Opalinids, and Ciliates. Julius P. Kreier, Ed. Academic Press, New York, 1978. xvi, 730 pp., illus. \$65.

Physiocochemical Applications of Gas Chromatography. Richard J. Laub and Robert L. Pecsok. Wiley-Interscience, New York, 1978. xxii, 300 pp., illus. \$23.50.

The Potato Crop. The Scientific Basis for Improvement. P. M. Harris, Ed. Chapman and Hall, London, and Halsted (Wiley), New York, 1978. xxii, 730 pp., illus. \$60.

Proceedings from the Symposium on Gastric Ion Transport. Uppsala, Sweden, July 1977. K. J. Öbrink and G. Flemström, Eds. University of Uppsala, Uppsala, 1978 (distributor, Almqvist & Wiksell, Stockholm). 434 pp., illus. Paper, Sw.kr. 120. Also published as a special supplement to Acta Physiologica Scandinavica.

Proceedings of the First International Symposium on Drying. Montreal, Aug. 1978. A. S. Mujumdar, Ed. Science Press, Princeton, N.J., 1978. vi, 254 pp., illus. \$25.

Products Liability and the Reasonably Safe Product. A Guide for Management, Design, and Marketing. Alvin S. Weinstein, Aaron D. Twerski, Henry R. Piehler, and William A. Donaher. Wiley-Interscience, New York, 1978. xviii, 324 pp. \$19.50.

Protective Relays. Their Theory and Practice. Vol. 2. A. R. van C. Warrington. Chapman and Hall, London, and Halsted (Wiley), New York, ed. 3, 1978. xiv, 434 pp., illus. \$30.

Psi Search. Norma Bowles and Fran Hynds with Joan Maxwell. Harper and Row, New York, 1978. viii, 168 pp., illus. Paper, \$6.95.

Psychoanalysis, Psychotherapy and the New England Medical Scene, 1894–1944. Papers from a symposium, Boston, Apr. 1973. George E. Gifford, Jr., Ed. Science History Publications (Neale Watson), New York, 1978. xxiv, 438 pp. \$35; prepaid, \$28.

Reactions and Reason. An Introductory Chemistry Module. Gordon Atkinson and Henry Heikkinen. Harper and Row, New York, ed. 2, 1978. vi, 106 pp., illus. Paper, \$2.49. Interdisciplinary Approaches to Chemistry.

Reality Revealed. The Theory of Multidimensional Reality. Douglas Vogt and Gary Sultan. Vector Associates, San Jose, Calif., 1978. x, 466 pp., illus. \$12.95.

Recent Advances in Renal Research. Contributions from Japan. K. Kobayashi, K. Maeda, and K. Oshima, Eds. Karger, New York, 1978. vi, 128 pp., illus. Paper, \$26.75. Contributions to Nephrology, vol. 9.

Recent Advances in Ultrasound Diagnosis. Proceedings of a symposium, Dubrovnik, Yugoslavia, Oct. 1977. A Kurjak, Ed. Excerpta Medica, Amsterdam, 1978 (U.S. distributor, Elsevier, New York). viii, 332 pp., illus. \$52.25.

Receptors and Recognition. Series A. Vol. 5. P. Cuatrecasas and M. F. Greaves, Eds. Chapman and Hall, London, and Halsted (Wiley), New York, 1978. x, 212 pp., illus. \$22.50.

A Renormalization Group Analysis of the Hierarchial Model in Statistical Mechanics. Pierre Collet and Jean-Pierre Eckmann. Springer-Verlag, New York, 1978. iv, 200 pp. Paper, \$11. Lecture Notes in Physics, vol. 74.

Report: Commission for the Control of Huntington's Disease and Its Consequences. National Institute of Neurological and Communicative Disorders and Stroke, National Institutes of Health, Bethesda, Md., 1977. Vol. 1, Overview. I, 126 pp., illus. Paper. Vol. 2, Technical Report. vi, 620 pp. Paper.

23 FEBRUARY 1979

The Rigged Hilbert Space and Quantum Mechanics. A Böhm. Springer-Verlag, New York, 1978. x, 72 pp. Paper, \$8. Lecture Notes in Physics, vol. 78.

Scale and Social Organization. Papers from a symposium, Burg Wartenstein. Fredrik Barth, Ed. Universitetsforlaget, Oslo, 1978 (U.S. distributor, Columbia University Press, New York). 292 pp. Paper, \$20.

Scanning Electron Microscopy/1978. An International Review of Advances in Instrumentation, Techniques, Theory and Physical Applications of the Scanning Electron Microscope. Om Johari, Ed. Scanning Electron Microscopy, P.O. Box 66507, AMF O'Hare, Ill., 1978. Two volumes. xiv, 898 pp., illus.; and xviii, 1134 pp., illus. Each volume, \$61.50.

Secondary Spread of Cancer. R. W. Baldwin, Ed. Academic Press, New York, 1978. xii, 244 pp., illus. \$25.65.

Semisynthetic Peptides and Proteins. Papers from a meeting, Bressanone-Brixen, Italy, Sept. 1977. R. E. Offord and C. Di Bello, Eds. Academic Press, New York, 1978. xiv, 400 pp., illus. \$22.50.

The Sexual Connection. Mating the Wild Way. John Sparks. McGraw-Hill, New York, 1978. iv, 152 pp., illus. \$8.95.

The Shorter Science and Civilisation in China. An Abridgement of Joseph Needham's Original Text. Vol 1. Volumes I and II of the Major Series. Colin A. Ronan. Cambridge University Press, New York, 1978. xii, 326 pp., illus. \$19.95.

Simulation of Ecological Processes. C. T. de Wit and J. Goudriaan. Halsted (Wiley), New York, ed. 2, 1978. viii, 176 pp., illus. Paper, \$15.95. Simulation Monographs.

Structure of Eukaryotic Chromosomes and Chromatin. Papers from a meeting, Feb. 1977. The Royal Society, London, 1978. pp. 231-416, illus. + plates. Paper, £16.80. Philosophical Transactions of the Royal Society of London, Series B, No. 997.

Structure Reports for 1975. Vol. 41A, Metals and Inorganic Compounds. J. Trotter and L. D. Calvert, Eds. Published for the International Union of Crysallography by Bohn, Scheltema & Holkema, Utrecht, The Netherlands, 1977. viii, 478 pp., illus. Dfl. 150.

The Traditional Pottery of Guatemala. Ruben E. Reina and Robert M. Hill, II. University of Texas Press, Austin, 1978. xxii, 300 pp., illus. + plates. \$30.

The Tropical Tuber Crops. Yams, Cassava, Sweet Potato, and Cocoyams. I. C. Onwueme. Wiley, New York, 1978. xiv, 234 pp., illus. Cloth, \$25.50; paper, \$12.50. U.S. Science and Technology for Develop-

U.S. Science and Technology for Development. A Contribution to the 1979 U.N. Conference. Prepared by the National Research Council. Department of State, Washington, D.C., 1978 (available from the Superintendent of Documents, Washington, D.C.). xviii, 212 pp. Paper, \$3.50.

Ventures in World Health. The Memoirs of Fred Lowe Soper. John Duffy, Ed. Pan American Health Organization, Washington, D.C., 1977. xiv, 366 pp., illus. Paper, \$10. Scientific Publication No. 355.

Water in Synthetic Fuel Production. The Technology and Alternatives. Ronald F. Probstein and Harris Gold. MIT Press, Cambridge, Mass., 1978. xiv, 296 pp., illus. Cloth, \$15; paper, \$9.95.

Why I Left Canada. Reflections on Science and Politics. Leopold Infeld. Translated from the Polish by Helen Infeld. Lewis Pyenson, Ed. McGill-Queen's University Press, Montreal, 1978. xii, 212 pp., illus. \$16.95.



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Biochemist/Systems Analyst . Ph.D. (biochemistry), M.S. (electrical engineering), available for mathe-matical modeling and analysis of biochemical, physiological, or pharmacological systems. Full-time, part-time, or consulting basis. Will translate data in-to model, check hypotheses, and suggest experi-ments. Expertise in mathematics, large-scale com-putation, multivariable optimization, and biochemistry. Has programs. Interdisciplinary publications. References. Box 57, SCIENCE. 2/23; 3/2, 9 2/23: 3/2.9

Biochemist/Physician, M.D., Ph.D. Postdoctoral re-search experience in DNA structure and function, postgraduate training in internal medicine. Several quality publications. Interested in a permanent independent research position with or without teaching. Box 63, SCIENCE. 2/23; 3/2

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Pathologist/Researcher. Experienced M.D. and experimental pathologist (presently with the rank of tenured professor) with international reputation in cancer research on own original work and a leader of a scientific group seeks a responsible job. Prefers an academic position with possibility of establishing a multidisciplinary research program. Personal grants can be transferred. Box 67, SCIENCE. X

Somatic Cell Genetics/Virology. Ph.D. 1978. Seeks research position investigating human genetic dis-orders. Experience in interspecific somatic cell hy-brids, cytogenetics, and virological methods. Publications. Availability open. Box 68, SCIENCE.

Toxicologist, Ph.D. 1966: specializations in repro-ductive physiology and endocrinology. Available July 1979. Box 69, SCIENCE. X

Virologist/Cell Biologist. Ph.D. Four years of re-search experience in pharmaceutical industries. Seeking research, service, or administration position in mutagenesis and/or carcinogenesis (chemical and/ or viral). Box 70, SCIENCE. X

POSITIONS OPEN

ANATOMISTS-The Department of Anatomy is ANATOMISTS—The Department of Anatomy is seeking applicants with specialties in neuroanatomy or gross anatomy. Candidates should possess the Ph.D., M.D., or combined degrees, should have completed at least 1 year of postdoctoral research experience, and have demonstrated excellence in re-search. Rank and salary are negotiable depending upon experience. The positions are available 1 July 1979. Please send curriculum vitae, list of pub-lications, and letters of reference by 15 March 1979 to: to:

Robert D. Yates, Ph.D. Chairman of Anatomy Tulane Medical School 1430 Tulane Avenue New Orleans, La. 70112

Tulane is an Equal Opportunity/Affirmative Action Employer. Applications from qualified women and qualified minority group members are encouraged.

ANIMAL BEHAVIOR, Ph.D. (biology or zoology). One-year leave replacement appointment at Swarth-more College beginning in September 1979. Can-didate is expected to teach an introductory course in animal behavior during the first semester as well as animal behavior during the first semester as well as an advanced offering in the same area the second se-mester. In addition the candidate will participate in a team-taught introductory biology course for one se-mester. Send curriculum vitae, statement of inter-ests, and three letters of recommendation by 15 March 1979 to: Dr. John B. Jenkins, Acting Chair-man, Department of Biology, Swarthmore College, Swarthmore, Pa. 19081. An Equal Opportunity Em-loyer ployer

ANIMAL PHYSIOLOGIST position at assistant pro-fessor level open 15 August 1979. Ph. D. with strong academic and research background required. Will teach in segments of introductory biology courses for majors and non-majors, as well as upper division course in mammalian physiology. Expected to de-velop an active research program and offer graduate course(s) in specialty and supervise masters-level re-search. Send curriculum vize detailed statement of course(s) in specialty and supervise masters-lever e-search. Send curriculum vitae, detailed statement of teaching and research experiences and interests, and three references to: Chairperson, Search Committee, Department of Biology, University of Detroit, Detroit, Michigan 48221. An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR OF BIOLOGY. Tenure-ASSISTANT PROFESSOR OF BIOLOGY. Tenure-track; 15 August 1979. Ph.D. required. Teach mam-malian physiology, anatomy and physiology, and as-sist in microbiology. Applications sought from ani-mal physiologists with some training in micro-biology. Must be committed to quality liberal arts education. Send résumé and two letters of recom-mendation by 15 March to: Dr. James J. Dyar, Chairman, Department of Biology, Bellarmine Col-lege, Louisville, Kentucky 40205. An Affirmative Ac-tion/Equal Opportunity Employer.

POSITIONS OPEN

ANATOMIST

There is an opening for an anatomist at the West Virginia School of Osteopathic Medicine (WVSOM) beginning 1 July 1979. Principle responsibilities will be in histology and neuroanatomy but applicant should be competent in gross anatomy as well. Rank and salary will depend upon qualifications. An addi-

tional 1-year position in gross anatomy is available to fill in for a person on leave of absence. WVSOM is a fully accredited medical school in the state's system of higher education; it will gradu-ate its second class in June 1979. There are 60 stuate its second class in June 1979. There are ob sub-dents in each entering class. A systems approach is used, beginning with the second semester of the freshman year; gross anatomy, however, is taught in the traditional manner throughout the first year. Emphasis at WVSOM is placed upon excellence

in teaching. Research is encouraged and small insti-tutional start-up grants are available but promotions and advancement are based upon academic perform-

Letters of application, curriculum vitae, and the names of three references should be sent to

Frances H. Higginbothade, schi tol. Professor and Chairman Department of Anatomy West Virginia School of Osteopathic Medicine 400 North Lee Street Lewisburg, West Virginia 24901

ANIMAL PHYSIOLOGIST, Ph.D. Appoint-ment to begin on 1 June 1979 or sooner. Teaching: general and comparative animal physiology at the undergraduate level and in physiology at the undergraduate level and in area of specialty or related subjects at the graduate level. Research and supervision of graduate students are required. Teaching is to be done in French. Salary according to the collective agreement. Curriculum vitae, transcripts, and the names of three referees should be sent, before 1 April 1979, to:

André Gagnon, Chairman Department of Biology Faculty of Science and Engineering Laval University Quebec, Quebec, Canada G1K 7P4

ASSISTANT OR ASSOCIATE DEPARTMENT HEAD

Applications are invited for the position of assist-ant or associate department head, Department of Bi-ological Sciences, Carnegie-Mellon University, a non-tenure track faculty appointment. Responsibilities include day-to-day operation, assisting faculty in development of undergraduate and graduate aca-demic programs, student recruitment. He or she will demic programs, student recruitment. He of she win be encouraged to teach at undergraduate or graduate level in the general area of biological sciences. Can-didates must have a Ph.D. in the broad area of bio-logical sciences; experience in college-type adminis-tration; ability to deal with faculty, administrators, and students. and students.

and students. The position will be available in spring 1979; dead-line for applications is 28 February 1979. Send cur-riculum vitae and letters of reference to: Lois Kiss, Office of the Dean, Mellon Institute of Science, Car-negie-Mellon University, 5000 Forbes Avenue, Pitts-burgh, Pennsylvania 15213. Carnegie-Mellon University is an Equal Opportu-nity/Affirmative Action Employer.

ASSISTANT PROFESSOR—Wesleyan University has a tenure-track position opening starting July to September 1979. Candidates should have an interest in teaching and in research on the undergraduate and graduate levels. Candidates should be able to develop a high quality research program in the area of biophysical chemistry or bioinorganic chemistry. We are particularly interested in candidates with expertise in the application of physical methods, especially NMR spectroscopy, to biologically important molecules. Applications should include a résumé, a brief description of one or more planned research projects, and names of three references, and should be sent before 1 April 1979 to: Professor Rex Pratt, Department of Chemistry, Wesleyan University, Middletown, Connecticut 06457. Wesleyan will solicit references after initial screening. Equal Opportunity/Affirmative Action Employer. ASSISTANT PROFESSOR-Wesleyan Uni-

ASSISTANT PROFESSOR OF BIOCHEMISTRY. Applications are invited for a 12-month, tenure-track position from qualified individuals with a composition from qualified individuals with a com-mitment to excellence in teaching and research in the area of **molecular biology**. Responsibilities in-clude participation in the undergraduate and gradu-ate teaching program, as well as the development of a graduate course in molecular biology. The individ-ual is expected to develop a vigorous, independent research program in some area of mammalian molec-ular biology which would be compatible with a joint appointment in the College of Agriculture and Ex-periment Station. A Ph.D. in biochemistry with postdoctoral experience is required. Please send ré-sumé, graduate transcripts, summary of research in-terests, and the names of three references to: **R. P. Wilson, Head, Department of Biochemistry, Drawer BB, Mississippi State University, Mississippi State**, BB, Mississippi State University, Mississippi State, Miss. 39762.

DEPARTMENT OF CROP SCIENCE UNIVERSITY OF SASKATCHEWAN

Applications are invited for a position as ASSIST-ANT PROFESSOR OF CROP SCIENCE. Duties will include development of a teaching and research pro-gram involving interspecific hybridization and interaction with colleagues in plant breeding and plant physiology. Teaching duties will include under-graduate and graduate instruction and counselling. Some public service work related to crop science is expected.

This position will be filled by 1 July 1979, or as arranged. Salary will be commensurate with experi-ence and qualifications. Send curriculum vitae and names of three references by 30 March 1979 to:

Dr. H. M. Austenson Dr. H. M. Austenson Professor and Head Crop Science Department University of Saskatchewan Saskatoon, Saskatchewan, Canada S7N 0W0

ASSISTANT PROFESSOR OF ENVIRONMENTAL PLANNING. Tenure-track teaching and research po-sition for fall 1979. Emphasis on either economics of environmental resources or analysis of environmen-tal resource systems. Ph.D. in planning, economics, or natural resources required; professional experi-ence desirable. Submit résumé by 15 March 1979 to: Dr. David Godschalk, Department of City and Re-gional Planning, University of North Carolina, New East 033A, Chapel Hill, N.C. 27514. An Equal Op-portunity/Affirmative Action Employer.

FACULTY POSITION: ASSISTANT PROFESSOR FOOD SCIENCE

ASSISTANT PROFESSOR FOOD SCIENCE The University of California, Berkeley, has a 1 July 1979 opening for an individual qualified to teach and to carry out research in the food sciences. Appli-cants must have a Ph.D. degree or the equivalent, and demonstrated ability to conduct relevant re-search. Preference will be given to applicants with a strong background in the nutritional sciences and professional nonacademic experience. Applications with biography, research interests, list of pub-lications, and names of three references should be sent to: **B. DeLumen, Ph.D., Chairman of the Search** Sent to: B. DeLumen, Ph.D., Chairman of the Search Committee, Department of Nutritional Sciences, Uni-versity of California, Berkeley, Calif. 94720. The closing date for applications is 15 April 1979 or until the position is filled. The University of California is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR OF MICROBIOLO-GY. The West Virginia School of Osteopathic Medi-cine is seeking a Ph.D. in microbiology. The can-didate must have excellence as a virology teacher and the ability to teach general medical microbiology courses. Research facilities are available and re-search is encouraged. Send curriculum vitae with three letters of recommendation to: Dr. Bernerd Bronczyk, Acting Chairman, Department of Micro-biology, West Virginia School of Osteopathic Medi-cine, 400 North Lee Street, Lewisburg, West Virginia 24901.

BIOCHEMIST. Research associate IV position for an individual with 2 to 4 years of postdoctoral expe-rience in studies of protein chemistry. Duties: to su-pervise and conduct (i) studies of changes in protein pervise and conduct (i) studies of changes in protein synthesis related to differentiation and development, and (ii) studies of structural proteins associated with an autosomal dominant defect in collagen fibrillo-genesis. Salary: \$16,000 plus. Send résumé and names of three references to: Dr. R. R. Minor, Con-nective Tissue Research Laboratories, New York State College of Veterinary Medicine, Cornell Univer-sity, Ithaca, N.Y. 14853. An Affirmative Action/ Equal Opportunity Employer.

23 FEBRUARY 1979

POSITIONS OPEN

Applications are invited for two positions at the level of ASSISTANT PROFESSOR in the Department of Industrial Environmental Health Sciences doctoral degree in industrial hygiene or in a closely related physical or biological science with some industrial hygical or biological science with some in-dustrial hygical experience is required. The appli-cant is expected to contribute to existing research programs, develop independent research projects, and participate in the teaching program. It is antici-pated the applicate with exterious to the track pated that the applicant will contribute to the teaching at night for part-time and continuing education programs.

Interested candidates should send curriculum vitae and description of research and teaching inter-ests to: Yves Alarie, Ph.D., Chairman, Department of Industrial Environmental Health Sciences, Gradu-ate School of Public Health, University of Pittsburgh, Pittsburgh, Pa. 15261. An Equal Opportunity/Affi mative Action Employer.

FACULTY POSITIONS: ASSOCIATE (OR FULL) PROFESSOR AND ASSISTANT PROFESSOR OF HUMAN NUTRITION

The University of California, Berkeley, has two 1 July 1979 openings for M.D. nutritionists for teach-ing and research in the Department of Nutritional Sciences. One is at the professor (or associate pro-fessor) level and the other at the assistant professor level. Applicants must have an M.D. degree and be licensed or be eligible for licensure for the practice of medicine in California. Preference will be given to applicants with a strong background in nutrition, biochemistry, endocrine or metabolic diseases, or other relevant specialization, and the ability to be a leader in a strong research program in human nutri-Reader in a strong research program in human nutri-tion. Applications with biography, research inter-ests, lists of publications, and names of three refer-ences should be sent to: K. J. Carpenter, Ph.D., Chairman of the Search Committee, Department of Nutritional Sciences, University of California, Berke-ley, Calif. 94720. The closing date for applications is 15 March 1979 or until the position is filled. The Uni-versity of California is an Affirmative Action/Equal 1990. rsity of California is an Affirmative Action/Equal Opportunity Employer.

University of Manitoba, Division of Genetics, Faculty of Medicine and Health Sciences Centre. ASSOCIATE OR ASSISTANT PROFESSORS in areas of

- CLINICAL GENETICS—M.D., F.R.C.P., or equivalent in pediatrics. At least 3 to 4 years of experience in clinical genetics/genetic counsel-ling and research to head Section of Clinical Ge-netics, Health Sciences Centre.
- BASIC GENETICS-Ph.D. or M.D. with re-search interests in the area of somatic cell ge-netics, population genetics, or immunogenetics. Some experience in graduate and undergraduate teaching required.

Both appointments to commence on or after 1 July 1979. Send curriculum vitae and references as soon as possible to: Dr. John L. Hamerton, Division of Ge-netics, Health Sciences Centre, 700 William Avenue, Winnipeg, Manitoba, Canada R3E 0Z3.

ASSOCIATE PROFESSOR/PROFESSOR AND CHAIRPERSON, Department of Home Economics, to begin 1 September 1979. Provide effective lead-ership in securing grants, nutrition research, and administration of graduate and undergraduate pro-gram in home economics; develop a research pro-gram in home nutrition. teach selected undergraduate gram in human nutrition; teach selected undergraduate/graduate courses in nutrition; advise students and participate in relevant committee work, public service, and professional organizations. Qualifica-tions: doctorate in nutrition; at least one degree in home economics; commitment to home economics home economics; commitment to home economics as a profession; teaching and research related to hu-man nutrition; leadership and administrative compe-tence. Send résumé, official transcripts, and names and addresses of three people to be contacted for recommendations by 30 April 1979 to: Dr. Sharon Young, Chairperson, Search Committee, Department of Home Economics, Pettee Hall, University of New Hampshire, Durham, N.H. 03824. The University is an Affirmative Action/Equal Opportunity Employer.

BIOCHEMIST. Postdoctoral position available immediately. Background in proteins, enzymology, and amino acids required for studies in enzymes of arginine biosynthesis. Recent Ph.D. applicants with pertinent experience considered. Send résumé and references to: Dr. Sarah Ratner, Department of Bio-chemistry, Public Health Research Institute, 455 First Avenue, New York, N.Y. 10016.

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POSITIONS OPEN

BIOCHEMIST—DEPARTMENT OF BIOMEDICAL SCIENCES

Southern Illinois University at Edwardsville (SIU-E) School of Dental Medicine invites applications for a full-time faculty position as a biochemist in the Department of Biomedical Sciences. Salary and rank commensurate with training and experience. Ph.D. or equivalent with demonstrated research ability required. The individual filling this position is expected to share the responsibility of teaching hu-man biochemistry to dental students and actively pursue research of own choice.

Applications will be received until 1 May 1979. As an Affirmative Action Employer, SIU-E offers Equal Employment Opportunity without regard to race, color, creed or religion, age, sex, national origin, or handicap. Send curriculum vitae to: Dr. Henry M. Cherrick, Dean, School of Dental Medicine, Southern Illinois University at Edwardsville, Edwardsville, Ill. 62026

BIOCHEMIST and BIOPHYSICS-ELECTROPHYS-BIOCHEMIST and BIOPHYSICS-ELECTROPHYS IOLOGIST POSTDOCTORATE or RESEARCH AS-SISTANT POSITIONS available summer 1979 to study hormonal regulation of metabolism. Apply to: Dr. N. Friedmann, Department of Physiology, Uni-versity of Texas Medical School, P.O. Box 20708, Houston, Texas 77025.

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BIOLOGY FACULTY POSITION

One tenure-track position is available in the Biology Department of Virginia Commonwealth University for a fresh-water biologist. The position will require the teaching of general biology, limnology, and ad-vanced aquatic biology. The candidate will also be expected to establish an active research program. Rank and salary are open. The minimum require-ment for the position is the Ph.D. Applicants should send their curriculum vitae and the names of three references to: Dr. Peter E. Giebel, Department of Bi-ology, Virginia Commonwealth University, Rich-mond, Virginia 23284. Closing date for receipt of ap-plications is 1 March 1979. An Equal Opportunity/ Affirmative Action Employer.

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Dr. Tawfik Tamimi Dr. Tawnk Tamim Dean, Faculty 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 6EH England

BIOLOGICAL CHEMISTRY FACULTY POSITIONS

FACULTY POSITIONS The Department of Biological Chemistry, Univer-sity of California, Los Angeles (UCLA) School of Medicine, plans several appointments to its faculty during the next 18 months; one position will be open in summer 1979. While we are particularly interested in highly qualified individuals with research interests in the areas of chemical enzymology, protein chem-istry, and genetics or cell biology of eukaryotes, out-standing candidates with other research interests will be seriously considered. A genuine interest and excellence in teaching is also expected. While it is anticipated that appointments will be as assistant professors, appointment could be at a higher level in an exceptional case. Please submit curriculum vitae and names of three referees by 15 April (for the ini-tial position) to: John G. Pierce, Vice Chairman, De-partment of Biological Chemistry, UCLA School of Medicine, Center for Health Sciences, Los Angeles, calif. 90024. An Equal Opportunity Employer: appli-cations from minority candidates and women are en-couraged. couraged.

BIOLOGY/APPLIED OR ENVIRONMENTAL MI-BIOLOGY/APPLIED OR ENVIRONMENTAL MI-CROBIOLOGY. Ranked, ten-faculty position, Ph.D. required. Must have strong interest in under-graduate teaching. Duties will include direction of introductory biology course for non-majors and de-velopment of an applied and environmental micro-biology service course. Candidate should have the desire and the ability to interact with an active grad-uate program. Send curriculum vitae and the names of three references to: of three references to:

> S. A. Sonstein, Chairman Search Committee Department of Biology University of Dayton Dayton, Ohio 45469

Deadline for application is 10 March 1979. The University of Dayton is an Equal Opportunity/Affir-mative Action Employer. Women and minorities are encouraged to apply

UNIVERSITY OF SOUTH CAROLINA

The Department of Biology is seeking applicants for four tenure-track positions at the Assistant Pro-fessor level for fall 1979: (i) INVERTEBRATE DE-VELOPMENTAL BIOLOGY (will teach undergradvelopment AL BOLLOGY (win teach undergrad-uate invertebrate zoology); (ii) IMMUNOLOGY; (iii) MOLECULAR GENETICS; and (iv) SOMATIC CELL GENETICS. All successful candidates will be expected to initiate and maintain a quality research program and teach at the undergraduate and gradu-ate levels. Please specify on the outside of the enve-lope the position for which you are applying. Send curriculum vitae, three letters of recommendation, reprints, and statement of future research objectives by 26 March to:

Larry T. Wimer Chairman, Biology Department University of South Carolina Columbia, S.C. 29208

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

DEAN COLLEGE OF SCIENCE AND MATHEMATICS UNIVERSITY AT ALBANY

Applications and nominations are invited for the position of Dean of the College of Science and Math-ematics, University at Albany. The college consists of Departments of Atmospheric Sciences, Biology, of Departments of Atmospheric Sciences, Biology, Chemistry, Computer Science, Geological Science, Mathematics and Statistics, and Physics. The col-lege includes about 160 faculty, 350 graduate stu-dents, and 1100 upper division undergraduates. The dean is the principal administrative and academic member of the college. His/her essential role is to provide intellectual leadership and direction for the instantiation of the academic members of the acalence instructional and research programs of the college.

Desired qualifications include an earned doctor-ate, proven scholarly ability and professional comexperience, appropriate academic and administrative experience, and the ability to provide creative leadership.

Applications and nominations with résumés should be sent by 1 April 1979 to:

Dr. John F. Dewey, Chairman Dean Search Committee E.C.C. LC B31 State University of New York at Albany 1400 Washington Avenue Albany, N.Y. 12222

The University at Albany is an Equal Opportunity/ Affirmative Action Employer.

POSITIONS OPEN

Midland Macromolecular Institute (MMI) invites applications for a position at the level of assistant pro-fessor or associate professor depending upon experi-ence and qualifications. Duties will involve research and teaching in **BIOPOLYMERS** (chemistry and/or physics). Required: Ph.D. with interest and experi-ence in NMR, including NMR instrumentation. Ap-plicants should submit curriculum vitae, a list of publications, and names of three references to: **BIO-POLYMERS**, Midland Macromolecular Institute, **1910** West St. Andrews Drive, Midland, Michigan **48640** by 1 April 1979. MMI is an Equal Opportunity Employer. blications for a position at the level of assistant pro Employer

CELLULAR IMMUNOLOGIST

Applications are invited for two positions at instruc-tor/assistant professor level. Ph.D. required with at least 1 year of postdoctoral training. Preferences giv-en to those with interests in immunogenetics, HLA-D typing, immunoregulation, and cell-cell inter-actions. One position will involve assuming the ma-per servencibility for an on going HLA-D typing actions. One position will involve assuming the ma-jor responsibility for an on-going HLA-D typing project (international workshop level) as well as in-dependent research projects of own initiative. The second position will require independent research ability in the area of immunoregulation using andi-idiotype reagents as probes, and/or cell hybridiza-tion techniques. Faculty appointment and salary commensurate with experience. Send curriculum vitae and reprints or other supporting documents to: Dr. James N. Woody, Immunologic Oncology Divi-sion, Lombardi Cancer Center, Georgetown Universi-ty School of Medicine, Box 63, Med-Dent Building, 3900 Reservoir Road, NW, Washington, D.C. 20007. Georgetown University is an Equal Opportunity/Af-firmative Action Employer. Applications from womfirmative Action Employer, Applications from wom-en and minorities are encouraged.

CHAIRMAN, Department of Dental Research, University of Rochester

This is a full-time position with an endowed chair. The university seeks an investigator with substantial experience and an established reputation in some experience and an established reputation in some field of research related to dentistry. An active inter-est in the training of dental researchers and teachers is also required. *The university is a nondiscriminato-ry, Affirmative Action Employer.* Send curriculum vitae to: Dr. W. D. McHugh, 625 Elmwood Avenue, Rochester, New York 14620.

ZOOLOGY-CHAIRMAN-GUELPH

The College of Biological Science is searching for a chairman. The department wishes to recruit a schol-ar with expertise in one of the areas of specialization of the department.

The department has a large undergraduate teaching component both as a service function as well as in its own disciplinary area. At the graduate level the de-partment specializes in: aquatic science, marine bi-ology, parasitology, environmental physiology, fish and wildlife biology, management and behaviour.

Salary and rank are commensurate with experience Recommendations and applications should be sent to: Secretary, Selection Committee, c/o Professor K. Ronald, Dean, College of Biological Science, Universi-ty of Guelph, Guelph, Ontario, Canada N1G 2W1. Position subject to final budgetary approval

FACULTY POSITION. Position available Septem-FACULTY POSITION. Position available Septem-ber 1979 to teach embryology/developmental biology, comparative anatomy, histology, and first-level biology. Ph.D. required. Study and/or teaching ex-perience in a liberal arts college preferred. Direct ap-plication, curriculum vitae, and three letters of refer-ence to: Dr. Nancy Groseclose, Biology Department, Agnes Scott College, Decatur, Georgia 30030. Search will continue until a suitable candidate is secured. Appointment expected to be made at the assistant professor level; however, exceptional candidates with prior teaching experience may be considered with prior teaching experience may be considered for the higher ranks

IGNEOUS-METAMORPHIC GEOLOGIST

Maryland Geological Survey has state merit position open. Duties: Piedmont geologic quadrangle mapopen. Duties: Piedmont geologic quadrangle map-ping; technical advice to state agencies, consultants, general public. Requires excellence in field geology, in verbal and written communications, and ability to work independently. Minimum requirements: Ph.D.; or M.A. plus 2 years of experience; or B.A. plus 4 years of experience. Minimum level salary: \$14,803. Send résumé before 16 March to: Dr. Emery T. Cleaves, Maryland Geological Survey, Johns Hopkins University, Baltimore, Maryland 21218.

POSITIONS OPEN

DIRECTOR, UNIVERSITY OF WASHINGTON ABORETUM

The University of Washington seeks applications The University of Washington seeks applications for the directorship of the Arboretum-Botanic Gar-den program. Candidates should have academic cre-dentials which would qualify for a faculty appoint-ment in one of the plant sciences. The exact dis-cipline is not critical. Landscape architecture, ornamental horticulture, experimental taxonomy, and plant physiology would be possible fields. The individual should have the ability to interpret plant resources from the social and cultural point of view as well as from the scientific point of view. The di-rector will be expected to develop a program of teaching, research, and public service in addition to administrating a staff, developing budgets and imple-menting current and long-term development of the university's arboretum. In addition to the university university's arboretum. In addition to the university university's arboretum. In addition to the university duties the person will be expected to work closely with public groups in developing programs and rais-ing supplementary funds. Curriculum vitae and three supporting letters should be sent to:

Dr. Lawrence C. Bliss, Chairman, Search Committee Department of Botany University of Washington Seattle, Washington 98195

Closing date for applications is 1 April 1979. The University is an Equal Opportunity/Affirmative Action Employer. Applications from qualified members of minority groups and women are encouraged.

ECOLOGIST-UCLA

Applications are invited for appointment in the Divi-sion of Environmental Biology of the Laboratory of Nuclear Medicine and Radiation Biology as assistant research ecologist, with joint appointment as assist-ant professor (tenure-track) in the Department of Biant professor (tenure-track) in the Department of Bi-ology. We seek applicants having specializations in arthropod ecology or environmental physiology, in quantitative ecology with skills in modeling and field testing of ecological processes, or in vertebrate pop-ulation and production ecology. Interest in applied aspects of ecology in desert ecosystems is desired. Applicants should provide evidence demonstrating excellence in research and teaching. Send curricu-lum vitae, statement of teaching and research inter-ests, and names and addresses of three references ests, and names and addresses of three references before 15 March 1979 to: Ecology Search Committee, Laboratory of Nuclear Medicine and Radiation Biol-ogy, University of California, 900 Veteran Avenue, Los Angeles, California 90024. An Equal Opportunity/Affirmative Action Employer

ECONOMICS AND PUBLIC POLICY FACULTY POSITION

Assistant professor for a joint appointment in the Di-vision of Economics in the School of Business Administration and the university's Interdisciplinary Science and Public Policy Program. Candidates should hold a Ph.D. and have an ability and comshould hold a Ph.D. and have an ability and com-mitment to working as part of an integrated research team comprised of engineers, natural scientists, and social scientists. Preference will be given to can-didates with experience or interest in energy and/or environmental policy. Duties include a major re-search commitment to science and public policy studies per semester in econ studies, teaching one course per semester in eco-nomics, and faculty contributions to the total pro-gram of the Division of Economics. Rank and salary gram of the Division of Economics. Rank and salary will be commensurate with qualifications. Appli-cation deadline: 1 May 1979. Send résumés and a list of three references to: S. C. Ballard, Chairman of Search Committee, Science and Public Policy Pro-gram, University of Oklahoma, 601 Elm Avenue, Room 432, Norman, Okla. 73019.

An Equal Opportunity/Affirmative Action Employer

BIRZEIT UNIVERSITY

An independent Arab University in the Israeli-occu-pied West Bank of Jordan has the following faculty openings for the academic year 1979-1980: BIOL-OGY-BIOCHEMISTRY, CHEMISTRY (PHYSI-CAL, INORGANIC, ORGANIC), MATHEMATICS (ALGEBRA, ANALYSIS, MATHEMATICAL STA-TISTICS) PHYSICS (EXPERIMENTAL AND THE-ORETICAL). English is the basic language of in-struction and candidates should have a Ph.D. prefer-ably or a master's degree with experience. Starting annual salary for Ph.D. is 2700 Jordanian Dinars (current exchange rate 1 J.D. = U.S.\$3.35). Option-al summer teaching extra. Fringe benefits include re-location allowance (15 percent of salary). Transpor-tation also provided. All applications should be ad-dressed to: Dean of the Faculty of Science, Birzeit University, Birzeit, West Bank via-Israel. An independent Arab University in the Israeli-occu-

EXECUTIVE DEAN UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE

The University of Illinois College of Medicine is a multi-school college. The executive dean is respon-sible for all phases of operation of this college and for the coordination of the activities of its component schools.

Candidates must possess a doctor of medicine de-gree and have demonstrated capability and experience in medical education and administration. Apply to:

Ruy V. Lourenco, M.D. Chairman, Search Committee University of Illinois at the Medical Center P. O. Box 6998 Chicago, Illinois 60680

To ensure full consideration credentials should be submitted by 1 April 1979. The University of Illinois is an Affirmative Action/

Equal Opportunity Employer and encourages appli-cations from members of minority groups and women.

FACULTY POSITIONS IMMUNOLOGY

Two faculty positions at the assistant professor level are available between April and September for the areas of tumor immunology/immunogenetics. Can-didates must have postdoctoral experience and ac-complishments in these disciplines and be capable of developing independent research programs. Some graduate teaching required, but teaching load is min-imal. Strong research program in immunology and virology available. Send curriculum vitae with three references to: Dr. D. M. Goldenberg, Division of Ex-perimental Pathology, University of Kentucky Medi-cal Center, Lexington, Ky. 40506 Faual Opportunity/Affirmative Action Employer Two faculty positions at the assistant professor level

Equal Opportunity/Affirmative Action Employer

FACULTY POSITIONS

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

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

Affirmative Action/Equal Opportunity Employer

FACULTY POSITIONS. Tenure-track positions open in ecology and microbiology starting Septem-ber 1979. Ph.D. required. Ecologist should have in-terest in both aquatic and terrestrial ecosystems and experience with computer use in analysis and simu-lation. Expected to teach practicum course in aquatic ecology and research methods in ecology. Prefer-ence will be given for experience with ecological apence will be given for experience with ecological ap-plications in environmental assessment and a good botanical background. Microbiologist must be able to teach microbial physiology and introductory and advanced microbiology. Knowledge of microbial ge-netics desirable. Apply to: Personnel Department, Eastern Michigan University, Ypsilanti, Mich. 48197 by 20 March 1979. Curriculum vitae and names of three references may be sent directly to: Dr. H. H. Caswell, Jr., Biology Department, Eastern Michigan University, Ypsilanti, Mich. 48197. Eastern Michigan University an Equal Opportunity/Affirmative igan University is an Equal Opportunity/Affirmative Action Employer.

GROSS ANATOMIST

The Department of Anatomy at the University of Minnesota invites applicants for an appointment as either **assistant or associate professor**, with teaching and research responsibilities in the area of **functional** human anatomy. Applicants should have a back-ground either in biomechanics, human evolutionary biology, or comparative anatomy and should be able to teach undergraduates, as well as medical, dental, and graduate students. A vigorous research program in some area pertinent to functional human anatomy is required. Interested persons should contact: Dr. David W. Hamilton, Department of Anatomy, 262 Jackson Hall, 321 Church Street, SE, University of Minnesota, Minneapolis, Minn. 55455.

An Equal Opportunity Educator and Employer

23 FEBRUARY 1979

POSITIONS OPEN

UNIVERSITY OF WISCONSIN-MADISON CENTER FOR HEALTH SCIENCES DEPARTMENT OF PHYSIOLOGY

A FACULTY POSITION at the assistant professor level is currently available. Applications are invited from persons with postdoctoral experience and a demonstrated interest in endocrinology or neuroendemonstrated interest in endocrinology or neuroen-docrinology. Participation is expected in the teach-ing programs of the department which includes courses in organ systems and cell physiology to un-dergraduate, graduate, and medical students. Inter-ested candidates should submit curriculum vitae, complete bibliography, and have letters of reference from three individuals sent to: **Dr. Richard C. Wolf**, Department of Division. from three individuals sent to: Dr. Richard C. Wolf, Department of Physiology, University of Wisconsin-Madison, 470 North Charter Street, Madison, Wis-consin 53706. To receive full consideration appli-cations should be received by 15 March 1979. The University is an Equal Opportunity/Affirmative Ac-tion Employer; women and minorities are encour-aged to apply. aged to apply.

FACULTY POSITION AT THE UNIVERSITY OF CALIFORNIA, DAVIS. Assistant professor, associ-ate professor, or professor (20 percent teaching, 80 percent research). Position available 1 July 1979 for teaching and neurophing undergraded and the second percent. teaching and research in cryoscience and cryotechnology, emphasizing investigation of the funda-mental scientific principles of the frozen state and application of such principles of the hozen state and application of such principles to improving frozen food quality. Requirements include a Ph.D. degree pertinent to food science (biophysics, biochemistry, botany, chemistry, engineering, food science, phys-ics, or a related field) and an interest in food science. ics, or a related field) and an interest in food science. Send curriculum vitae, transcripts of undergraduate and graduate work, and publications to: **Professor R.** L. Merson, Chairman, Search Committee, Depart-ment of Food Science and Technology, University of California, Davis, Calif. 95616. At least four persons should be requested to send letters of recommenda-tion. Applications should be received by 15 April 1979. The University of California is an Equal Op-portunity/Affirmative Action Employer and invites applications from all qualified individuals.

UNIVERSITY OF CHICAGO

The Department of Chemistry of the University of Chicago invites applications from outstanding individuals for FACULTY POSITIONS in all branches of viduals for FACULTY POSITIONS in all branches of CHEMISTRY. Qualified applicants should submit curriculum vitae, a list of publications, a succinct outline of research to be undertaken, and should ar-range for three letters of recommendation to be sent to: Professor Josef Fried, Chairman, Department of Chemistry, The University of Chicago, Chicago, Illi-nois 60637.

An Equal Opportunity/Affirmative Action Employer

IMMUNOLOGIST, VIROLOGIST

Two positions are available immediately at the assistant professor level for a cellular immunologist and a virologist to work in the Bovine Leukemia Research Unit. Applicants should have a Ph.D. or D.V.M. degree with postgraduate training in the ap-propriate discipline. Qualified applicants should send a résumé, copies of representative pub-lications, and the names of three people who may be contacted for references to: Dr. Jorge F. Ferrer, Chief, Section of Viral Oncology, University of Penn-sylvania School of Veterinary Medicine, New Bolton, Center, R.D. 1, Kennett Square, Pa. 19348.

IMMUNOLOGIST-Ph.D. plus a minimum of 2 IMMUNOLOGIST—Ph.D. plus a minimum of 2 years of postdoctoral experience together with dem-onstrated research achievement in any area of mod-ern immunology. Teaching responsibilities: basic immunology to medical students and advanced im-munology to graduate students. Available immedi-ately. Assistant professor rank. Salary negotiable. Send curriculum vitae and names of three references to Chairman Immunology Search Committee Deto: Chairman, Immunology Search Committee, Department of Microbiology and Public Health, Michigan State University, East Lansing, Mich. 48824. An Equal Opportunity/Affirmative Action Employer

MICROBIOLOGY FACULTY POSITIONS available in molecular genetics and immunology at assist-ant or associate professor level. Doctoral degree and balance of associate profession for a postocial experience required. Starting date: 1 July 1979 or soon thereafter. Send curriculum vitae and references to: Search Committee, Department of Microbiology, College of Medicine, University of Ari-zona, Tucson, Ariz. 85724. An Equal Opportunity/Af-firmative Action/Title IX/Section 504 Employer.



The Department invites applicants for a 2 year renewable appointment starting September 1979. Qualifications include a Ph.D., experience in teaching environmental geology and geomorphology and willingness to participate (on rotating basis) in instructing elementary courses in marine, geostatistics and introductory Geology. The candidate will be expected to assist in developing research programs in Geology and teaching in the Graduate School which opens shortly. Applicants should send resume and three letters of reference to:



Department of Administrative Affairs P.O. Box 5969, Kuwait.

INSECT SYSTEMATIST CORNELL UNIVERSITY

Applications invited for tenure-track position with responsibility for teaching and research; teaching (50 percent) includes teaching at introductory and advanced level in coordinated effort with faculty colleagues; research (40 percent) on systematics of a major arthropod order; extension (10 percent) involves chiefly the identification of specimens in individual's area of specialization. Prefer to fill at assistant professor level; others considered. Send curriculum vitae and names of five references to: Professor E. H. Smith, Department of Entomology, Cornell University, Ithaca, N.Y. 14853. Deadline for receipt of applications is 15 June 1979. Cornell University is an Equal Opportunity/Affirmative Action Employer.

A JUNIOR FACULTY POSITION is available for an experimental physicist with interest and background in physics of materials who would play a key role in a developing program involving the use of ion beams for material modification and characterization. Relevant postdoctoral experience and evidence of motivation and accomplishment are desired. The salary is dependent on experience and qualifications. Send résumé and list of references to:

Dr. Walter M. Gibson Chairman, Physics Department State University of New York at Albany 1400 Washington Avenue Albany, N.Y. 12222

State University of New York is an Equal Opportunity/Affirmative Action Employer. Application deadline: 1 April 1979. To be filled: 1 September 1979.

LABORATORY EXTENSION DIVISION CHIEF-Responsible for laboratory surveys and improvement activities in both clinical and environmental sciences. M.S. in basic science required plus demonstrable knowledge of relevant laws and regulations affecting laboratories; public health academic training with emphasis on clinical and environmental laboratories and 3 years of related experience in the development and presentation of continuing education programs. Preference to applicants with doctorate degree and academic teaching experience. Salary range: \$18,100 to \$28,695. Forward letters of application with curriculum vitae to: PHM Search Committee, University Hygienic Laboratory, University of Iowa, Iowa City, Iowa 52242. Closing date: 16 March 1979. An Affirmative Action/Equal Opportunity Employer.

University of California, Los Angeles. LECTURER OR ACTING ASSISTANT PROFESSOR. One-year appointment in ecosystem analysis and conservation degree program. Fall 1979. Ph.D. required. Salary: \$15,264. Applications invited from physical geographers, biogeographers, and ecologists with a commitment to ecosystem analysis including related human implications. Applicants should exhibit proven scholarship, strong research record and potential, and teaching excellence. Submit curriculum vitae and names of three referees by 1 May 1979 to: Dr. Tom McKnight, Chair, Department of Geography, University of California, Los Angeles, Calif. 90024. Equal Opportunity/Affirmative Action Employer.

MATHEMATICS: assistant professor, probability and mathematical statistics, fall 1979, Ph.D. required. Tenure-track. All applicants should have an active research program and broad undergraduate teaching interests. Continued research activity necessary for tenure. Computer experience is strongly desired. Teaching load is 9 hours per semester. Complete curriculum vitae, copy of graduate transcript(s), and three letters of reference accepted by: Search Committee, Department of Mathematics, University of Louisville, Louisville, Ky. 40208 through 31 March 1979. TIAA-CREF. An Equal Opportunity/ Affirmative Action Employer.

MICROBIOLOGIST. Assistant professor, Ph.D., fall 1979, term contracts with possibility of tenure. Candidate will teach an upper division microbiology course (Monera, Protista, Fungi) and a medical microbiology course (diagnostic). The candidate will be expected to carry on an active research program and develop a course(s) in his/her specialty. Send curriculum vitae with names of three references to: Bruce Lang, Department of Biology, Eastern Washington University, Cheney, Wash. 99004.

Eastern Washington University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

PATHOLOGIST. Applications invited for full-time chief, Laboratory Service, Veterans Administration Medical Center, Long Beach, California, with appropriate academic appointment in Department of Pathology, College of Medicine, University of California, Irvine. Board-certification in anatomical and clinical pathology, and demonstrated skill in administration and leadership required. Must have outstanding academic qualifications and proven research ability. *Equal Opportunity Employer—women and minorities encouraged to apply*. Interested candidates send curriculum vitae and three letters of reference to: G. S. Ascher, M.D., Veterans Administration Medical Center (113), 5901 East 7 Street, Long Beach, Calif. 90822.



The Dow Corning Corporation has an immediate opening for a creative physiologist-pharmacologist in our Medical Research Laboratory. Responsibilities include basic and developmental research related to medical devices and laboratory supervision. Candidates should have a Ph.D. or equivalent in physiology or pharmacology with a working knowledge of hematology and histology. Candidate will be located at corporate facilities in Midland, Michigan. Dow Corning is a rapidly growing, Fortune 500 Cororgram, advancement opportunities, and global operations. Dow Corning is an Equal Opportunity Employer. Send résumés to:

Physiologist-Pharmacologist Placement Professional Personnel Dow Corning Corporation 2200 West Salzburg Road—Box 1767 Midland, Michigan 48640

POSTDOCTORAL—Available immediately or 1 July. Biochemist, biophysicist, or cell biologist to work on synthesis of myelin in vitro. Experience with membrane isolation and cell culture desirable. Send curriculum vitae and names of three references to: Dr. Sara Szuchet, Department of Neurology, The University of Chicago Hospital and Clinics, 950 East 59 Street, Chicago, Illinois 60637. An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

PHYSIOLOGIST. A position for a physiologist at the assistant/associate professorial level is available in the Oral Biology Department at Case Western Reserve University School of Dentistry. Primary teaching responsibilities include human physiology and neurobiology with limited additional graduate training. Ph.D. or equivalent required with demonstrated research experience in secretory or neurophysiology desirable. Interested persons may send curriculum vitae and the names of three persons to be contacted as references to: Dr. Joseph C. Occhino, Chairman of Oral Biology, Case Western Reserve University School of Dentistry, Cleveland, Ohio 44106. Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer, MIF.

PHYSIOLOGIST, ASSOCIATE PROFESSOR/PROFESSOR

Applications are invited for an established investigator in the area of cardiovascular or neurophysiology. Highly qualified candidates in other areas of mammalian physiology will also be considered. The candidate should be an effective teacher as well as a recognized authority in her/his field. Teaching responsibilities will include team-taught course for medical students and participation in graduate courses. Send curriculum vitae, bibliography, and names of three references to: Dr. Charles D. Barnes, Chairman, Department of Physiology, Texas Tech University School of Medicine, Lubbock, Texas 79430. An Equal Opportunity Employer.

PHYSIOLOGIST. The Department of Physiology at the University of Massachusetts Medical School is seeking applications for an assistant or associate professor of physiology. We are seeking applicants whose research interests will allow interaction with one or more of the present faculty, whose interests include endocrinology, smooth muscle physiology, cardiovascular, renal, and neurophysiology. The successful applicant will be expected to establish a vigorous research program as well as to teach physiology to medical students and participate in teaching graduate courses. Applicants should forward a letter and curriculum vitae to:

Search Committee Department of Physiology The University of Massachusetts Medical School 55 Lake Avenue, North Worcester, Mass. 01605

Members of minority groups are encouraged to apply. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORATE FELLOW (RESEARCH SPE-CIALIST) available immediately to engage in biochemical and pharmacological studies of membrane NA⁺,K⁺-ATP(ase) system. Candidate with Ph.D. in biochemistry or pharmacology with appropriate background should send curriculum vitae to: Dr. K. Ahmed, Department of Laboratory Medicine and Pathology, University of Minnesota, VA Medical Center, 4801 East 54 Street, Minneapolis, Minn. 55417.

POSTDOCTORAL POSITION for studies of biochemical pharmacology of nucleotide analogs in human bone marrow cells. Experience in growth of hematopoietic progenitor cells in vitro and/or nucleotide biochemistry desirable. Minimum stipend: \$12,000. Send curriculum vitae and names of three references to: Dr. W. K. Plunkett, Department of Developmental Therapeutics, University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute, Houston, Texas 77030. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately for research on membrane phenomena associated with mediator release in allergy. Applicants should have a background in immunochemistry or biochemistry. Send curriculum vitae and three letters of recommendation to: Dr. A. Froese, Department of Immunology, University of Manitoba, 730 William Avenue, Winnipeg, Manitoba, Canada R3E 0W3.

POSTDOCTORAL POSITION—BIOCHEMISTRY. Available spring-summer 1979 for individual with Ph.D. in biochemistry or related field. Research directed toward purification of the glucose transport system from fat cells and elucidation of the structural basis for insulin stimulation of transport. Please send résumé and names of three references by 19 March to: Dr. Gustav E. Lienhard, Department of Biochemistry, Dartmouth Medical School, Hanover, N.H. 03755.

VETERINARY ANATOMY POSITIONS

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The Department of Anatomy, Tufts University Schools of Medicine, Dental Medicine, and Veteri-nary Medicine, invites applications for three tenure-track positions at the assistant and associate profes-sor levels, available immediately. Applicants should possess the D.V.M. (or equivalent) and/or the Ph.D. in anatomy. The positions involve independent and collaborative research, as well as the planning and collaborative research, as well as the planning and collaborative research, as well as the planning and implementation of such courses as veterinary gross anatomy (small and large animal), embryology, mi-croscopic anatomy, and veterinary neuroanatomy for the first entering class at Tufts University chool of Veterinary Medicine (October 1979). Applicants for the assistant professor level should have at least 1 or 2 years of postdoctoral experience and show promise of developing an exity and independent re I or 2 years of postdoctoral experience and show promise of developing an active and independent re-search program; teaching experience is essential. Applicants for the associate professor level must have an established research program and extensive teaching experience in veterinary anatomy. Prefer-ence will be given to individuals with teaching expe-rience in veterinary gross anatomy (and embryol-ogy) or veterinary microscopic anatomy; a strong background in veterinary neuroanatomy teaching will also be considered. Current research areas in the denartment include: nulmonary cell biology rethe department include: pulmonary cell biology, re-productive biology, comparative immunology, mechanisms of hormone action, cell biology (espe-cially, secretory mechanisms) and the effects of ag-ing and/or alcohol on the CNS. Salary and rank are dependent upon qualifications and experience. Ap-plicants are invited to submit curriculum vitae, names of three references, and a letter describing re-search and teaching interests to: Dr. Karen Hitch-cock, Chairman, Department of Anatomy, Tufts Uni-versity Schools of Medicine, Dental Medicine, and Veterinary Medicine, 136 Harrison Avenue, Boston, Massachusetts 02111.

Tufts University is an Equal Opportunity/Affir-mative Action Employer.

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אאן THE AUSTRALIAN NATIONAL UNIVER-SITY, CENTRE FOR RESOURCE AND EN-VIRONMENTAL STUDIES, DIRECTOR. The university seeks to appoint a head of the Centre for Resource and Environmental Centre for Resource and Environmental Studies to succeed Professor Frank Fenner, CMG, MBE, FAA, FRS, who will retire at the end of 1979. The centre is designed to advance research in resource and environmental studies, to provide postgraduate training including a master's degree by coursework, and to seek solutions to prob-lems of resource and environmental manage-ment. The present condensis of final univerment. The present academic staff, including the director, comprises five senior tenured staff and seven research fellows, drawn from both social and natural science disciplines. The director is responsible through the vice chancellor to the University Council for the operation and development of the centre and for its administration and financial managefor its administration and hnancial manage-ment. The director's most important role is that of academic leadership; he/she will be expected to lead and co-ordinate multi-disciplinary research studies within the centre, taking a key role in developing the major projects that will at any time occupy a substantial part of the time of all staff of the centre Hic/ker professional background centre. His/her professional background may be in any field appropriate to the centre. He/she should have a broad interest in and He/she should have a broad interest in and understanding of resource and environmen-tal studies, and should if possible have had experience in leading multidisciplinary team projects. The director will also hold a chair in the university. The term of office as direc-tor will be a matter for agreement with the university but is likely to be for 5 or 7 years with the possibility of extension for a further period. Appointment as professor is until re-tiring age, that is, the end of the year in which the pofices reaches the age of 65 years, with the option of retiring at any time years, with the optics of retaring at any time after age 60. Anyone interested in being con-sidered for this appointment is asked to write in confidence to: **Registrar**, **P.O. Box 4**, **Can-berra ACT 2600**, **Australia** from whom fur-ther information of the state of the stat ther information may be obtained. XK ж باب

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THE AUSTRALIAN NATIONAL UNIVER-THE AUSTRALIAN NATIONAL UNIVER-SITY invites applications for a post of FEL-LOW/SENIOR FELLOW in the Research School of Physical Sciences, to provide lead-ership for a research group in laser physics which is part of the Department of Engineer-ing Physics. The research group currently has three other (nontenured) members of ac-ademic staff and appropriate professional and technical supporting staff. It has a well established laboratory with two neodymium laser systems producing peak powers of up laser systems producing peak powers of up to a few hundred gigawatts. Research cen-tres on the interaction of intense laser radiation with matter. Current main research areas are the spectroscopy of, and supra-thermal particle generation in, laser-pro-duced plasmas, and non-linear forces in laser-matter interactions. The appointee will have a strong background of experimental laser-based physics. In addition to carrying author to carrying out his/her own research he/she will be ex-pected to develop and coordinate research projects which fully utilize the group's facili-ties and joint expertise in ways suitable to a university research laboratory whose emphasis is on basic physical science; initiate and cooperate in research projects with othand cooperate in research projects with oth-ers in the Research School; and collaborate as appropriate with other Austrialian laser groups. Appointment is for 5 years in the first instance with the possibility of exten-sion, after review, to retiring age, 65 years. Salary will be in accordance with qualifica-tions and experience within the range: senior fellow: A\$24,686 to A\$28,773 per annum; fellow: a\$24,686 to A\$28,773 per annum; fellow: rates: A\$1:C\$1.33:U.S.\$1.13. Rea-sonable appointment expenses are paid. Su-perannuation benefits are available for appli-cants who are eligible to contribute. Assist-ance with housing is provided for an appointee from outside Canberra. The uni-versity reserves the right not to make an ap-pointment or to make an appointment by inversity reserves the right not to make an appointment or to make an appointment by in-vitation at any time. Prospective applicants should write to: **Registrar**, **P.O. Box 4**, **Can-berra ACT 2600**, **Australia** for further particulars before submitting an application, the closing date for which is 16 March 1979.



DIRECTOR NATIONAL CENTER FOR TOXICOLOGICAL RESEARCH FOOD AND DRUG ADMINISTRATION

The U.S. Food and Drug Administration (FDA) is seeking candidates for the position of director of the National Center for Toxicological Re-search (NCTR). The center, an interagency facility, conducts research programs on the biological effects of potentially toxic chemical sub-stances found in the human environment. The director of NCTR pro-vides leadership and direction to all center operations and provides sci-entific liaison between NCTR and other government agencies, private organizations and the worldwide academic, scientific, and medical com-munities. The center is located in Jefferson, Arkansas, and has a staff of approximately 600 employees. The center is well-equipped with sophis-ticated and modern laboratories to support advanced research in virtu-ally all areas of toxicology. ally all areas of toxicology.

ally all areas of toxicology. FDA is looking for candidates of recognized scientific distinction and administrative ability. Candidates should possess an advanced degree in a relevant field of science (such as a Ph.D. in biochemistry, pharmacolo-gy, toxicology, or statistics, an M.D., or a D.V.M.). The position also requires appropriate research experience and an association with multi-disciplinary issues. This is a Civil Service position that pays up to \$47,500 per year in basic salary. The director will also be eligible to receive performance bonuses and special stipends that may result in a higher total pay. This position has been designated for inclusion in the federal government's Senior Executive Service (SES), and the selectee will be required to enter the SES. Information on the SES will be availwill be required to enter the SES. Information on the SES will be avail-able for interested applicants.

Send curriculum vitae and/or Standard Form 171 (Personal Qualifications Statement) and bibliography to:

HEW/Food and Drug Administration NCTR Search Committee c/o Patricia Sykes Room 9-89, 5600 Fishers Lane Rockville, Maryland 20857 FDA/An Equal Opportunity Employer

POSTDOCTORAL POSITION available now to study the role of phosphorylation by cyclic nucle-otide-dependent protein kinases on gene exotide-dependent protein kinases on gene ex-pression. Experience in nuclear regulatory systems desired. Salary: \$13,000 and up based on experidesired. Salaty: \$15,000 and up based on experi-ence. Send résumé and two letters of recommenda-tion to: Dr. Thomas E. Donnelly, Jr., Associate Pro-fessor, Department of Pharmacology, University of Nebraska Medical Center, Omaha, Nebraska 68105. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately for the study of ocular immune responses (espe-cially autoimmune phenomena). Experience with techniques of cellular immunology and tissue culture highly desirable. Salary: \$10,000 and up depending on experience. Send curriculum vitae and names of three references to: Dale S. Gregerson, Ph.D., Department of Ophthalmology and Visual Science, Yale University School of Medicine, New Haven, Connecticut 06510. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS IN VISION RE-SEARCH available now in Northwestern University, Department of Psychology. Two projects: (i) vi-sual function in aging humans; (ii) motion perception sual function in aging humans; (ii) motion perception as relates to aviation. Practical skills in electronics and computers are essential. Good salary; renew-able for 2 or 3 years. Send résumé and names of three references to: Dr. Robert Sekuler, Cresap Neu-roscience Laboratory, Northwestern University, Evanston, Illinois 60201. Northwestern University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION-Immediately available for studies of bacterial plasmids. Background in biochemistry and molecular genetics preferred. Term of appointment: 1 to 2 years. Send curriculum vitae and three references to: Dr. Joseph Inselburg, Department of Microbiology, Dartmouth Medical School, Hanover, New Hampshire 03755. An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITIONS AVAILABLE IN MAJOR ATMOSPHERIC SCIENCES LABORATORY

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

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

POSTDOCTORAL POSITION—CARDIAC ELEC-TROPHYSIOLOGY. Available immediately to study the development of membrane conductance chan-nels in cultured heart cells. Experience with volt-age clamp and/or intracellular recording tech-niques is desired. Send curriculum vitae and names of three references to: Dr. Richard Nathan, Depart-ment of Physiology, Texas Tech University School of Medicine, Lubbock, Texas 79430. An Equal Opportu-niv Employer nity Employer

PROFESSOR AND DIRECTOR EPIDEMIOLOGY AND BIOMETRY PROGRAM

The University of Illinois at the Medical Center Campus in Chicago seeks a director of Epidemiol-ogy/Biometry Program (equivalent to department) in a new and expanding School of Public Health. The director will have full administrative responsibility in the epidemiology/biometry areas for research ac-tivities and academic programs leading to the M.P.H., M.S., Dr.P.H., and Ph.D. degrees. Can-didates must have doctorate and extensive experience in teaching and research in epidemiology and/ or biometry. Position, starting September 1979, will be supported by state funds with tenure option after 1 year. Salary competitive and commensurate with experience.

Please send curriculum vitae by 15 April 1979 to: Dr. Arthur H. Wolff, Chairman, Search Committee, School of Public Health, University of Illinois, P.O. Box 6998, Chicago, III. 60680. An Equal Opportunity/ Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION. Cancer research. Recent Ph.D. in biochemistry or cell biology. Desir-able experience: enzymology, prostaglandin and/or chemotherapy research, RIA and radiotracer meth-odology, radiobiology. Research on prostaglandins odology, radiobiology. Research on prostaglandins and cancer including mechanism of action of chem-oradiation therapy. Strong interaction with oncology and biochemistry departments. Salary: \$14,000, re-newable. Send curriculum vitae and two letters of recommendation to: Dr. K. V. Honn, Department of Radiation Therapy, 210 Science Hall, Wayne State University, Detroit, Mich. 48202. Wayne State Uni-versity is an Equal Opportunity/Affirmative Action Employer. Employer.

POSTDOCTORAL POSITION IN DEVELOPMENTAL NEUROBIOLOGY

Available immediately and renewable for 1 or 2 years. The project is to study dendrite formation and growth, and synaptogenesis of the Mauthner cell, an identified neuron in teleosts. Methods include light and electron microscopy, electrophysiology, and behavior analyses. Experience in electrophysiology is preferred. By 15 March 1979 send curriculum vitae and three letters of reference to: **Dr. Charles B. Kim**mel, Department of Biology, University of Oregon, Eugene, Oregon 97403.

The University of Oregon is an Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION. Available 1 April 1979 to a cyclic nucleotide enzymologist or physiolo-gist. Project involves study of the cyclic nucleotide system in *Drosophila* mutants exhibiting altered phosphodiesterase activities and cAMP levels. \$13,000: renewable. Send curriculum vitae and names of three references to:

Dr. John Kiger Department of Genetics University of California at Davis Davis, Calif. 95616

The University of California is an Equal Opportunity/Affirmative Action Employer, and invite's appli-cations from all qualified individuals.

POSTDOCTORAL POSITION—ENZYMOLOGY

Available after 1 June 1979, with a starting stipend of Available after 1 June 1979, with a starting superiod of \$11,000 or more depending on experience. A 2-year appointment. The position will involve the study of kinetic and physical properties of complex regula-tory enzymes. Send curriculum vitae and names of three references to: **Dr. Carl Frieden, Department of** Biochemistry, Washington University School of Medi-cine, 660 South Euclid Avenue, St. Louis, Missouri 63110.

An Equal Opportunity Employer

University of North Carolina: **POSTDOCTORAL**/ **RESEARCH ASSOCIATE/RESEARCH ASSIST-ANT PROFESSOR** position. Two positions for 1 to 3 years. Available 1 April 1979, in the Pharmacology Department of the University of North Carolina at Chapel Hill. The persons will be involved in the pro-gram of the davalopment of nucleoside and folte and gram of the development of nucleoside and folate analogs for the treatment of cancer and herpes viru induced diseases. Experience in enzymology, cell biology, and molecular biology is desirable. Send ré-sumé to: Dr. Yung-Chi Cheng, Department of Exper-imental Therapeutics, Roswell Park Memorial Insti-tute, 666 Elm Street, Buffalo, New York 14263.

POSTDOCTORAL RESEARCH IMMUNOLO-GIST—Available July 1979 for studies on immunology of the eye. Major research emphasis is on funda-mental immunologic processes of the eye including the roles of and interactions among various immuno-reactive cell types, humoral factors, immune recognition, and immunologic memory and ocular tissues. Other studies include herpesvirus immunology and immunopathogenesis of autoimmune diseases of the eye. NIH training grant stipend limited to U.S. citi-zens. Send résumé and three references to: Dr. Ro-berta Myers-Elliott, Jules Stein Eye Institute, UCLA School of Medicine, Los Angeles, California 90024. An Equal Opportunity/Affirmative Action Employer.

RESEARCH FELLOW, research organization. Postdoctoral position available to study biosynthesis and secretion of high density lipoprotein. Ph.D. in biochemistry or cell biology, with experience in tissue culture pre-ferred. Send curriculum vitae to: **Box 33**, **SCIENCE.**

An Equal Opportunity Employer

POSITIONS OPEN

POSTDOCTORAL RESEARCH TRAINING

Two biochemists or biochemical pharmacologists with experience in enzyme kinetics, pharmacologists netics and control mechanisms, with interest in alco-holism, addictions, and neuropharmacology. Salary range: \$11,000 to \$15,000, to begin immediately. Apply to:

Professor Arun K. Rawat Director, Alcohol Research Center C.S. No. 10002, Toledo, Ohio 43699 An Equal Opportunity Employer

Яĸ XX POSTDOCTORAL TRAINING IN NEUROPSYCHOPHARMACOLOGY The Medical College of Wisconsin is seeking candidates for three positions available in laboratories studying neurophysiological and neurochemical aspects of drug abuse (evoked potential and unit recording, Dr. M. Hosko, and neuro transmitters, Dr. A. Bloom). Teaching experience available. Sal-ary: \$12,000 plus. Send curriculum vitae and three letters of reference to: Postdoctoral Search Committee Department of Pharmacology Medical College of Wisconsin P.O. Box 26509

Milwaukee, Wis. 53226 An Equal Opportunity Employer, M/F/H ж 3KC 22

FULL PROFESSORS, BIOCHEMICAL SCIENCES

We are considering candidates with a distinguished record of research, and encourage applications from qualified women and minority group members. Curriculum vitae and bibliography should be sent to: Jacques R. Fresco, Chairman, Department of Bio-chemical Sciences, Princeton University, Princeton, N.I. 08540.

RESEARCH ASSOCIATE. A 1-year position begin-RESEARCH ASSOCIATE. A 1-year position begin-ning 1 June 1979. Research emphasis on stable iso-tope geochemistry, micropaleontology, or stable iso-topes applied to biological systems. Applicant should have a Ph.D. in geology, chemistry, or oceanography. Send résuné and names of three ref-erences to: Douglas F. Williams, Baruch Institute, University of South Carolina, Columbia, South Caro-lina 29205. An Affirmative Action/Equal Opportunity Employer. Deadline: 1 April 1979. Employer. Deadline: 1 April 1979.

RESEARCH ASSOCIATE-Immediate opening for **RESEARCH ASSOCIATE**—Immediate opening for individual at postdoctoral or equivalent level of ex-perience to conduct studies in vestibular primary af-ferent electrophysiology. A knowledge of computer programming, electrophysiology, and linear systems analysis desirable. Facilities include Inland rotator, PDP 11/20 computer, and electrophysiological equipment. Starting salary: \$13,500 to \$14,500 per year. The position will be for at least 2 years. Send curriculum vitae and names of three references to: **Professor M_L Correia. Denartment of Otolaryngol** Professor M. J. Correia, Department of Otolaryngol-ogy, Unit 9-A, John Sealy, University of Texas Medi-cal Branch, Galveston, Texas 77550. We are an Equal Opportunity/Affirmative Action Employer, M/F/H.

RESEARCH ASSOCIATE POSITION. A limited number of postdoctoral level positions are available in the following areas: mineralization and the hormonal control of mineral metabolism; hemostasis monal control of mineral metabolism; nemostasis and platelet physiology; biomaterials, including clin-ical trials; embryology/teratology; clinically oriented studies related to growth, function, and treatment of craniofacial anomalies; histochemistry; and neural

mechanisms, including pain. These positions are designed to attract scientists who are in the early stages of their career and who desire 1 to 2 years of experience in a stimulating en-vironment which emphasizes a multidisciplinary approach. Applicants are expected to be able to com-pete favorably for NIH postdoctoral fellowships or similar fellowships. Employment is expected to start during the summer or early fall of 1979. Applicants should send curriculum vitae and names and addresses of three references to:

Dr. Philip F. Hirsch, Director Dental Research Center, 210H University of North Carolina Chapel Hill, N.C. 27514

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

CARDIOVASCULAR PHARMACOLOGIST

BURROUGHS WELLCOME CO., a long established manufacturer of pharmaceuticals with a top reputation for research, has immediate need for a CARDIOVASCU-LAR PHARMACOLOGIST to initiate and pursue an independent research effort in the area of hypertension.

The ideal candidate will have a Ph.D. in Pharmacology with specific research interest and expertise in the area of hypertension and regulation of systemic blood pressure. Two years post-doctoral and/or industrial experience is highly desirable. A genuine interest in the development of drugs dealing with hypertension is essential.

BURROUGHS WELLCOME CO.'s research facilities are located in the beautiful Research Triangle Park area of North Carolina. This area, surrounded by Durham, Raleigh and Chapel Hill, provides not only superior living and recreational opportunities, but also has moderate winters and a reasonable cost of living.

BURROUGHS WELLCOME CO. offers a comprehensive, company-paid benefit package and a challenging research environment in which to apply your professional capabilities. In addition, this position offers a competitive salary commensurate with experience/training and a liberal relocation program.

Candidates interested in joining an innovative, dynamic organization should immediately forward a detailed curriculum vitae or resume to the Employment Supervisor at the address listed below. If an up-to-date c.v./resume is not readily available, call (collect) 919/549-8371, Ext. 292, and request an application.



BURROUGHS WELLCOME CO. 3030 Cornwallis Road Research Triangle Park, N.C. 27709

An Equal Opportunity Employer M/F Minority, Veteran, Handicapped Individuals Are Encouraged To Apply

PATHOLOGIST

The Biomedical Science Department of General Motors Research Laboratories is developing a research program on health effects of inhaled gases, mists and particulate aerosols potentially associated with the automobile. Applications are invited from M.D., Ph.D. investigators with research training in pathology. The successful candidate will initiate and conduct pathological studies on the mechanisms of tissue damage in animal exposure models. Technical and support staff are provided by the department.

Investigators interested in exploring this opportunity should forward their resumes to:

J. J. Vostal, M.D., Ph.D. Head, Biomedical Science Department General Motors Research Laboratories



GENERAL MOTORS TECHNICAL CENTER WARREN, MICHIGAN 48090

We Are An Equal Opportunity Employer

PHARMACOLOGIST (GI)

ICI Americas Inc., a diversified American subsidiary of a world leader in pharmaceuticals has an opening for a GASTROIN-TESTINAL PHARMACOLOGIST in the Biomedical Research Department. Expanded Bioscience complex located in suburban Wilmington, Delaware, will be ICI's largest effort outside the United Kingdom, addressing U.S. and Canadian markets.

Interested candidates should have the following credentials:

- Ph.D. in Pharmacology or related biological field plus 0-2 years of related academic or industrial experience.
- Good chemistry background.

Compensation includes salary commensurate with qualifications and experience plus an excellent benefits package. SEND RESUME AND ALL COLLEGE TRAN-SCRIPTS IN CONFIDENCE TO:

Peter M. Palko



Chairperson Department of Oncology Montefiore Hospital & Medical Center

We seek an outstanding Clinician-Scientist to fill this endowed position as the head of a distinguished hospital department. The missions include clinical care, specialty training of residents and fellows, and a major commitment to clinical investigation with basic science interaction. The candidate should be eligible for professorial appointment at the Abert Einstein College of Medicine. Salary and benefits appropriate to position are provided. All interested persons should submit a curriculum vitae and bibliography to:

Laurence Finberg, M.D. Chairperson, Search Committee c/o Department of Pediatrics

Montefiore Hospital & Medical Center

111 E. 210th St., Bronx, NY 10467

Equal Opportunity Employer M/F

Montefiore Hospital & Medical Center is an

23 FEBRUARY 1979

PULMONARY PHYSIOLOGY RESEARCH

Research position available in field of mammalian pulmonary physiology at the Toxic Hazards Re-search Unit, Wright-Patterson Air Force Base, Day-ton, Ohio. This position will have an adjunct profes-sorship of appropriate rank in the University of Cali-fornia, Irvine. Collaborative research conducting physiologic studies in animals exposed to airborne materials of environmental/occupational interest. Requires Ph.D. in physiology or related field and 2 years of postdoctoral research experience in pulmo-nary measurements in intact laboratory animals. Preference given applicants experienced in inhala-tion toxicology with published independent work. Closing date for applications is June 1. Applications from all qualified candidates are welcome; minor-ities and women are encouraged to apply. Submit complete curriculum vitae and names of at least three references to: Dr. J. D. MacEwen, University of California, Irvine, Toxic Hazards Research Unit, Overlook Branch, P.O. Box 3067, Dayton, Ohio 45431. Research position available in field of mammalian 45431.

RESEARCH ASSISTANT PROFESSOR. Full-time research position available for Ph.D. with 3 years of postdoctoral experience in nucleic acid biochemisvears of try. Experience in polycyclic hydrocarbon metabo-lism and mechanisms of DNA repair essential. Some background in enzymology preferred. Also, teaching and supervisory skills required with particular re-sponsibility to graduate research and laboratory persponsel. Salary: \$14,000 per annum, contigent upon experience: 40 to 50 hours per week. Interested per-sons should submit curriculum vitae and names of three references to: Vermont Job Service, 59 Pearl Street, Burlington, Vermont 05401.

CORNELL UNIVERSITY

Position available 1 March 1979 for **RESEARCH AS-SOCIATE** with practical experience in planetary geomorphology and photointerpretation to analyze Viking Orbiter Images. Participation in compilation of data bank of time-variable, aeolian phenomena on Mars. Ph.D. in planetary sciences or related subject desirable but not necessary. Send curriculum vitae and two letters of recommendation to: J. Veverka, Space Sciences Building, Cornell University, Ithaca, N.Y. 14853.

RESEARCH ASSOCIATE

Must have a master's or doctoral degree in micro-biology, immunology, or biochemistry. Two years of related experience. Project involves molecular and cellular aspects of cancer research. Contact:

Personnel Office The University of Texas Health Science Center at San Antonio 7703 Floyd Curl Drive San Antonio, Texas 78284

An Equal Opportunity/Affirmative Action Employer

RESEARCH ASSOCIATE/POSTDOCTORAL POSI-TION available immediately for research on the mechanism of action of cholera toxin. Background in biochemistry, enzymology, or membrane proteins n blochemistry, enzymology, of menotane proteins preferred. Please send curriculum vitae and the names of three references to: Dr. Geoffrey W. G. Sharp, Department of Physiology, Tufts University Schools of Medicine, Bottal Medicine, and Veterinary Medicine, Boston, Massachusetts 02111. An Equal Opportunity/Affirmative Action Employer

RESEARCH POSITION—marine zooplankton. Assistant needed to lend support to program of research on ecology and behavior of lagoonal and oceanic populations. Expertise with holoplankton, meroplankton, or ichthyoplankton desired. Salary commensurate with background. Bachelor's or master's degree and some experience required. Send résumé and names of two references to: Dr. Marsh J. Youngbluth, Harbor Branch Foundation, Inc., RFD 1, Box 196, Fort Pierce, Florida 33450. An Equal Opportunity Employer, M/F.

SENIOR AQUATIC BIOLOGISTS

WAPORA, Inc., a major environmental consulting frm, has openings for senior aquatic biologists at several locations. Successful applicants will have an several locations. Successful applicants will have an M.S. or Ph.D. plus 3 to 6 years of professional expe-rience to include practical experience in study de-sign, project management, a strong background in fisheries biology (marine and/or freshwater), and demonstrated writing skills. Please send résumés to: **R. B. Bogardus, WAPORA, Inc., 6900 Wisconsin Avenue, Chevy Chase, Md. 20015**.

An Equal Opportunity Employer, M/F

POSITIONS OPEN

RESEARCH ASSOCIATE POSITION

The James Franck Institute of The University of Chicago expects to have a limited number of post-doctoral research associate appointments available for the academic year 1979–1980. The starting dates of such appointments are not fixed but depend upon arrangements made between the individual faculty arrangements made between the individual faculty member and the particular appointe. The existence of appointments depends upon the needs and re-sources of individual faculty members. The institute conducts research in the broad fields of condensed phase physics and chemistry and chemical physics phase physics and chemistry and chemical physics including programs in surface science, amorphous materials, high temperature chemistry, photophys-ics and photochemistry, laser spectroscopy, low temperature chemistry and physics, and many oth-ers. Interested individuals should write directly to the faculty member with whom they wish to work, or to: Director, The James Franck Institute, The Uni-versity of Chicago, 5640 South Ellis Avenue, Chicago, Illinois 60637. They should send curriculum vitae and publication list and state their sub-field of inter-est. Applications which do not contain the requested est. Application swhich do not contain the requested information cannot be processed.

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

SENIOR ENVIRONMENTAL SCIENTISTS

Expanding career opportunities for Ph.D.'s with 5 to In years of academic and industrial experience with successful inter- and multidisciplinary applied re-search. Must have proven ability to produce pub-lished research on schedule.

SENIOR SOCIOECONOMIC SCIENTISTS. Expertise in regional or agricultural economics, ur-ban and rural sociology, demography, transporta-tion and community planning, and econometrics. Knowledgeable about interface with biological and physical sciences.

SENIOR PHYSICAL SCIENTISTS. Expertise in hydrology for arid areas, geology, air quality, re-mote sensing. Knowledgeable about interface with computer simulation, biological, and social sciences

SENIOR BIOLOGICAL SCIENTISTS. Expertise in arid and semi-arid environments. Specialization open but experience in ecosystem modeling and remote sensing preferred. Knowledgeable about interface with physical and social sciences.

Send résumé in confidence to: HDR, Ecosciences 804 Anacapa Street Santa Barbara, Calif. 93101 An Equal Opportunity Employer, M/F

SENIOR FACULTY POSITION CORNELL UNIVERSITY

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

Cornell University is an Equal Opportunity/Af-firmative Action Employer.

STATISTICAL SCIENTISTS

Positions are expected to be available for Ph.D. level statisticians. Appointments will be joint in the Division of Biostatistics and Epidemiology, Sidney Farber Cancer Institute, and at the assistant or asso-ciate professor level in the Department of Biostatis-tics, Harvard School of Public Health. Duties in-clude statistical collaborations in cancer research, independent research in statistical and computer science, and teaching. Strong training in statistical sci-ence is essential; a computing background is desir-able. *Female and minority candidates are especially invited to apply*. Applicants should send complete curriculum vitae and names of three references to:

Search Committee Search Committee Division of Biostatistics and Epidemiology Sidney Farber Cancer Institute 44 Binney Street Boston, Massachusetts 02115

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

POSTDOCTORAL POSITION: research on motional parameters and lipid-protein interactions in mem-branes. Recent Ph.D. in molecular biology or bio-chemistry with experience in membrane isolation, lipid-requiring enzymes, and saturation tranfer-EPR. Send curriculum vitae and two letters of reference to: Professor Sidney Fleischer, Department of Molecular Biology, Vanderbilt University, Nashville, Tenn. 37235. An Affirmative Action/Equal Opportunity Employer.

SOLAR PHYSICS

The Space Astronomy Group of the Lockheed Palo Alto Research Laboratory announces an oppor-tunity for research in solar flare physics at the Ph.D. level. The successful candidate will become a member of the Lockheed team on the Solar Maximum Mission, scheduled for launch by NASA in October 1979, and will be expected to spend at least 1 year following the launch at the Goddard Space Flight following the launch at the Goddard Space Flight Center participating in analysis of solar data from the Soft X-Ray Polychromator experiment opera-tions. Applicants with a sound background in solar studies and a familiarity with plasma physics or atomic physics are preferred. A strong interest in the planning, conduct, and analysis of data from experi-ments will be beneficial. Applications for this posi-tion will be accepted until 1 April 1979. We intend to fill the position as soon as possible thereafter. The salary will be commensurate with qualifications and experience. Interested persons should send their refe experience. Interested persons should send their ré-sumé, bibliography, and the names and addresses of three references to:

Dr. L. W. Acton Department 52-12, Building 202 Lockheed Palo Alto Research Laboratory 3251 Hanover Street Palo Alto, California 94304

Lockheed is an Equal Opportunity Employer

SPECIALIST IN RENEWABLE RESOURCES

A private, nonprofit corporation located in Washable resource program. Ph.D. or equivalent experi-ence; broad background in the direction of projects in the fields of renewable resources, forestry, wild-life, fisheries, land and water uses; demonstrated skill in written and technical communication; four or skin in Writeri and recrimentation communication, four of more years of experience in program management essential. Salary: \$32,000 to \$36,000. Please send ré-sumé to: **Box 71, SCIENCE.** An Equal Opportunity Employer.

REQUESTS

FDA FOREIGN BODY CARCINOGENESIS STUDY. The Food and Drug Administration plans to conduct a study to distinguish the chemical carcino-genic potential of implant materials from their ability to induce tumors as a result of their surface charac-teristics (foreign body carcinogenesis). The in vivo study will be for a 24-month period using rats or any other appropriate animal model. The contractor should have experience in carcinogenesis studies, should have experience in carcinogenesis studies, particularly those involving modern cytogenetics, pathology, hematology, and tissue culture tech-niques. Requests for RFP No. 223-79-5061 should be directed to: Beverly Lott, Department of Health, Education and Welfare, Public Health Service, Food and Drug Administration, HFA-514, 5600 Fishers Lane, Rockville, Md. 20857.

ASSEMBLY

ASSEMBLY ON CURRENT AND FUTURE OCEANOGRAPHY

AND FUTURE OCEANOGRAPHY Woods Hole, Massachusetts, 29 September to 3 Oc-tober 1980. A Public Assembly will be held to mark the occasion of the 50th anniversary of the Woods Hole Oceanographic Institution. The assembly will consist of invited papers on all aspects of oceanogra-phy including scientific, technical, social, and insti-tutional affairs with particular focus on the future de-velopment of these fields. The assembly follows the Third International Congress on the History of Oceanography, 22 to 26 September. Contact: Dr. Pe-ter Brewer, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts, 02543. Telephone: 617-548-1400, extension 2552. 548-1400, extension 2552.

NATIONAL INSTITUTES OF HEALTH SCIENTIFIC REVIEW GROUPS

The National Institutes of Health (NIH) invites nominations for membership on its scientific review groups which provide technical and scientific merit review of grant applications and contract proposals. Because of the magnitude, diversity, and complexity of its programs and the desire to obtain the best possible advice, the NIH draws for review assistance on the national pool of scientists actively engaged in research. These scientists assist the NIH in an advisory capacity in the selection of the most meritorious projects to implement biomedical research programs of the highest quality.

The primary requirement for serving is competence as an independent investigator in a basic scientific or clinical discipline or research specialty. Assessment of such competence is based on the quality of research accomplished, publications in refereed scientific journals, and other significant scientific activities, achievements and honors. Usually a doctoral degree or equivalent experience is required. Service on review groups requires mature judgement, balanced perspective, objectivity, ability to work effectively in a group context, commitment to complete work assignments, and assurance that the confidentiality of applications will be protected.

Members are reimbursed for expenses and, in most instances, are provided a consultant's fee for their services.

Information regarding the functions of each committee, the expertise required, the criteria for membership, and the number of anticipated vacancies for terms beginning July 1, 1980, has been published in the Guide for Grants and Contracts, Volume 8, No. 2, dated January 31, 1979. Those who do not routinely receive the Guide may obtain a copy by writing to Ms. Joan Bailey, Division of Resources Analysis, Office of the Director, National Insitutes of Health, Public Health Service, Building 31, Room 1B58, Bethesda, Maryland 20014. Equal Opportunity Employer.

Nominations must be submitted by April 1, 1979, and will be solicited annually thereafter.

NATIONAL INSTITUTES OF HEALTH

TOXICOLOGIST

The Biomedical Science Department of General Motors Research Laboratories is developing a research program on health effects of inhaled gases, mists and particulate aerosols associated with the automobile. Applications are invited from M.D. Ph.D. investigators with research training in general and environmental toxicology. The successful candidate will initiate and conduct studies on the mechanism of action of environmental pollutants. Technical and support staff are provided by the department.

Investigators interested in exploring this opportunity should forward their resumes to:

J. J. Vostal, M.D., Ph.D. Head, Biomedical Science Department General Motors Research Laboratories



THE ROCKEFELLER FOUNDATION RESEARCH CAREER DEVELOPMENT FELLOWSHIPS IN GEOGRAPHIC MEDICINE

The Rockefeller Foundation announces the second annual competition for research career development awards of 5-year duration including salary, laboratory support, and travel for investigators interested in the great neglected diseases of mankind (primarily the tropical infectious diseases). These diseases are great in terms of the vast number of individuals involved, and are neglected with respect to both funding and lack of interest by the biomedical research community.

The Rockefeller Foundation has established a network of research groups in this area which at present includes departments of medicine, pharmacology, and immunology in medical schools and research institutes in the United States, Great Britain, Australia, Israel, and Egypt. A critical mass of institutions now afford significant career opportunities in this field. To provide necessary career incentive, two 5-year fellowships are granted annually to outstanding young investigators who have established their scientific ability by the quantity and quality of their research and by a demonstrated interest in the great neglected diseases. The deadline for receipt of grant proposals will be 15 June 1979.

For more detailed information, please write to: Kenneth S. Warren, M.D., Director, Division of Health Sciences, The Rockefeller Foundation, 1133 Avenue of the Americas, New York, N.Y. 10036.

SYMPOSIUM

Symposium on Energy and Human Health Human Costs of Electric Power Generation Sponsored by the University of Pittsburgh and **Ohio River Basin Energy Study** 19 to 21 March 1979 Pittsburgh Room William Penn Hotel Pittsburgh, Pennsylvania

Topics to be included: methodologic problems in de tecting health effects; environmental and occupa-tional health aspects of coal and uranium mining, coal and nuclear power plants and fuel cycles, trans-portation of fuels and wastes, power transmission, and waste disposal.

There is no registration fee, but the number attend-ing will be limited.

For a program and registration information write to: Edward P. Radford, M.D.

Department of Epidemiology Graduate School of Public Health University of Pittsburgh Pittsburgh, Pa. 15261

TRAINING PROGRAMS

PRE- AND POSTDOCTORAL TRAINING IN ENVI-**RONMENTAL TOXICOLOGY.** Beginning 1 July 1979 the Environmental Health Science Center at Oregon State University (OSU) will administer an inter-departmental program leading to the Ph.D. in either biochemistry and biophysics, food science and technology, or pharmacology and toxicology. Research emphasis is on the metabolism and mode Research emphasis is on the metabolism and mode of toxic action of environmental contaminants. Can-didates with degrees in chemistry, biochemistry, or the biological sciences will be considered for the postdoctoral positions—prior experience in tox-icology is not essential. Only U.S. citizens or per-manent residents are eligible for support from this National Research Service Award sponsored by NIEHS. For further information write to: Dr. Ian J. Tinsley, Program Director, Environmental Health Sciences Center, Oregon State University, Corvallis, Ore. 97331. OSU is an Equal Opportunity/Affir-mative Action Employer in compliance with Section 504 of the Rehabilitation Act of 1973.

ENVIRONMENTAL SCIENCE. The School of Pub-lic and Environmental Affairs, Indiana University, seeks qualified individuals interested in pursuing an M.S. degree in environmental science. A degree in M.S. degree in environmental science. A degree in science, mathematics, or engineering is necessary for admission to the program. Financial support is available to qualified applicants. Internship and placement services are provided. For further infor-mation write: Director, Environmental Programs, SPEA, Room 438A, Indiana University, Bloomington, Ind. 47401 Ind. 47401.

TRAINEESHIPS

POSTDOCTORAL TRAINEESHIPS-Applications are invited for interdepartmental traineeships focus-ing on environmental pathology of the respiratory tract in man and experimental animals. Areas of spe-cialization include respiratory, physiology, immu-nology, carcinogenesis, cell biology, biochemistry, and inhalation technology. Salaries and conditions are those of other NIH-funded traineeships. For further information contact: Dr. Philip B. Kane, Depart-ment of Pathology, Health Sciences Center, State Uni-versity of New York, Stony Brook, Long Island, New York 11794.

Equal Opportunity/Affirmative Action Employer

PRE- AND POSTDOCTORAL POSITIONS IN ENVIRONMENTAL PATHOLOGY

Applications are invited for NIEHS-supported train eeship in environmental pathology. Research em-phasis is on cellular responses to toxic environmen-tal chemicals. Mutagenic, teratogenic, carcinogenic, and cell degeneration are emphasized. Send in-quiries to: N. Karle Mottet, M.D., Director, Environ-mental Pathology Training Program, D-403, Depart-ment of Pathology, SM-30, University of Washington, Seattle, Wash. 98195. Equal Opportunity/Affirmative Action Employer

TRAINEESHIPS

GRADUATE TRAINING IN CELLULAR AND MOLECULAR BIOLOGY

Predoctoral traineeships are available for fall 1979 for an NIH-supported, interdepartmental program. The program provides financial support, counseling, and a core curriculum stressing modern cellular and molecular biology. Specialization is furnished by the individual departmental curricula and the thesis ad-

viser chosen by the trainee. Entrance into the program is made through one of the nine separate departments (anatomy, biochemis try, biology, biomedical engineering, macromolecu-lar science, microbiology, pathology, pharmacolo-gy, and physiology) of Case Western Reserve Uni-versity.

For more information and application forms please write to:

Dr. Arnold I. Caplan Department of Biology Case Western Reserve University Cleveland, Ohio 44106

In your letter, please indicate which department(s) interests you

GRADUATE STUDY

STUDY-Predoctoral GRADUATE traineeships leading to a Ph.D. in the biomedical sciences are available for study in the Microbiology Department of the MOUNT SINAI SCHOOL OF MEDICINE of the City University of New York. Research areas include: genetics and biochemistry of animal virusinclude: genetics and biochemistry of animal virus-es, cellular immunology, nucleic acid physio-chemistry, cell nuclear structure, bacterial genetics, and cardinogenesis. \$4500 yearly stipends are avail-able. Contact: Dr. E. D. Kilbourne, Department of Microbiology, The Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, N.Y. 10029. An Equal Opportunity Employer.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP now available. Protein structure-function relations, ligand binding by hemocyanins and hemoglobins. Biophysical background and experience in protein purification desirable. Minimum: \$11,000 per year. Send résumé and two or three references to: Dr. Austen Riggs, De-partment of Zoology, University of Texas at Austin, Austin, Texas 78712. The University of Texas is an Equal Opportunity/Affirmative Action Employer.

IMPERIAL CANCER RESEARCH FUND LONDON, ENGLAND Visiting Fellowships

The Council of the Fund invites applications for visiting fellowships to be held in any of the following: the Central Laboratories of the Fund at Lincoln's Inn Fields; Mill Hill Laboratories; the Breast Cancer Unit, Guy's Hospital; Cancer Epidemiology and Clinical Trials Unit, Oxford University; Medical On-cology Unit, St. Bartholomew's Hospital; or Tu-mour Immunology Unit, University College, London

These fellowships will be open to any applicant, irrespective of citizenship, who has (or is about to ob-tain) a Ph.D. or its equivalent and who is temporarily tan) a Ph.D. or its equivalent and who is temporarily or permanently resident outside the U.K. Remuner-ation will be comparable with postdoctoral fellow-ships in country of origin; the award will be for 1 year. Return air fares at the lowest practicable rates will be paid for the fellow and family, and medical insurance where necessary. The award constitutes a Contract of Service, namely to undertake specified cancer studies for a stated period. Fellowships are not presidently and the state of the state o not pensionable.

Application to: the Director of Research, Imperial Cancer Research Fund, Lincoln's Inn Fields, London W.C.2, England, should be accompanied by full curriculum vitae and list of publications, the names of two referees, an account of the applicant's current and proposed research extending to about 500 words, and a short account of the relevance of the above work to the alleviation of cancer. The labora-tory unit in which the candidate wishes to work should be specified. Closing date: 31 March 1979.

POSTDOCTORAL FELLOWSHIP-Applications POSTDOCTORAL FELLOWSHIP—Applications are invited for a National Research Service Award training program in research in red blood cell dis-eases. Two positions are available. Stipends will be in accord with NRSA and college policies. Holders of M.D. degrees with 3 years of appropriate clinical training or Ph.D. degrees in a basic science with less than 3 years of postdoctoral experience who are U.S. citizens or permanent residents and who evi-dence a commitment to an academic health science-related career are eligible. Areas of research include physico-chemical properties of mutant human hemophysico-chemical properties of mutant human hemo-globins, structure-function relationships of normal and abnormal human hemoglobins, influence of anti-sickling agents on the properties of human and animal erythrocytes, averrant metabolisms of human erythrocytes in hereditary hemolytic disorders, nu-cleotide metabolisms of mammalian erythrocytes, cleotide metabolisms of mammalian erythrocytes, and the biochemistry of iron metabolisms and iron transport proteins. Inquiries with curriculum vitae and publications list, documentation of previous training and experience, including course grades in medical or graduate school, names and addresses of three references, one of whom must be the can-didate's doctoral degree sponsor or chief of the ap-propriate clinical service, and a statement of corpor propriate clinical service, and a statement of career objectives, should be sent to: Dr. Ernst R. Jaffe, Al-bert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, N.Y. 10461. An Equal Opportunity Employer.

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CAN WE LIVE WITHIN THE EARTH'S RADIATION BUDGET ?



In the early 1980's, NASA will launch a three-satellite experiment to help scientists track climatic trends. A TRW team is preparing instrument designs for this experiment, which will be a part of the Earth Radiation Budget Satellite System (ERBSS). The instruments will measure the energy radiated by the sun and reflected by or absorbed and then re-radiated by the Earth.

These energy exchanges determine the Earth's radiation budget.

Small budget variations can significantly affect living conditions. Less retained energy could enlarge the cold zones, shorten growing seasons and shrink arable lands, as well as affect housing, transportation and industry in general.

NASA and NOAA are sponsoring these experiments because accurate budget measurement is an essential first step toward learning how to adjust to the effects of predicted climatic fluctuations. TRW and Barnes Engineering are teamed to apply the experience gained in the development of several hundred space instruments to make the Earth Radiation Budget Experiment (ERBE) a highly accurate and reliable climatological and meteorological tool. Another TRW experiment – Halogen Occultation Experiment (HALOE) – will also be a part of the ERBSS.

TRW instruments reported on Mars' winds and temperature for over two years and recently, five more went to Venus to measure cloud density and atmospheric composition. Two others are on the way to Jupiter and Saturn to measure the constituents of their atmospheres.

To find out more about how TRW can help with your space instrument development needs, write John Rahlf at One Space Park, Redondo Beach, CA 90278.

SPACE INSTRUMENTS FOR ENVIRONMENTAL OBSERVATION

from a company called

TRH





Arrows at left indicate problem of reciprocity failure. right illustrate how compensation for reciprocity factor assures equal light intensity penetration through film emulsion layers.

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