Nominations or applications with current curriculum vitae should be received by 15 April 1980, and directed to:

Chairperson
Presidential Search Committee
The New England College of Optometry
P.O. Box 538
Kenmore Station
Boston, Mass. 02215
An Equal Opportunity/Affirmative
Action Employer

University of Southern California (USC)
Catalina Marine Science Center
SUMMER NEUROBIOLOGY COURSE
28 July to 29 August 1980

An intensive "hands-on" neurophysiology course. The major emphasis will be on the membrane properties of neurons and neuronal interactions which produce behavior patterns and which are involved in plasticity. Topics covered will include excitability mechanisms, synaptic transmission, modulatory neurotransmitters, neuronal correlates of behavior, and cellular aspects of neuronal development. Techniques will include intracellular and extracellular recording, voltage clamping, ionic replacement studies, intracellular staining, microiontophoresis, statistical analysis of synaptic potentials, and microelectrode recording from intact animals. Experimental animals will include the frog, *Aplysia*, leech, lobster, and locust. Participants will present seminars and demonstrations in their areas of research.

Course director: A. Siger (USC)
Instructor: M. O'Shea (University of Chicago)
Participants: R. McCaman and J. Ono (City of Hope)

C. Goodman, S. Thompson, and
J. Wine (Stanford University)
R. Bezanilla, S. Hagiwara, and
J. Vergara (University of California,
Los Angeles)
W. Kristan, A. Selverston, and
J. Weeks (University of California,
San Diego)
Z. Hall (University of California, San
Francisco)
L. Byerly, W. McClure, and C. Platt
(USC)

Financial aid is available on a competitive basis through the generosity of the University of Southern California Oceanographic Associates. For information about application and financial aid, contact: **Dr. Alvin Siger, Course Director, Department of Biological Sciences, University of Southern California, University Park, Los Angeles, California 90007.**

POSITIONS OPEN

Two **POSTDOCTORAL POSITIONS** available spring 1980. (i) Investigate short-term control of lipogenesis with isolated hepatocytes (see *JBC* 254, 10095, 1979), and (ii) investigate short-term control of leucine oxidation with perfused rat heart and cell-free systems (see *ABB* 198, 145, 1979). Salary range: \$12,500 to \$14,000 per year. Two years of support available. Submit curriculum vitae and references to: **Dr. Robert A. Harris, Department of Biochemistry, Indiana University School of Medicine, Indianapolis, Indiana 46223.** An Equal Opportunity/Affirmative Action Employer, M/F.

POSTDOCTORAL POSITION (immediate opening). Marine ornithologist to participate in a collaborative study of seabirds and their pelagic ecology during multidisciplinary cruises in the Bering Sea. Up to 12 weeks at sea yearly. Salary: \$13,596; possibility of up to 3 years duration. Send curriculum vitae and three letters of reference to: **George Hunt, Department of Ecology and Evolutionary Biology, University of California, Irvine, Calif. 92717.** The University of California, Irvine, is an Equal Opportunity Employer.

POSTDOCTORAL/RESEARCH ASSOCIATE

There is an immediate opening for a collagen biochemist to work on the induction of liver fibrosis and/or cirrhosis in helminth diseases. A Ph.D. is preferred. Send curriculum vitae with names and addresses of three references to: **H. Isseroff, Biology Department, State University of New York College at Buffalo, 1300 Elmwood Avenue, Buffalo, New York 14222.**

POSTDOCTORAL TRAINING position in sleep disorders, Rush-Presbyterian-St. Luke's Medical Center, Chicago, Ill., available September 1980 for 1 year, renewable for a second year. Training in research and clinical work with patients presenting to Sleep Disorder Service and Research Center. Ongoing studies on depression, sleep apnea, and non-restorative sleep. Send curriculum vitae to: **Dr. Rosalind Cartwright, Department of Psychology and Social Sciences, Rush-Presbyterian-St. Luke's Medical Center, 1753 West Congress Parkway, Chicago, Ill. 60612.**

Equal Opportunity/Affirmative Action Employer

RESEARCH ASSOCIATE—POSTDOCTORAL

Position available in fall 1980 in the laboratory of Dr. Steven Treisman to study the modulation of pacemaker activity in individual *Aplysia* neurons by hormones and neurotransmitters. Either a neurochemical or electrophysiological (intracellular) background is appropriate. Research facilities and environment are excellent. Send curriculum vitae and names of three references to: **Dr. Steven Treisman, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

An Equal Opportunity/Affirmative Action Employer

RESEARCH ASSOCIATE

A research position is open at the Wistar Institute of Anatomy and Biology for an **electron microscopist** with background and experience in neuroanatomy-neuropathology and/or interest in virology. The candidate is expected to collaborate closely with investigators in the Multiple Sclerosis Center of the institute. Further experience in histochemical techniques at the ultrastructural level is desirable. Salary commensurate with experience. Send curriculum vitae and names of three professional references to: **Dr. Gerd Maul, The Wistar Institute, 36th and Spruce Streets, Philadelphia, Pa. 19104.**

YALE UNIVERSITY DEPARTMENT OF PSYCHIATRY RESEARCH PSYCHIATRIST

Faculty opening for **associate director** on inpatient psychiatric research ward, 1 July 1980. Board-eligibility and experience in neurobiologic psychiatric research are required. Laboratory expertise in clinical neuroscience desirable. Duties include shared responsibility for care and treatment on 15-bed psychiatric and research ward. Participation in ongoing neurobiologic research, independent research, and teaching of residents, medical students, and nursing personnel. Inquiries, résumé, and names of three references to: **Stephen Fleck, M.D., 25 Park Street, New Haven, Conn. 06519.**

We are an Equal Opportunity Employer

POSITIONS OPEN

REGIONAL PUBLIC HEALTH LABORATORY ADMINISTRATOR

The Division of Laboratory Services for the state of Louisiana is seeking an administrator for one of its regional laboratories. This is a very highly responsible administrative and professional microbiological laboratory work. The work involves the establishment of programs and priorities for various laboratories, planning, organizing and scheduling work assignments to secure maximum efficiency, and consulting with and assisting technologist in complicated or difficult tests. The administrator must act as a consultant to the various local health units and other medical disciplines. The administrator is also involved in recruiting and training of personnel as well as participating in teaching programs and inservice lectures. Applicants should have a master's degree in medical technology, bacteriology, or related sciences plus three or more years of experience in microbiological laboratory work, with at least 2 years in a supervisory capacity. (A person with a bachelor's degree and exceptional experience will be considered.) A doctoral degree in any of the above fields may be substituted for all of the required experience. Starting salary is \$1396 per month. *The State of Louisiana is an Equal Opportunity/Affirmative Action Employer.* Please send your curriculum vitae and three references to: **Henry B. Bradford, Jr., Ph.D., Director, Division of Laboratory Services, 325 Loyola Avenue, New Orleans, Louisiana 70112.**

RESEARCH ASSOCIATE—POSTDOCTORAL

Grant position, 3-year project. Biochemical metabolic nerve condition velocity project. Ph.D. in biochemistry, cell biology, or related field. Experience in animal surgery, electron microscopy, morphometry, and electrophysiology desirable. Starting salary: \$14,500 to \$16,500 per year. Send complete résumé and references to: **Position Number 140, Personnel, New York State Institute for Basic Research in Mental Retardation, 1050 Forest Hill Road, Staten Island, New York 10314.** Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSOCIATE

A research associate (postdoctoral) position is available immediately in the laboratory of Dr. R. R. Weihing to study cytoplasmic proteins that interact with actin or virus-microtubule interactions. Experience with contractile proteins preferred but not absolutely necessary. If interested, send curriculum vitae and list of three references to: **Dr. R. R. Weihing, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

An Equal Opportunity/Affirmative Action Employer

RESEARCH ASSOCIATE. Biochemical research into purification of enzymes, histone, nuclear acidic protein during neoplasm, and chemical methylation of protein. Must have background in enzyme, histone, liver perfusion research. Require Ph.D. in biology or related field, or master of science degree or equivalent, plus 3 years of experience in related technical research; \$11,000 per annum. Apply to: **Box 60, SCIENCE.**

VICE CHANCELLOR FOR ACADEMIC AFFAIRS at the Medical Center, University of Illinois, is the chief academic officer responsible to the chancellor and will serve as executive officer in chancellor's absence. Duties include educational planning, resource allocation, program evaluation, and development and administration of campus-wide operating and capital budgets. Academic support units such as library, student admissions, student affairs also report to this officer. Candidates should possess an earned doctorate or comparable recognition of scholarly achievement. Achievement as a faculty member, successful experience as an academic administrator, and demonstrated leadership capability are the basic requirements. Significant experience in an academic health sciences center is highly desirable. The salary is commensurate with qualifications. Position available 1 September 1980. Send curriculum vitae or nominations to: **Dr. Helen K. Grace, Chairperson of the Search Committee, College of Nursing, University of Illinois at the Medical Center, 845 South Damen, Chicago, Illinois 60612.** Closing date for full consideration of application: 15 April 1980. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer and encourages applications from members of minority groups and from women.*

BIOCHEMISTRY ASSISTANT

The Upjohn Company has an opening for a biochemistry laboratory assistant in the area of Central Nervous System Diseases. This individual will assist a research scientist as part of a multidisciplinary team performing neuropharmacological or neurochemical studies designed to identify and clarify the mechanisms of action of psychotherapeutic drugs. The individual will perform neurochemical assays, particularly those involving biogenic amine, amine metabolites, and cyclic nucleotides, using HPLC and GC-MS techniques.

The successful candidate will have a MS in biochemistry or pharmacology, or a BS with a minimum 2 years directly related experience. Demonstrated ability in neurochemical assays, including HPLC, and GC-MS techniques is essential.

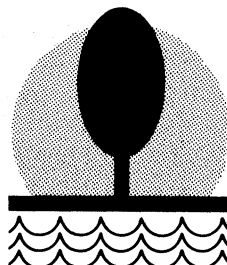
Kalamazoo is a mid-sized Southwestern Michigan community offering an excellent mix of cultural/recreational opportunities including lakes, nearby colleges, and a four-season climate. Excellent salary, benefits, and a relocation plan are available.

Please send resume in confidence to:

William J. Hall (11315-H)
The Upjohn Company
7000 Portage Road
Kalamazoo, Michigan 49001

Upjohn

An Equal Opportunity Employer M/F



Third International Conference on Photochemical Conversion and Storage of Solar Energy August 3-8, 1980

Chairman: Dr. John S. Connolly, Solar Energy Research Institute.

Place: University of Colorado at Boulder, Boulder, Colorado.

Sponsored by: Solar Energy Research Institute and Division of Chemical Sciences, Office of Basic Energy Sciences, U.S. Department of Energy.

Program: As in previous conferences in this series, the program will consist of invited papers to be presented in plenary sessions and contributed papers in poster sessions.

List of topics:

- Simulating Photosynthetic Quantum Conversion
- Biomimetic and Model Systems
- Quantum Harvesting and Energy Transfer
- Photochemical Redox Reactions in Homogeneous and Heterogeneous Solutions
- Photochemical Generation of Hydrogen and Oxygen
- Photogalvanic Cells
- Photochemical Storage
- Chemical Aspects of Photovoltaic Cells
- Electrochemical Photovoltaic Cells
- Photoelectrosynthesis at Semiconductor Electrodes

For further information, please contact: Conferences Group, 1617 Cole Boulevard, Golden, Colorado 80401.

DIRECTOR OF MARKETING AND PRODUCT DEVELOPMENT

A major international supplier of seismological instrumentation and data acquisition systems has an opening for a Director of Marketing, with responsibilities for overall product analysis and planning, organization, development, management and service of sales, applications engineering, product information dissemination, and advertising.

Extensive international travel will be required along with the ability to deal competently in matters of substantial technical sophistication in direct personal contact with a wide range of potential customers, from technicians to research scientists. The position will involve counsel with multinational governmental, university, and engineering users on applications of geophysical data acquisition and processing to a wide range of problems such as energy, resource exploration and exploitation, structural and blast vibration monitoring, geologic hazards assessment, earthquake research, engineering geophysics, earthquake engineering and environmental monitoring.

Experience is required in sales organization and management, in addition to direct sales and applications engineering. Foreign language capability is desired, with French and Spanish preferred. An undergraduate degree in physics, earth science, or electrical engineering is necessary and a graduate degree is preferred, with ideally a doctorate in the field of geophysical instrumentation with electronic engineering supplementation. Applicants should write, enclosing a complete resume of academic and professional experience, to R.F. Hautly, President.

Dyneer

Sprengnether Instruments, Inc.
A Subsidiary of Dyneer Corporation
4567 Swan Avenue
St. Louis, MO 63110
314/535-1682
TLX 44-2399/Cable: SPRENCO

Equal Opportunity/Affirmative Action Employer

Director of Cutaneous Medicine

We are growing worldwide pharmaceutical company located in suburban Westchester County, 20 minutes from New York City and the recent expansion of our Medicine Research Division has created an opening for a Physician/Dermatologist to head the Department of Cutaneous Medicine.

This position is responsible for the design, implementation, and analysis of clinical research programs (Phase I-IV) for ethical and OTC dermatological, there will be opportunities for drug development in other research areas including the systematic therapy of psoriasis, dental products, topical acne therapy, and the like.

The ideal candidate will have prior industrial experience, a fundamental understanding and appreciation for the scientific method as applied to human research, and ability to write effectively.

We offer an excellent salary and benefits package. Send curriculum vitae with salary history and requirements in confidence to: MANAGER OF PROFESSIONAL STAFFING

Member Company of

REVLON HEALTH CARE GROUP USV LABORATORIES

1 Scarsdale Road, Tuckahoe, New York 10707

An equal opportunity employer M/F

POSITIONS OPEN

Scientist (Ph.D.) at RESEARCH ASSOCIATE level to conduct research in lipid metabolism and membrane biochemistry. Three-year minimum postdoctoral experience in chemical synthesis and analysis of phospholipids, lipid enzymology, chromatographic, spectroscopic, and radioisotope techniques. Salary: \$16,700 per year. Please send résumé to: Dr. H. H. O. Schmid, The Hormel Institute, University of Minnesota, 801 16th Avenue, NE, Austin, Minn. 55912. An Equal Opportunity Employer.

RESEARCH ASSOCIATE. Postdoctoral positions open April 1980 or thereafter for a biochemist or physical biochemist to study chromatin structure, histone: histone, DNA: protein interactions, and so forth. Salary in range of \$12,000.

Please send curriculum vitae and references to: Dr. Gerald D. Fasman, Graduate Department of Biochemistry, Brandeis University, Waltham, Massachusetts 02254.

Affirmative Action/Equal Opportunity Employer

RESEARCH SCIENTIST I. Position is associated with a multiinstitutional project studying the global CO₂ problem, with particular emphasis upon the role of terrestrial biota. Qualifications: bachelor's degree in biology, chemistry, or ecology, and at least 1 year of experience in computer programming (FORTRAN) and familiarity with data analysis techniques. Expertise in modelling biological and/or chemical systems and knowledge of nutrient cycling essential. Additional experience in advanced programming preferred. Starting salary: \$13,030 to \$14,612; range maximum: \$20,250. Forward résumé by 21 March 1980 to: Berrien Moore, Director, Center for the Study of Complex Systems, University of New Hampshire, Durham, N.H. 03824. *Affirmative Action/Equal Opportunity Employer.*

SCIENTIFIC DIRECTOR—C. V. Whitney Laboratory for Experimental Marine Biology and Medicine, St. Augustine, Florida. Established scientist, M.D. or Ph.D., full-time in an area of quantitative biology or biomedicine including comparative immunology, molecular pharmacology and toxicology, or biologic receptor structure and function, to provide scientific and administrative leadership. Research using marine or estuarine species desirable. Must qualify for regular appointment in appropriate academic department of university. Application deadline is 1 April 1980 with position starting 1 July 1980; salary negotiable. Send curriculum vitae and bibliography to: Richard T. Smith, M.D., Department of Pathology, Box J-275, University of Florida, Gainesville, Florida 32610.

Equal Opportunity/Affirmative Action Employer

Teaching/Research Associates (Postdoctoral) UNIFORMED SERVICES UNIVERSITY (USUHS)

Postdoctoral fellowships are available in the Department of Biochemistry. Activities include medical and graduate student instruction and research programs in immunochemistry, nucleic acid enzymology, protein-nucleic acid interactions, eukaryotic molecular biology, and membrane biochemistry. Doctoral degree required. Send curriculum vitae including names of three references to:

Dr. Lucy M. S. Chang, Biochemistry
Uniformed Services University of the
Health Sciences
4301 Jones Bridge Road
Bethesda, Md. 20014

The USUHS is an Equal Employment Opportunity Agency.

VERTEBRATE ANATOMIST AND/OR ANIMAL SCIENTIST

Tenure-track position at assistant professor level, Ph.D. required. Primary teaching responsibilities will be human anatomy and physiology for nurses and introductory animal sciences courses for agriculture students, or other courses in applicant's field of specialization. Send brief statement of research activities, reprints, curriculum vitae, and three letters of recommendation before 15 April 1980 to:

Dr. Jane R. Shoup, Head
Department of Biology
Purdue University Calumet
Hammond, Indiana 46323

An Equal Access/Equal Opportunity University

POSITIONS OPEN

SCIENCE WRITER to assist several mathematicians and physicists in preparing expository text. Abstract, mathematical relationships and their physical implications must be made accessible to the non-mathematical reader. Accuracy, clarity, and simplicity have the highest priority. An advanced degree in English is desired. Some formal training in mathematics or physics is essential. Chicago area. *An Equal Opportunity Employer. Box 49, SCIENCE.*

SYMPOSIUM

The Psychobiology of Human Food Selection 27 and 28 March 1980

Sixteen international participants and discussants covering biology, physiology, psychology, ecology, and sociocultural aspects of human food selection, with emphasis on improving interdisciplinary understanding. Papers and discussion will be published; \$15 registration fee. Contact: LaNelle Chancellor, A. Webb Roberts Center, Baylor University Medical Center, 3500 Gaston Avenue, Dallas, Texas 75246.

GRADUATE STUDY

GRADUATE ASSISTANTSHIPS IN BIOCHEMISTRY for study toward the Ph.D. degree. Applications are now being accepted from highly qualified students for fall 1980. Stipends begin at \$4500 per year plus partial tuition remission. Varied areas of research are represented within the department. Write: W. R. Ruegamer, Ph.D., Chairman, Department of Biochemistry, University of Nebraska Medical Center, 42nd and Dewey, Omaha, Neb. 68105. *An Equal Opportunity/Affirmative Action Institution.*

ASSISTANTSHIPS

GRADUATE ASSISTANTSHIPS leading to Ph.D. in physiology available for 1980-1981 academic year. Challenging academic environment in a medical school setting. Specialize in membrane biophysics, endocrinology, neurophysiology, cardiovascular physiology, or exercise physiology. Stipends available. Write to: Dr. Will Winder, Division of Biochemistry, Physiology, and Pharmacology, University of South Dakota School of Medicine, Vermillion, South Dakota 57069. *An Equal Opportunity/Affirmative Action Employer.*

DOCTORAL PROGRAM

DOCTORAL PROGRAM IN MOLECULAR AND CELLULAR BIOLOGY AND PATHOBIOLOGY

Interdisciplinary program leading to Ph.D. degree seeks qualified candidates interested in fundamental molecular and cellular biology and its application to disease states in man. Research training is available in a broad range of basic and clinical disciplines.

Stipends are available on a competitive basis. Contact: Graduate Training Director, Program in Molecular and Cellular Biology and Pathobiology, Dean's Office, College of Graduate Studies, Medical University of South Carolina, Charleston, South Carolina 29403.

FELLOWSHIPS

NIH POSTDOCTORAL FELLOWSHIP—IMMUNOLOGY. Studies on lymphocyte activation by mitogens and antigens. Send curriculum vitae and names and addresses of two references to: Stephen I. Morse, M.D., Professor and Chairman, Department of Microbiology and Immunology, State University of New York, Downstate Medical Center, Box 44, 450 Clarkson Avenue, Brooklyn, New York 11203. *Equal Opportunity/Affirmative Action Employer.*

FELLOWSHIPS

IMPERIAL CANCER RESEARCH FUND RESEARCH FELLOWSHIP

Postdoctoral fellow required to work on cellular and molecular aspects of the growth regulatory effect of interferon as observed with cells in culture.

The appointment in the Epithelial Cell Growth Regulation and Membrane Physiology Laboratory will be for 3 years. Salary range: £6228 to £7672.

For further information, telephone: Dr. Joyce Taylor-Papadimitriou at 01:242:0200, extension 361/362. Applications with curriculum vitae and the names of two referees should be sent to: Secretary, Imperial Cancer Research Fund, Lincoln's Inn Fields, London WC2, England, quoting reference 92/80.

PRE- AND POSTDOCTORAL FELLOWSHIPS are available for U.S. citizens and permanent residents for training in molecular biophysics of biocatastrophic processes. The program is concerned with the biological effects of environmental agents, such as chemical carcinogens, ionizing and ultraviolet radiation, and repair inhibition. Research opportunities will consist of studies of changes in bio-molecular structure caused by the environmental agents. Training will be offered in a variety of research techniques, such as NMR, ESR, x-ray diffraction, stereo and quantum chemistry, radiation biology, and photobiology. Stipends will be \$5,042 for predoctoral and \$13,380 for postdoctoral fellows. Write to: Dr. Robert Rein, Chairman, Admissions Committee, Graduate Biophysics Program, Roswell Park Memorial Institute, Buffalo, New York 14263. *An Equal Opportunity Employer, M/F.*

FELLOWSHIPS available 1 July 1981, at St. Jude Children's Research Hospital, Memphis, Tenn., for physicians or basic scientists: David A. Karnofsky Fellowship for training beyond postdoctoral level in cancer research and Leon J. Journey Fellowship for postdoctoral training in biomedical research. Areas of training include: biochemistry, hematology-oncology, immunology, nutrition and metabolism, pathology, pharmacology, radiology and virology. Stipends: \$13,800 to \$30,000. Open to international competition. Deadline: 1 September 1980. Write: Director, St. Jude Children's Research Hospital, P.O. Box 318, Memphis, Tenn. 38101.

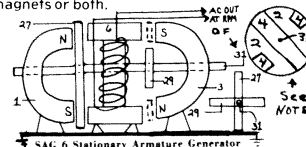
POSTDOCTORAL FELLOWSHIP. A position in cellular immunology research in the field of marrow transplantation will be available 1 July 1980. Applicants should possess a Ph.D. degree in cellular immunology or an M.D. degree with laboratory experience. Two years of postdoctoral research with demonstrated achievement are preferable. The salary for this 2-year fellowship is competitive and commensurate with degree and experience. Please send curriculum vitae and names of three references to: Gerald J. Effenbein, M.D., Oncology 3-127, Johns Hopkins Hospital, Baltimore, Md. 21205. *An Equal Opportunity/Affirmative Action Employer.*

MARKET PLACE

ELECTRICITY (ENERGY) FROM MAGNETS

Generators consume 98% of their input torque just to make a changing magnetic field at a coil of wires. There is a far more efficient way. Today 1 lb. permanent magnets lift 400 times their weight. The magnet's 400 lb. lift is easily diverted but we still do not know how to divert the Earth's pull. Magnets rely on the perpetual aligned spin of some of their electrons. If we separate a gram of copper into electrons and nuclei and move them a foot apart they have the same attraction as the moon to the Earth. We can't keep electrons & nuclei separated. Magnets are neutral and have a large external force.

Reverse the magnetic fields through 6 by turning shaft 31 & alternately shielding (with 27 & 29 at right angles to each other on 31) oppositely polarized magnets 1 & 3 to 6. Like most things in nature magnetic fields take and make the easiest path and prefer the soft steel in 4, 6, 27 & 29 more than 7,000 to 1 compared to air or stainless steel. Send SASE & 50c for patent to JW Ecklin, 6143K Edsall Rd., Alexandria, VA 22304. Magnets 1 and 3 can be electromagnets or both.



Note: For flywheels and to reduce air gaps modify each shield. Make 4 of soft steel & 2 of stainless steel. Please send this to or discuss this with electrical engineering friends if you care to help solve our energy crisis.

Neuropharmacologist/ Neurophysiologist Assistant

The Upjohn Company has an opening for a laboratory assistant in the area of Central Nervous System diseases. This individual will assist in neurophysiology and/or neuropharmacology studies to find drugs with useful central nervous system activities. The work will entail surgical preparation of animals, recording of electrical signals and the operation of neurophysiological instruments.

The successful candidate will have an M.S. in Pharmacology or Physiology or a B.S. and a minimum of two years' related experience. Previous experience with electrophysiological techniques, single unit recording, and microiontophoresis is highly desirable.

Kalamazoo is a mid-sized Southwestern Michigan community offering an excellent mix of cultural/recreational opportunities including lakes, nearby college and a four-season climate. Excellent salary, benefits, and a relocation plan are available.

Please send a resume in confidence to:
William J. Hall (11384-H)

Upjohn

The Upjohn Company
7171 Portage Road
Kalamazoo, MI 49001

An Equal Opportunity Employer M/F

INFORMATION RESEARCH SCIENTIST

Abbott Laboratories, one of the world's leading manufacturers of sophisticated health care products, is seeking a Scientific Researcher to provide vital informational support for our antibiotic research project teams. Duties include preparing critical literature evaluations and state-of-the-art surveys in order to keep team members abreast of the latest information regarding antibiotics and other requested subjects.

To qualify, you should have a Ph.D. in Microbiology, Biochemistry or Biomedical Sciences. Strong interest in scientific literature and excellent written/verbal communications skills are a must. Post-doctoral and bench experience are desirable. A reading knowledge of foreign languages is preferred.

In return for your professional contribution, you'll receive an extremely competitive salary, commensurate with experience, and comprehensive benefits. For immediate consideration, send your resume with salary history, in complete confidence to:

Chris Gude
Corporate Placement

ABBOTT
NORTH CHICAGO, ILL. 60064

Abbott is an Affirmative Action Employer

POSTDOCTORAL TRAINING PROGRAM

Applications are invited for the Institute's program of post-doctoral traineeships in basic sciences relevant to cancer research. These appointments are open to U.S. citizens, U.S. nationals or persons who have been lawfully admitted to the United States for permanent residence and have in their possession a permanent visa at the time of their appointment. Before appointment, an applicant must hold a Ph.D. or its equivalent in a scientific field such as: physics, chemistry, biochemistry, immunology, microbiology, virology, pathology, genetics, molecular biology, developmental biology or cellular biology and must also have had no more than three years of postdoctoral experience. M.D.'s are also invited to apply. Appointments will be for one year, renewable for a second year. In addition to stipends, there are fringe benefits and certain travel and relocation allowances. The appointments are funded by the NIH and are subject to the National Research Service Act (Public Law 93-348).

Applicants may seek research training in laboratories of one or more participating staff members. Special seminars and colloquia focusing on fundamental problems of cancer research are a feature of the program. Application forms can be obtained from:

Dr. Thomas F. Anderson, Coordinator
Postdoctoral Training Program
The Institute for Cancer Research
7701 Burholme Avenue
Philadelphia, Pa. 19111

A completed application will also include undergraduate and graduate transcripts, lists of publications, abstract of doctoral thesis (ca. 500 words), and letters of recommendation from three persons acquainted with the scientific work of the applicant.

The Institute for Cancer Research
is an equal opportunity/affirmative action employer

PRINCETON
UNIVERSITY

PLASMA PHYSICS LABORATORY

The Laboratory is seeking Ph.D. applicants for a position in Computational Physics. The position is in the applied Physics Group of the Theoretical Division. This group is engaged in the Computational modeling of Tokamak discharges, to analyze current and past experiments and help design future experiments. It is expected that the applicant will have either an outstanding thesis or a distinguished record in the refereed scientific literature. While applicants with experience in Computational Plasma Physics are preferred, applicants with outstanding records in other areas of Physics and who wish to enter the field of Controlled Thermonuclear Research are also urged to apply.

THE PRINCETON UNIVERSITY'S PLASMA PHYSICS LABORATORY is the nation's largest Laboratory dedicated to research in Controlled Thermonuclear Fusion. Two large Tokamak experiments, the Princeton Large Torus, and the Poloidal Diverter Experiment are currently in operation. A Reactor Plasma Experiment, the Tokamak Fusion Test Reactor will begin operation at Princeton in 1982.

Computational facilities available at the Laboratory include: a PDP-10-K1, a PDP-10-KL, a VAX-11/780, a Dual Cyber 172, a CBC-7600, a CRAY-1, and IBM 3033.

We offer excellent benefits package. Qualified candidates should send their resume and publications list to: PROJECT DP.

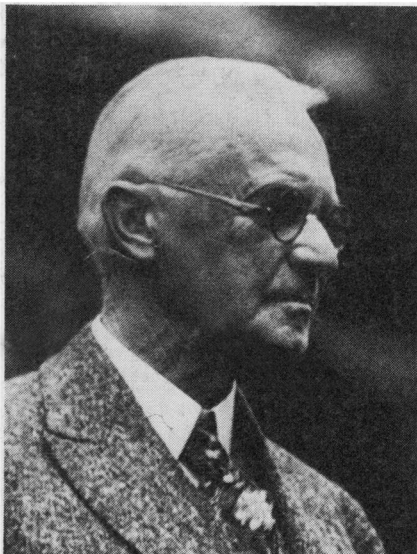
PERSONNEL DEPARTMENT

PLASMA PHYSICS LABORATORY

POST OFFICE BOX 451
PRINCETON, NEW JERSEY 08544

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





Mr. Eastman

By George, he was right!

If it hadn't been for a move George Eastman made in 1912, who knows? We could have vanished like so many other of the big names of that day. What has preserved and prospered us was a weird business idea that Eastman bought that year: *If Kodak will support Science, Science will return the favor.*

Eastman had to buy this preposterous proposition if he wanted the services of a certain loud, cocky, 30-year-old Englishman who looked upon industry as a fun place in which to do science. Eastman wanted the services. The young man wanted the admiration of the astronomical world. However, he also had to deliver things to earn income for his employer from the 99.999+% of the population that does not work professionally in astronomy. He and Science delivered mightily. In

recognition of the bargain struck, we still keep up the payments in the form of certain products short on appeal to the world at large. We wouldn't have to if the photographic emulsion were as outmoded in astronomy as outsiders might think. Therefore:

1) *Announcing: two new electronographic emulsions for astronomy:* Photoelectric and photographic detection of the photons from afar are combined by exposing a nuclear-track type of emulsion to accelerated electrons in an image tube. The various electronographic cameras protect their photocathodes in different ways from vapors released in high vacuum by photographic emulsion and its support. This requires us to provide material to various physical specs and a choice between a high-speed emulsion with a

grain size around $0.34\ \mu\text{m}$ and a high-resolution emulsion around $0.15\ \mu\text{m}$.

2) *Announcing: a film version of the plates that astronomers hypersensitize just before exposure:* Speed gains as much as 6X are achieved by soaking in warm gases to reduce low-intensity reciprocity failure, the phenomenon that reduces photographic effect from a given number of photons when delivered at a low rate.

3) *Announcing: films for use beyond the confines of Earth, to record in the wavelength range from 50 Å to 2000 Å.* The silver halide grains must protrude from the gelatin that holds them in place but is pitch-black in this spectral range. Mechanical contact can make them developable. Therefore, we coat rails of polystyrene beads along the edges on the emulsion side to keep the convolutions of the roll 150 μm apart.

Not available over any counter. For initiation into the mysteries, one states one's problems and needs to Kodak, Scientific & Technical Photography, Rochester, N.Y. 14650, phone (716) 724-4139. The part of the factory where these products are manufactured finds other things to do pending receipt of a firm order.

© Eastman Kodak Company, 1980

It worked! It's still working! Who would have believed it!

1880



1980

A 100-year start on tomorrow