

BOOKS RECEIVED

(Continued from page 48)

Elementary Probability Theory. Melvin Hausner. Plenum, New York, 1977. x, 310 pp. Paper, \$8.95. Reprint of the 1971 edition. A Plenum/Rosetta Edition.

Encyclopedia of Chemical Processing and Design. Vol. 3, Aluminum to Asphalt, Design. John J. McKetta and William A. Cunningham, Eds. Dekker, New York, 1977. xiv, 494 pp. \$95; by subscription, \$75.

Environmental Choice, Human Behavior, and Residential Satisfaction. William Michelson. Oxford University Press, New York, 1977. xx, 404 pp., illus. Cloth, \$10.50; paper, \$6.50.

Fundamentals of Chemistry in the Laboratory. Kurt Irgolic, Larry Peck, and Rod O'Connor. Illustrations by Paul Glenn. Harper and Row, New York, ed. 2, 1977. xiv, 418 pp. Paper, \$6.95.

Future Automotive Fuels. Prospects, Per-

formance, Perspective. Proceedings of a symposium, Warren, Mich., Oct. 1975. Joseph M. Colucci and Nicholas E. Gallopoulos, Eds. Plenum, New York, 1977. x, 380 pp., illus. \$39.50.

Handbook of Vegetation Science. Reinhold Tüxen, Ed. Part 13, Application of Vegetation Science to Grassland Husbandry. W. Krause, Ed. Junk, The Hague, 1977. xx, 536 pp., illus. Dfl. 150.

Health Purifiers and Their Enemies. A Study of the Natural Health Movement in the United States with a Comparison to Its Counterpart in Germany. Julius A. Roth. PRODIST (Neale Watson), New York, 1977. vi, 130 pp. Cloth, \$10; paper, \$4.95.

Hematopoietic and Lymphoid Tissue Culture. E. A. Luriya. Translated from the Russian edition (Moscow, 1972) by Basil Haigh. Consultants Bureau (Plenum), New York, 1977. xiv, 182 pp., illus. \$35. Studies in Soviet Science.

Holocene Environmental Change in the Great Basin. Papers from a symposium, San

Francisco. Robert Elston, Ed. Northern Division of the Nevada Archeological Survey at the University of Nevada, Reno, 1976. viii, 218 pp., illus. Paper, \$8. Nevada Archeological Survey Research Paper No. 8.

Introduction to Computers in Business. Elias M. Awad. Prentice-Hall, Englewood Cliffs, N.J., 1977. xiv, 496 pp., illus. \$13.95.

Low Density Lipoproteins. Charles E. Day and Robert S. Levy, Eds. Plenum, New York, 1976. xx, 446 pp. \$39.50.

Mass Spectrometry in Drug Metabolism. Proceedings of a symposium, Milan, Italy, June 1976. Alberto Frigerio and Emilio L. Ghisalberti, Eds. Plenum, New York, 1977. xii, 532 pp., illus. \$42.50.

Reminiscence, Motivation, and Personality. A Case Study in Experimental Psychology. H. J. Eysenck and C. D. Frith. Plenum, New York, 1977. xxii, 430 pp., illus. \$27.50.

The Restoration of the Self. Heinz Kohut. International Universities Press, New York, 1977. xxii, 346 pp. \$17.50.

A Synopsis of North American Desmids. Part 2, Desmidiaceae: Placodermata. Section 2. G. W. Prescott, Hannah T. Croasdale, and W. C. Vinyard. University of Nebraska Press, Lincoln, 1977. x, 414 pp., illus. \$22.50.

Temporal Codes for Memories. Issues and Problems. Benton J. Underwood. Erlbaum, Hillsdale, N.J., 1977 (distributor, Halsted [Wiley], New York). x, 158 pp., illus. \$10. John M. MacEachran Memorial Lecture Series.

Tissue Hypoxia and Ischemia. Proceedings of a symposium, Philadelphia, Aug. 1976. Martin Reivich, Ronald Coburn, Sukhamay Lahiri, and Britton Chance, Eds. Plenum, New York, 1977. xiv, 386 pp., illus. \$37.50. Advances in Experimental Medicine and Biology, vol. 78.

The Tuning of the World. R. Murray Schaffer. Knopf, New York, 1977. xii, 304 pp., illus. \$12.95.

The Uncertainty Principle and Foundations of Quantum Mechanics. A Fifty Years' Survey. William C. Price and Seymour S. Chisick, Eds. Wiley-Interscience, New York, 1977. xviii, 572 pp., illus. \$42.

The Universe and Medicine. The Past, the Present, and Tomorrow. Papers from a conference, Maidstone, Kent, England, May 1976. John Z. Bowers and Elizabeth F. Purcell, Eds. Josiah Macy, Jr., Foundation, New York, 1977. viii, 240 pp., illus. \$7.50.

Vascular Plants of British Columbia. A descriptive Resource Inventory. Roy L. Taylor and Bruce MacBryde. University of British Columbia Press, Vancouver, Canada, 1977. xxiv, 754 pp. Paper, \$28.

Vibration Spectra and Symmetry of Crystals. H. Poulet and J. P. Mathieu. Translated by A. Simievic. Gordon and Breach, New York, 1976. xiv, 572 pp. \$39.

Washington on Foot. 25 Walking Tours of Washington, D.C., Old Town Alexandria, Virginia, and Historic Annapolis, Maryland. Allan A. Hodges and Carol A. Hodges, Eds. Smithsonian Institution Press, Washington, D.C., ed. 2, 1977. 208 pp., illus. Paper, \$3.75.

Watching Birds. An Introduction to Ornithology. Roger F. Pasquier. Illustrated by Margaret La Farge. Houghton Mifflin, Boston, 1977. xviii, 302 pp. \$10.

Wye Island. Boyd Gibbons. Published for Resources for the Future by Johns Hopkins University Press, Baltimore, 1977. xviii, 228 pp. \$10.95.

The Year in Metabolism, 1975-1976. Norbert Freinkel, Ed. Plenum, New York, 1976. xxii, 354 pp., illus. \$22.50.

LECTINS

FROM SIGMA

Although we have a lot to learn about these agglutinins, we are now preparing numerous Lectins and Lectin-conjugates with various purities. A Data Sheet enclosed with each shipment indicates a) agglutination levels with appropriate red blood cells b) levels of various sugars that inhibit red cell agglutination c) disc electrophoresis data and d) mitogenic levels when applicable. We will look forward to comment, criticism and suggestions, so that Sigma will ultimately offer the most complete list of high-purity Lectins available anywhere in the world. Many reports indicate the need for Calcium and Manganese ions to "stabilize" the Lectin. Pending further studies and comments from our customers, most of our Lectins will contain about 0.05% free Calcium and 0.05% free Manganese. Although not shown on most labels, competitive preparations have been tested generally contain Calcium and Manganese also.

Lectins (Agglutinins) are widely distributed in seeds and invertebrates. They are often called "Phytohemagglutinins" or "Phytoagglutinins". Lectins are proteins that agglutinate erythrocytes and certain other cells by binding specific carbohydrates on the cell surface. Each type of Lectin has its own carbohydrate-binding specificity. This characteristic makes them useful in the study of the structure and function of cell membranes.

<p>L 2380 From <i>Bandelaea simplicifolia</i> seeds 1 mg \$11.50 Major affinity: Methyl-α-D-Galactopyranosyl residues. 5 mg 40.00 Agglutinates Type B red cells at approx. 10 μg Lectin, and Type A red cells at approx. 50 μg Lectin per ml of 2% red cells.</p> <p>L 8879 From <i>Ricinus communis</i> (Castor Bean), Type I 2 mg \$ 9.00 Major affinity: N-Acetylgalactosamine residues. 5 mg 14.50 Agglutinates Type A red cells at approx. 20 μg Lectin per ml of 2% red cells.</p> <p>L 9004 From <i>Ricinus communis</i> (Castor Bean), Type II 2 mg \$ 6.00 Major affinity: Galactose residues. 5 mg 9.50 Agglutinates Type A red cells at approx. 1 μg Lectin per ml of 2% red cells.</p> <p>L 9129 From <i>Ricinus communis</i> (Castor Bean), Crude 2 mg \$ 3.60 Agglutinates Type A red cells at approx. 10 μg Lectin per ml of 2% red cells.</p> <p>L 5380 From <i>Pisum sativum</i> (Garden Pea) 2 mg \$16.00 Major affinity: Glucose and Mannose residues. 5 mg 34.50 Agglutinates Type O red cells at approx. 5 μg Lectin per ml of 2% red cells.</p> <p>L 5505 From <i>Ulex europaeus</i> (Gorse) 2 mg \$30.00 Major Affinity: L-Fucose residues. 5 mg 60.00 Agglutinates Type O red cells at approx. 20 μg Lectin per ml of 2% red cells.</p> <p>From <i>Dolichos biflorus</i> (Horse Gram) Inquire</p> <p>L 0256 From <i>Limulus polyphemus</i> (Horseshoe Crab) 0.25 mg \$32.00 "Limulin" from hemolymph. 0.50 mg 53.00 Major affinity: Sialic Acid residues. 1.00 mg 88.00 Agglutinates horse red cells at 40 μg Lectin per ml of 1.5% red cells.</p> <p>C 2631 From <i>Canavalia ensiformis</i> (Jack Beans) 25 mg \$ 2.25 Concanavalin A, Grade III. 100 mg 4.70 Contains approx. 15% Protein and 85% Sodium Chloride. 500 mg 22.50 Substantially free of carbohydrates. 1 gm 37.50 Prices based on protein content.</p> <p>C 2010 From <i>Canavalia ensiformis</i> (Jack Beans) 25 mg \$ 2.75 Concanavalin A, Grade IV. 100 mg 6.40 Salt-free. 250 mg 12.25 Substantially free of carbohydrates. 1 gm 43.50 Prices based on protein content. 5 gm 188.00</p> <p>L 5755 From <i>Abrus precatorius</i> (Jequirity Bean) 1 mg \$ 9.50 Major affinity: Galactose residues. 5 mg 38.00 Agglutinates Type A red cells at approx. 1 μg Lectin per ml of 2% red cells.</p> <p>L 5905 From <i>Abrus precatorius</i> (Jequirity Bean) 1 mg \$25.00 Toxic moiety: contains some Agglutinin. 5 mg 80.00 Major affinity: Galactose residues. 2 mg 18.00 Agglutinates Type A red cells at approx. 2 μg Lectin per ml of 2% red cells.</p> <p>L 9254 From <i>Lotus tetragonolobus</i> (Asparagus Pea, Winged Pea) 2 mg \$22.50 Major affinity: L-Fucose residues. 5 mg 40.00 Agglutinates Type O red cells at approx. 20 μg Lectin per ml of 2% red cells.</p>	<p>L 8629 From <i>Phaseolus vulgaris</i> (Kidney Bean), Type III 2 mg \$15.00 Erythroagglutinin. 5 mg 40.00 Agglutinates Type A red cells at approx. 10 μg Lectin per ml of 2% red cells.</p> <p>L 8504 From <i>Phaseolus vulgaris</i> (Kidney Bean), Type IV 2 mg \$15.00 Leucoagglutinin. 5 mg 30.00 Does not agglutinate Type A or O red cells. Induces mitosis in Human Leucocytes at approx. 2.5 μg per ml of culture media.</p> <p>L 8754 From <i>Phaseolus vulgaris</i> (Kidney Bean), Type V 2 mg \$ 1.80 Phytohemagglutinin, Crude. 5 mg 3.00 Agglutinates Type A red cells at approx. 10 μg. 25 mg 10.00 Lectin per ml of 2% red cells. 50 mg 16.50 Induces mitosis in Human Leucocytes at approx. 2.5 μg per ml of culture media.</p> <p>L 5680 From <i>Lens culinaris</i> (Lentil) 1 mg \$ 5.40 Major affinity: Glucose and Mannose residues. 5 mg 18.00 Agglutinates Type A red cells at approx. 4 μg. 10 mg 30.00 Lectin per ml of 2% red cells.</p> <p>From <i>Phaseolus limensis</i> (Lima Bean) Inquire</p> <p>L 0881 From <i>Arachis hypogaea</i> (Peanut) 1 mg \$18.00 Major affinity: Galactose residue. 2 mg 28.00 Agglutinates desialated Human red blood cells at approx. 10 μg Lectin per ml of 2% red cells. 5 mg 48.00</p> <p>L 9379 From <i>Phytolacca americana</i> (Pokeweed) Mitogen, Crude 5 mg \$ 6.00 Agglutinates Type O red cells at approx. 60 μg. 8 mg 9.00 Lectin per ml of 2% red cells. 40 mg 42.00 Induces mitosis in Human Leucocytes at approx. 2.5 μg per ml in McCoy's Medium 5a modified. Our assays show this to be substantially purer than other available preparations.</p> <p>L 8004 From Glycine max (Soybean), Type VI 2 mg \$16.00 Major affinity: N-Acetylgalactosamine residues. One major band on electrophoresis. 5 mg 31.00 Agglutinates Type A red cells at approx. 20 μg Lectin per ml of 2% red cells.</p> <p>L 8379 From Glycine max (Soybean), Type VII 2 mg \$15.00 Major affinity: N-Acetylgalactosamine residues. 5 mg 30.00 Three major bands on electrophoresis. 25 mg 127.00 Agglutinates Type A red cells at approx. 20 μg. 100 mg 473.00 Lectin per ml of 2% red cells.</p> <p>L 8129 From Glycine max (Soybean), Crude 5 mg \$12.00 Ammonium Sulfate fraction. 15 mg 25.00 Agglutinates Type A red cells at approx. 250 μg Lectin per ml of 2% red cells.</p> <p>L 1005 From <i>Triticum vulgaris</i> (Wheat Germ) 2 mg \$ 8.00 Major affinity: N-Acetylglucosamine residues. 5 mg 14.50 Agglutinates Type A red cells at approx. 20 μg. 25 mg 59.25 Lectin per ml of 2% red cells. 100 mg 149.00</p>
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POSITIONS WANTED

Biochemist: Ph.D., seeks faculty/research/administrative position. See Jourdkian ad in the 12 August 1977 issue of SCIENCE. X

Biochemist—Chemist. Ph.D. Experience in cell biology, membranology, enzymology, isolation, purification and characterization of lipids and proteins. Seeks position in academia, industry, or government. Box 364, SCIENCE. X

Biochemist (Ph.D. 1965)—Molecular Biologist. Experience in enzyme purification, immobilized enzyme and product isolation, nucleic acid hybridization, DNA reassociation, bacteriophages, membrane polymerases, DNA replication, proteinbiosynthesis, liver regeneration, hormonal regulation, steroid receptor. Undergraduate teaching; excellent publications. Seeks teaching, research, or R & D position. Box 363, SCIENCE. X

Electron Microscopist. B.S. Experience in thin sectioning, TEM operation and routine maintenance. Desires position in college or university. Will consider graduate teaching-research assistantship. Box 365, SCIENCE. X

Neurophysiologist/Behavior M.S.; 2 years of experience in primate operant techniques, project administration and management, stereotaxic surgery and recording and electrode implantation. Additional experience in physiology, abdominal and thoracic surgery, respiratory physiology, and cardiovascular physiology. Thesis topic: electrographic evaluation of the neurotoxicity of mirex (analog of Kepone). Seeks industrial, academic, or government position. R. E. Stevens, III, P.O. Box 1453, Texarkana, Texas 75501; telephone: 501-772-8998. 10/7, 14, 21, 28

POSITIONS OPEN

ASSISTANT PROFESSOR to teach histology; secondary field: endocrinology preferred. Salary \$13,500 for 10 months. Please submit a résumé, graduate and undergraduate transcripts, and three letters of recommendation. Application must be complete by 15 January 1978 to insure consideration. Send to: **S. O. Schiff, Chairman, Biological Sciences, The George Washington University, Washington, D.C. 20052.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

UNIVERSITY OF OKLAHOMA College of Medicine

Applications are solicited for faculty positions in the following department: **ANATOMICAL SCIENCES: (#25) assistant professor—M.D. or Ph.D.** responsible for research and teaching, especially in neuroanatomy.

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

ASSISTANT BIRD CURATOR—Requires advanced degree in zoology or related field and background in avian reproduction. Experience in captive bird management desirable. Duties include facility planning, specimen acquisition records; some research. Available immediately. Send résumé and names of three references to: **Personnel Director, San Diego Zoo, P.O. Box 551, San Diego, California 92112.**

ASSISTANT DIRECTOR

DEPARTMENT OF GRADUATE MEDICAL EDUCATION

Saint Barnabas Medical Center, a member of the Council of Teaching Hospitals of the Association of American Medical Colleges, seeks an Assistant Director for the Department of Graduate Medical Education. Applicants should have a Ph.D. degree with background in administration and education. Saint Barnabas Medical Center is located in a beautiful suburban community, 45 minutes from New York City. For further information, submit curriculum vitae to **Abdol H. Islami, M.D.**

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UNIVERSITY OF OTTAWA (CANADA)

ASSISTANT PROFESSOR

in

EVOLUTIONARY ECOLOGY

A faculty position at the rank of assistant professor is available at the Department of Biology, University of Ottawa. Candidates should be prepared to establish a strong independent research program in evolutionary botany. Exceptional applications from candidates in other areas of ecology will also be considered. Ability to teach in French is an asset.

Please submit curriculum vitae, reprints, description of research plans, and have three letters of reference sent to: **the Chairman, Search Committee, Department of Biology, University of Ottawa, Ottawa, Ontario, Canada K1N 6N5.**

Deadline for receipt of application is 15 November 1977.

ASSISTANT PROFESSOR, HUMAN PHYSIOLOGY—Candidates should have strong interests in undergraduate teaching and an active research program, preferably in endocrinology. Appointment in January or August 1978. Send complete résumé by 1 December 1977 to: **Dr. Joseph H. Young, Chairman, Department of Biological Sciences, San Jose State University, San Jose, Calif. 95192.** An Equal Opportunity/Affirmative Action Employer. The department also announces **TEMPORARY POSITIONS** for one and two semesters, 1977–78 academic year, in vertebrate embryology, zoology, human anatomy and physiology, microbiology, and general biology.

POSITIONS OPEN

Applications are invited from individuals interested in a position as **ASSISTANT OR ASSOCIATE PROFESSOR** teaching **GROSS ANATOMY** at Ohio University. This teaching-research position involves the instruction of osteopathic medical students and graduate students at the M.S. and Ph.D. levels. It requires the development and maintenance of a quality research program and the supervision of graduate students interested in the area. A Ph.D. degree or equivalent with a specialization in anatomy is required; prior medical or dental school teaching experience is highly desirable. Salary is competitive; campus location is attractive. Send curriculum vitae including a statement of teaching and research interests, representative reprints, and names of three references to:

Basic Sciences Search Committee
Grosvenor Hall
Ohio University
Athens, Ohio 45701

DEADLINE: 15 November 1977.

Applications are invited from individuals interested in a position as **ASSISTANT OR ASSOCIATE PROFESSOR** teaching **PHARMACOLOGY** at Ohio University, preferably with a specialization in cardiovascular pharmacology. This teaching-research position involves the instruction of osteopathic medical students and graduate students at the M.S. and Ph.D. levels. It requires the development and maintenance of a quality research program and the supervision of graduate students interested in the area. A Ph.D. degree or equivalent with a specialization in pharmacology is required; prior medical or dental school teaching experience is highly desirable. Salary is competitive; campus location is attractive. Send curriculum vitae including a statement of teaching and research interests, representative reprints, and names of three references to:

Basic Sciences Search Committee
Grosvenor Hall
Ohio University
Athens, Ohio 45701

DEADLINE: 15 November 1977.

Applications are invited from individuals interested in a position as **ASSISTANT OR ASSOCIATE PROFESSOR** teaching **PHYSIOLOGY** at Ohio University, preferably with a specialization in cardiovascular physiology, metabolic, and/or pathophysiology. This teaching-research position involves the instruction of osteopathic medical students and graduate students at the M.S. and Ph.D. levels. It requires the development and maintenance of a quality research program and the supervision of graduate students interested in the area. A Ph.D. degree or equivalent with a specialization in physiology is required; prior medical or dental school teaching experience is highly desirable. Salary is competitive; campus location is attractive. Send curriculum vitae including a statement of teaching and research interests, representative reprints, and names of three references to:

Basic Sciences Search Committee
Grosvenor Hall
Ohio University
Athens, Ohio 45701

DEADLINE: 15 November 1977.

University of California, Santa Barbara. **ASSOCIATE OR FULL PROFESSOR** to hold a joint appointment with a traditional department and the Environmental Studies Program and to be chairperson for at least one 5-year term of Environmental Studies. A distinguished research and publication record in the natural or social sciences or the humanities is essential. An emphasis on resource conservation and environmental policy is desirable. Enthusiasm for creative administration of a 450-student undergraduate major is mandatory. Starting date: September 1978 or January 1979. Submit curriculum vitae and requests for details to **Professors Garrett Hardin and Roderick Nash, Co-chairmen, Environmental Studies Search Committee, Environmental Studies, University of California, Santa Barbara, California 93106.** All applications must be received by 1 November 1977. An Equal Opportunity/Affirmative Action Employer.

BIOCHEMISTRY PRODUCTION AND RESEARCH

High-growth company providing products and services to molecular biology research market seeks Ph.D. with expertise in purifying nucleic acid enzymes. Experience with radioisotopes and extraction of DNA's required. Send résumé, references, and cover letter stating salary requirements to: **Box 359, SCIENCE.**

POSITIONS OPEN

ASSISTANT PROFESSOR, tenure-track position in Department of Chemistry and Biochemistry, Utah State University. Person must be qualified to teach and develop courses in analytical chemistry at the undergraduate and graduate levels and to establish a vigorous research program. A strong academic background in analytical chemistry at the Ph.D. level is mandatory and postdoctoral experience is highly desirable. Potential applicants are advised to become informed concerning current research activities in the department, as a principal selection criterion will be the degree to which the proposed area of research is complementary to these. Applications including a curriculum vitae, description of proposed research, and the names of three references should be received by: **the Chairman, Search Committee, Department of Chemistry and Biochemistry, UMC-03, Utah State University, Logan, Utah 84322**, before 15 November 1977. *An Equal Opportunity/Affirmative Action Employer.*

OHIO STATE UNIVERSITY COMPREHENSIVE CANCER CENTER ASSOCIATE DIRECTORS

Qualifications: knowledge and familiarity with practice of medicine in the community setting. Capable of recognizing and fostering important technology transfers. Ability to work with community physicians, medical associations, American Cancer Society, state legislature, community hospitals, and university faculty and staff.

Education and training: M.D. or Ph.D. in a health discipline highly desirable. Substantial experience in program development is essential.

POSITION 1

Title: **associate director of community clinical affairs (cancer control).**

Responsibilities: supervision of senior staff; plan, implement, and direct the cancer control program. Supervise patient and public education programs.

POSITION 2

Title: **associate director for cancer education.**

Responsibilities: develop and coordinate a comprehensive cancer education program mindful to: cancer curricula of the professional schools, continuing education, postgraduate clinical training, and basic science oncology programs.

Both positions are 12-month positions with tenure lines.

Salaries negotiable.

Apply to: **Executive Secretary, OSUCCC Search Committee, 357 McCampbell Hall, 1580 Cannon Drive, Columbus, Ohio 43210.**

An Equal Opportunity Employer

BIOCHEMIST, assistant professor, September 1978. Tenure-track position for a person with research interests in bioenergetics, electron transport and/or biomembranes. At least 1 year of postdoctoral experience desirable. Participate in graduate biochemistry program in a Ph.D.-granting chemistry department, teach medical students in a 6-year, B.S.-M.D. program, interact with Polymer Science Department. Send résumé, names of three references, and outline of future research program to: **Dr. Daniel J. Smith, Department of Chemistry, The University of Akron, Akron, Ohio 44325**. Applications close 31 December 1977. *An Equal Opportunity/Affirmative Action Employer.*

BIOLOGICAL NMR SPECTROSCOPIST

The Purdue Biological Nuclear Magnetic Resonance Laboratory is seeking an **OPERATIONS MANAGER** for its new regional facility. Qualifications should include a Ph.D. or equivalent achievement with experience in NMR spectroscopy of biological or organic systems using high-field superconducting solenoid spectrometers, NMR electronics, and computer programming. Duties include routine scheduling and maintenance of spectrometers, assisting users in designing and carrying out experiments, and instrument development. Independent as well as collaborative research will be encouraged. The salary will be based on the level of experience. Interested applicants should submit a curriculum vitae with a summary of accomplishments and objectives and the names of three references to: **Dr. John L. Markley, Director, Purdue Biological Nuclear Magnetic Resonance Laboratory, Department of Chemistry, Purdue University, West Lafayette, Indiana 47907**. *Purdue University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

A tenured position is being established jointly in the Sergievsky Center and the Department of Neurology in the College of Physicians and Surgeons, Columbia University, to develop epidemiological research in epilepsy and cerebral palsy. Demonstrated scholarship in both neurology and epidemiology necessary. Rank will be **ASSOCIATE PROFESSOR** or **PROFESSOR OF NEUROLOGY**. Salary negotiable. *We are an Affirmative Action/Equal Opportunity Employer.* Reply to:

**Mervyn Susser
Division of Epidemiology
Columbia University
School of Public Health
600 West 168 Street
New York, N.Y. 10032**

BIOLOGIST-AQUACULTURE SPECIALIST

M.S. or Ph.D. Immediate employment to do shrimp and oyster culture for private research foundation. Laboratory on Isla de Margarita. Conversational Spanish desirable. Applications from all qualified candidates welcome. Send résumé, bibliography, and three letters of recommendation to: **Hno. Gines, Fundacion La Salle de Ciencias Naturales, Apdo. 8150, Caracas, Venezuela.**

CHAIRPERSON AND LABORATORY DIRECTOR

The College of Engineering at the University of Florida invites applications and nominations for the position of Professor and Chairperson of the Coastal and Oceanographic Engineering Department and Director of the Coastal and Oceanographic Engineering Laboratory.

Qualifications for this position include:

1) Established reputation in some aspect of coastal and oceanographic engineering.

2) Research and/or academic administrative experience.

3) Teaching and/or research experience in the coastal and/or oceanographic engineering sciences.

Inquiries, applications, and nominations should be sent to: **Dr. D. M. Sheppard, Search Committee Chairman, Coastal and Oceanographic Engineering Department, 336 Well Hall, University of Florida, Gainesville, Florida 32611.**

Deadline for receiving applications 15 November 1977. *Affirmative Action and Equal Opportunity Employer.*

DEPARTMENT HEAD DEPARTMENT OF BOTANY UNIVERSITY OF GEORGIA

The Department of Botany of the University of Georgia is seeking a **CHAIRPERSON** beginning July 1978. The department, with 22 faculty members, 50 graduate students and 25 undergraduate majors, has an extensive program of undergraduate and graduate instruction and research. Applicants must have a reputation for excellence as a scholar-scientist, leadership ability, and an aptitude for administration. Applicants should send curriculum vitae and the names of four references to: **Dr. Murray Blum, Chairman, Search Committee, Room 400, Biological Sciences Building, University of Georgia, Athens, Georgia 30602**. Screening of applicants will begin 15 October 1977 and continue to 31 March 1978, or until qualified applicant is found. *An Equal Opportunity/Affirmative Action Employer.*

CHAIR DEPARTMENT OF OPHTHALMOLOGY UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

The University of Michigan Medical School is seeking a physician to assume the chair of its Department of Ophthalmology on 1 July 1978. Qualifications include: outstanding clinical competence with proven abilities in teaching, research, and scholarship; nationally recognized leadership in the field of academic ophthalmology; unequivocal interest in the administration of an academic department. Send responses to: **Box 360, SCIENCE**. Code #100BH. *A non-discriminatory Affirmative Action Employer.*

CHAIR DEPARTMENT OF PHYSIOLOGY UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

The University of Michigan Medical School is seeking an individual to assume the chair of its Department of Physiology for 1 July 1978. Send responses to: **Box 361, SCIENCE**. Code #100BH. *A non-discriminatory Affirmative Action Employer.*

POSITIONS OPEN

UNIVERSITY OF ARIZONA

The Department of **CELLULAR AND DEVELOPMENTAL BIOLOGY** is prepared to make a senior academic appointment for an outstanding productive senior investigator in areas of either: (i) molecular aspects of developmental biology, (ii) development and application of DNA chimeras, or (iii) neurobiology. The departmental and civic environment are highly conducive to the pursuit of first-rate research and instruction. Qualified applicants are invited to submit a curriculum vitae to: **H. V. Aposhian, Head, Department of Cellular and Developmental Biology, University of Arizona, 308 Biosciences West Building, Tucson, Arizona 85721**, by 1 November 1977.

The University of Arizona is an Equal Opportunity/Affirmative Action/Title IX Employer.

CHAIRPERSON DEPARTMENT OF MICROBIOLOGY University of Arizona College of Medicine

Candidates must have doctorate in microbiology or related area, or M.D. Administrative ability, interest in teaching and strong ongoing research program are essential. Department has seven full-time faculty members and participates in molecular biology graduate training program. Teaching responsibilities of department include basic medical microbiology course for medical students, graduate teaching, and interdepartmental teaching with clinical sciences. All letters of application, including a curriculum vitae, should be mailed to: **Andrew M. Goldner, Ph.D., Microbiology Search Committee, University of Arizona College of Medicine, Tucson, Arizona 85724** and received no later than 1 December 1977.

The University of Arizona is an Equal Opportunity/Affirmative Action/Title IX Employer.

CHEMIST-BIOCHEMIST POSTDOCTORAL RESEARCH ASSOCIATE

A 2- or 3-year postdoctoral position will be available on 1 December 1977 for synthesizing an exciting new series of transition state analog enzyme inhibitors and characterizing their interaction with the appropriate enzymes. See *J. Biol. Chem.* **249**, 136-142 (1974) for an example of similar work. Starting salary: \$10,000 to \$14,000, depending upon experience. To apply, send curriculum vitae and names of three references to:

**Dr. Kim D. Collins
Department of Biochemistry
Johns Hopkins School of Hygiene and Public Health
615 North Wolfe Street
Baltimore, Maryland 21205**

Department of Oral Medicine and Hospital Dentistry, University of California, San Francisco, School of Dentistry is seeking a full-time faculty member to serve as **COORDINATOR OF NEWLY FORMED PAIN CONTROL UNIT**. Assistant professor level. Responsibilities: coordination, teaching (graduate and undergraduate), research and clinical activities referable to pain and pain control. Qualifications: doctorate or equivalent professional degree; clinical experience and background in one or more of the following areas: anesthesia, neurophysiology, anatomy, pharmacology, oral biology. Evidence of research capability desirable.

Appointment effective January 1978. Forward application to: **Dr. William H. Ware, Chairman, Search Committee for Coordinator of Pain Control Unit, Room 668-S, University of California, San Francisco, Calif. 94143**. Applications accepted through 1 December 1977. *The University of California, San Francisco, is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

RUTGERS UNIVERSITY THE STATE UNIVERSITY OF NEW JERSEY RUTGERS COLLEGE

Rutgers College seeks a **DEAN** with exceptional scholarly credentials who will be appointed a full professor.

It is expected that the dean will provide the leadership necessary to maintain and develop outstanding undergraduate and graduate programs.

Contact:

**Daniel F. Howard, Chairman
Search Committee
Department of English
Rutgers College
New Brunswick, N.J. 08903**

Rutgers is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

DEAN, DIVISION OF SCIENCES WASHINGTON STATE UNIVERSITY

Nominations and/or applications are sought for the position of **dean**, Division of Sciences at Washington State University. Those interested in applying, making nominations, or seeking additional information should contact: **Professor Calvin T. Long, Chairman, Dean Search Committee, Department of Mathematics, Washington State University, Pullman, Wash. 99164** by 1 November 1977. *Washington State University is an Affirmative Action/Equal Opportunity Employer.*

ECOLOGIST

Applications are invited for an appointment as an **assistant professor** beginning fall semester 1978. Postdoctoral experience is desirable. The successful applicant will be expected to develop a strong research program and teach ecology at the undergraduate and graduate level. Submit curriculum vitae, statement of academic and research interests, relevant reprints, and three letters of recommendation to **Chairperson, Ecology Search Committee, Division of Biological Sciences, University of Michigan, Ann Arbor, Michigan 48109**. Deadline for receipt of applications is 15 November 1977. *The University of Michigan is an Affirmative Action, Nondiscriminatory Employer.*

ENGINEER-PHYSIOLOGIST

Engineer-physiologist (doctoral degree in engineering science) with several years of experience in temperature regulation, circulatory and exercise physiology, experience in mathematical modeling, computer programming and instrumentation to join major university medical center. Write to: **John A. Downey, M.D., Chairman, Department of Rehabilitation Medicine, Columbia-Presbyterian Medical Center, 630 West 168 Street, New York, N.Y. 10032**. *Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION IN PHYSIOLOGY for highly qualified applicants with postdoctoral experience. Research interests in neurobiology, neuroendocrinology, membrane biology, or muscle physiology preferred. Send curriculum vitae, statement of future research plans, and names and addresses of three references to: **George D. Cain, Department of Zoology, University of Iowa, Iowa City, Iowa 52242**. *An Equal Opportunity Employer*

FACULTY POSITIONS IN MOLECULAR BIOLOGY: applications are invited for two anticipated openings, pending budgetary approval, one at the assistant professor level and one at the low-tenure level, in the faculty of the Department of Molecular Biology, University of California at Berkeley. The department is interested in persons with vigorous and stimulating research programs in one of the following fields: macromolecular assembly processes and subcellular structures, analysis of eukaryotic chromosomes and genes, replication and transcription of DNA. Facility with the electron microscope is especially desirable. Individuals should have the background and talent to instruct in a general program of molecular biology as well as in areas of their specialty. Applicants should send a curriculum vitae, bibliography, copies of two representative recent publications, statement of teaching and research objectives, and names and addresses of three references to: **Chairman of the New Staff Committee, Department of Molecular Biology, University of California, Berkeley, Calif. 94720**. Applications should be received prior to 15 January 1978. *The University of California is an Equal Opportunity/Affirmative Action Employer. Women and minority candidates are encouraged to apply.*

PHARMACOLOGIST WANTED

Ph.D. with training and experience in analytical chemistry and biochemistry to direct laboratories involved in basic and clinical research in psychopharmacology. Applicants should have skills in the assay of drugs and drug metabolites using GLC and GC/MS techniques as well as in neurochemical methods, the ability to supervise technicians involved in a variety of research projects, competence in developing and writing grant applications, a desire to collaborate with basic researchers and clinicians from other disciplines and should qualify for an adjunct appointment in the Department of Pharmacology.

Apply to: **Robert O. Friedel, M.D., Professor and Chairman, Department of Psychiatry, Medical College of Virginia, Box 907, Richmond, Virginia 23298**. *Virginia Commonwealth University is an Affirmative Action/Equal Opportunity Employer.*

PhD's

- Immunology/Immunochemistry
- Biochemistry

Two professional opportunities offering full scope recognition are available at the Warner-Lambert Research Institute. Both positions require strong supervisory and leadership characteristics.

IMMUNOLOGIST/IMMUNOCHEMIST—Will head research group in development of immunological reagents and systems (or kits) utilizing latex and red cell agglutination, fluorescence and radio labeling technology. Will have full responsibility for developing, implementing and analyzing experiments from product conception to production.

BIOCHEMIST—Must have 2 to 5 years solid experience in industrial research to develop Q.C. products used to standardize and control methodologies in clinical laboratories. Projects will include developing practical procedures for selective removal of indigenous constituents from blood; developing techniques for adding and maintaining stable levels of constituents in serum and developing analytical procedures for determining physiological and non-physiological constituents in body fluids. Experience in diagnostic product development, clinical chemistry, LC GC and RIA highly desirable. Positions offer high visibility, excellent benefits and salaries equated to background. For confidential consideration, send curriculum vitae to Mr. R. Benthien,

WARNER-LAMBERT RESEARCH INSTITUTE DIVISION OF



WARNER-LAMBERT

170 Tabor Rd., Morris Plains, NJ 07950

Equal Opportunity in Action, M/F!

SUPERINTENDENT, MATERIAL SCIENCES DIVISION, 10 USC 1581

Salary—up to \$47,500 per annum depending on qualifications of selectee
Naval Research Laboratory, Washington, D.C.

Directs and manages an extensive research program concerned with broad categories of materials having scientific or technological interest to the Navy. Current studies include laser/materials interactions and responses, magnetic and photochromic memories in solids, glass-fiber optical materials, ultra-sensitive magnetic detectors, low frequency radio detectors, submarine magnetization, x-rays for environmental monitoring, and superconductors. Directs a staff of 120, most of whom are professional scientists.

Requires outstanding creative research, leadership, and management capabilities combined with established stature and credentials in an appropriate

scientific field. Must show demonstrated ability to manage research programs of significant scope and difficulty.

If interested, submit Personal Qualifications Statement (SF-171) or detailed resume, including personal references and information on education, experience, publications, and professional activities no later than October 31, 1977 to:

Civilian Personnel Office
Code 1811
Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375

This position is in the Federal Career Service with all Civil Service benefits.

An Equal Opportunity Employer

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA, DAVIS

Invites applications for two ladder **FACULTY POSITIONS IN GEOLOGY** beginning 1 July 1978. Candidates must have the Ph.D. in hand by September 1978 and must have demonstrated potential for excellence in research and teaching. One appointment will be made in paleobiology and will be at either assistant or associate professor rank (salary range: \$15,100 to \$24,900 per 9 months); one appointment will be made in the scientific study of ore deposits and will be at the rank of assistant professor (salary range: \$15,100 to \$18,800 per 9 months). Please have résumé and three letters of recommendation sent to: **Richard Cowen, Department of Geology, University of California, Davis, California 95616** by 15 January 1978.

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

FACULTY POSITION is available at the assistant or associate professor level in the Department of Biochemistry, a joint Department of the Faculty of Medicine and the Faculty of Science and Engineering. A Ph.D. and/or M.D. with research experience is required. Bilingualism (English/French) will be an asset.

Appointee is expected to participate in teaching of graduate, medical and science students and to develop a research programme. Candidates should preferably be Canadian citizens or already hold landed immigrant status. Apply to:

**Dr. J. Himms-Hagen, Chairman
Department of Biochemistry
University of Ottawa
275 Nicholas Street
Ottawa, Ontario, Canada K1N 9A9**

FACULTY POSITION

Biology—assistant professor—vertebrate zoologist—fall 1978. University of Missouri—Kansas City. Must possess doctorate and be proficient in statistics. The position will carry both undergraduate and graduate teaching responsibilities as well as expectations for continued research productivity. Send complete curriculum vitae, list of publications, and names of three references to: **Chairman, Search Committee, Department of Biology, University of Missouri—Kansas City, 5100 Rockhill Road, Kansas City, Mo. 64110.** The closing date is 1 November 1977. *The university is an Equal Opportunity Employer.*

FACULTY POSITIONS IN BIOCHEMISTRY—Applications are invited for assistant and associate professor positions. A Ph.D. degree and 2 years of postdoctoral experience are required. Responsibilities include teaching, an active research program, and participation in graduate studies. Special consideration given to candidates with research interests in the areas of nucleic acid structure and biosynthesis and eukaryotic developmental biochemistry. Send résumé, names of three references, and a brief summary of research interests to: **Search Committee, Attention: Dr. L. Slobin, Department of Biochemistry, University of Mississippi Medical Center, 2500 North State Street, Jackson, Miss. 39216.** *Equal Opportunity Employer, M/F.*

MEMORIAL UNIVERSITY OF NEWFOUNDLAND DEPARTMENT OF BIOLOGY FISHERIES BIOLOGIST

Applications are invited for a senior faculty position with primary responsibility in the development of a graduate programme (M.Sc. and Ph.D.) in the field of fisheries biology. Preference will be given to candidates with an established background and practical experience in applied fisheries research. The successful applicant will participate in the development of a proposed Institute of Fisheries and Marine Studies. Candidates should submit a full curriculum vitae and names of three referees to: **Dr. G. Robin South, Head, Department of Biology, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1C 5S7,** by 14 October 1977.

MUSCLE PHYSIOLOGIST. Research associate position in Department of Neurology. Requires experience in the use of single fiber preparations and experience in research with human muscle disorders. *Equal Opportunity/Affirmative Action Employer.* Those interested should send curriculum vitae to:

**Lewis P. Rowland, M.D.
Neurological Institute
710 West 168th Street
New York, New York 10032**

POSITIONS OPEN

FACULTY POSITION IN PHARMACOLOGY

The Department of Pharmacology at The University of Texas Health Science Center at Houston invites applications for a faculty position from qualified individuals with a commitment to teaching and research in biomedical or general pharmacology. Responsibilities will include participation in the medical school curriculum and in the graduate training program within the Graduate School of Biomedical Sciences, as well as developing and conducting an independent research program. The exact area of research and the level of appointment are open; applicants should have postdoctoral research experience. Please send a curriculum vitae, list of publications, names of at least three references to be used for letters of recommendation, and a summary of research interests to: **Dr. G. Alan Robison, Department of Pharmacology, The University of Texas Medical School at Houston, P.O. Box 20708, Houston, Texas 77025,** by 30 November 1977. *An Equal Opportunity/Affirmative Action Employer.*

BIOCHEMISTRY DEPARTMENT HEAD THE UNIVERSITY OF TENNESSEE

The Department of Biochemistry at the University of Tennessee seeks a person of national professional stature as its department head. The department has grown to nine full-time staff representing biochemistry and biophysics, and has recently moved into a new Life Sciences Building. Strong cooperation exists between the biological sciences departments. Salary and area of specialization are open. Applications, including a curriculum vitae and a list of at least three professional references should be received by 25 November.

Please contact: **Dr. Ronald C. Fraser, Room F231, Walters Life Sciences Building, The University of Tennessee, Knoxville, Tenn. 37916.** *An Equal Opportunity/Affirmative Action Employer.*

HERBARIUM CURATOR \$1217 per month

Maintain collections and perform curatorial duties under the direction of curator and faculty committee. Must be proficient in adding to the existing collection, facilitating teaching and research use of the collections, and in performing identification of native and cultivated or adventive western American vascular plants. Requires B.S. in biology or related field with specialization in vascular plant systematics and 1 year of experience in an institutional herbarium. Send résumé to:

**Personnel Office
University of California
Santa Barbara, Calif. 93106**

An Affirmative Action/Equal Opportunity Employer

INSTRUCTOR, BIOCHEMISTRY. Applications are invited for an individual who would be involved in research in the Department of Biochemistry and Institute of Dental Research. Qualifications include a Ph.D. in the biomedical sciences with at least 2 years of postdoctoral experience related to the isolation and characterization of the collagenous constituents in mammalian basement membranes. Résumés must include curriculum vitae and three letters of reference. *An Equal Opportunity/Affirmative Action Employer.* Send materials to:

**Department of Biochemistry
The University of Alabama in Birmingham
University Station
Birmingham, Alabama 35294**

NEUROBIOLOGIST-ETHOLOGIST

A position is available for a neurobiologist with strength in ethology, or an ethologist with strength in neurobiology. Although the appointment is nominally at the assistant professor level, a senior appointment is possible. Starting date is open. Inquiries or applications consisting of curriculum vitae, statement of research interests, and names of four references may be sent to: **Dr. Alan Gelperin, Neurobiology Search Committee, Department of Biology, Princeton University, Princeton, N.J. 08540.** *Princeton University is an Equal Opportunity/Affirmative Action Employer.*

Medical center in New York City has **OPENING** in microbiology and/or immunology. Ph.D. or M.S. experienced to work in tumor immunology research, both human and animal projects. Strong background in CMI and tissue culture desirable. Salary commensurate with experience. Send résumé and names of three references to: **Box 369, SCIENCE.**

POSITIONS OPEN

NEUROPHYSIOLOGIST Recent Ph.D.

Study the neurophysiological characteristics of the peripheral sensory organs of medically important insects. You will relate the activity of the receptor neurons to the behavior of the organisms; background in the techniques of recording from single sensory neurons desirable. Send résumé to: **R. Goertler, Professional Employment, SRI INTERNATIONAL (formerly STANFORD RESEARCH INSTITUTE), 333 Ravenswood Avenue, Menlo Park, Calif. 94025.** *An Equal Opportunity Employer.*

PHARMACOLOGIST at the level of instructor or assistant professor to teach second year medical students. Position is available immediately. Qualifications: a doctoral degree, a commitment to quality teaching, and experience in autonomic pharmacology, neuropharmacology, or mechanisms of hormone action. However, individuals who have demonstrated excellence in research in other areas are also encouraged to apply. A willingness to collaborate with departmental faculty in areas of common interest will be considered positively. Send curriculum vitae, a summary of teaching and research interests, reprints of publications, the names of references, and compensation history to: **Dr. Richard M. Eisenberg, Department of Pharmacology, University of Minnesota, Duluth School of Medicine, Duluth, Minnesota 55812** by 15 November 1977. *An Equal Opportunity/Affirmative Action Employer.*

PHYSICAL OCEANOGRAPHY— FACULTY POSITION

A faculty position in physical oceanography is vacant at the Port Aransas Marine Laboratory of The University of Texas Marine Science Institute.

The faculty position is in the Department of Marine Studies of The University of Texas at Austin with residence and research activities at the Port Aransas Marine Laboratory.

The Marine Science Institute operates its own research vessels. The Port Aransas Marine Laboratory is situated at an interchange between the Gulf of Mexico and the estuarine systems.

The successful applicant will be expected to develop a broad-based program in physical oceanography and train graduate students.

Send curriculum vitae and names of three references to: **Director, Port Aransas Marine Laboratory, The University of Texas Marine Science Institute, Port Aransas, Texas 78373.**

QUANTITATIVE MARINE ECOLOGY FACULTY POSITION

A faculty position in quantitative marine ecology is vacant at the Port Aransas Marine Laboratory of The University of Texas Marine Science Institute.

The faculty position is in the Department of Marine Studies of The University of Texas at Austin with residence and research activities at the Port Aransas Marine Laboratory.

The Marine Science Institute operates its own research vessels. The Port Aransas Marine Laboratory is situated at an interchange between the Gulf of Mexico and the estuarine systems.

The successful applicant will be expected to develop a broad-based program in quantitative marine ecology and train graduate students.

Send curriculum vitae and names of three references to: **Director, Port Aransas Marine Laboratory, The University of Texas Marine Science Institute, Port Aransas, Texas 78373.**

RESEARCH ASSOCIATE

Supervise all aspects of a study of earthquakes related to the filling of a large reservoir. Responsibilities include the installation of seismograph equipment; collection, analysis, and interpretation of data; supervision of all technical personnel and graduate students involved in the project; and publication of results. Must be familiar with all techniques used to locate earthquakes and analyze seismicity data. Must be capable of making significant scientific contributions to the investigation of the causes of reservoir-induced seismicity. A Ph.D. in geophysics is required plus 2 to 3 years of postdoctoral research in earthquake studies. Extensive field work and travel are required. Submit résumés to: **Dr. Allen Z. Paul, Lamont-Doherty Geological Observatory of Columbia University, Palisades, N.Y. 10964.** *An Equal Opportunity/Affirmative Action Employer, M/F.*

POSITIONS OPEN

PHYSIOLOGIST/PHARMACOLOGIST

Syntex Research is seeking a Ph.D. physiologist or pharmacologist with experience in antithrombotic research, to carry out independent work in this area.

The position will be concerned with development of animal models to study platelet aggregation, atherosclerosis, coagulation, fibrinolysis, and thrombosis. In vivo work will be carried out in conjunction with a biochemical group.

The successful candidate should be expert in surgery and manipulations of laboratory animals. Knowledge of blood chemistry, platelet function, blood rheology, and blood cell-vessel wall interactions is desirable.

Syntex is an international pharmaceutical company and an *Equal Opportunity Employer F/M/H*, located on the San Francisco peninsula, close to Stanford University. Please send résumé, with publications listing, references, and salary history, in confidence to:

Dr. Brian H. Vickery, Head
Department of Physiology
Syntex Research
3401 Hillview Avenue
Palo Alto, Calif. 94304

POPULATION BIOLOGIST

WASHINGTON STATE UNIVERSITY is seeking an assistant or associate professor with postdoctoral experience for a tenure-track appointment commencing 16 September 1978. The individual selected will be expected to teach undergraduate and graduate courses and carry on research in population genetics, plant-animal interactions, or life history strategies. A curriculum vitae and letters directly from three references should be sent before 1 February 1978 to: Professor R. A. Parker, Science Hall, Washington State University, Pullman, Washington 99164.

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

POPULATION GENETICIST/BIostatistician sought. Please send résumé by 15 November 1977 to: Michael M. Kaback, M.D., Professor of Pediatrics and Medicine, Division of Medical Genetics, UCLA/Harbor General Hospital, 1000 West Carson Street, Torrance, Calif. 90509. An *Equal Opportunity Employer*.

The AUSTRALIAN NATIONAL UNIVERSITY invites applications for appointment as **POSTDOCTORAL FELLOW** in the Diffusion Research Unit in the Research School of Physical Sciences. The unit, headed by Dr. R. Mills, has an academic staff of three and a technical staff of four and is concerned with the measurement of transport coefficients in liquids. The successful applicant is expected to join one of the projects in progress in the unit. These are the experimental and theoretical aspects of diffusion in electrolytes and molecular liquids, and of diffusion measurements of liquids and gases under high pressure. Facilities available include a spin echo NMR apparatus, radiotracer equipment, and high-pressure diaphragm cells. A high-pressure liquid chromatograph is being developed. Appointment for not less than one year and not more than 2 years. Salary: A\$14,632 to A\$19,139; exchange rate: A\$1:U.S.\$1.10. Reasonable travel expenses; assistance with housing. Superannuation benefits available. Further information from: Academic Registrar, Australian National University, P.O. Box 4, Canberra AUSTRALIAN CAPITAL TERRITORY, 2600, Australia, with whom applications close 1 November 1977.

POSTDOCTORAL POSITION. Opening available immediately in RNA viral oncology program. Experience or interest in virology, molecular biology, or immunology. Salary: \$10,750. Send curriculum vitae and request two referees to send references to: J. K. Ball, Cancer Research Laboratory, University of Western Ontario, London, Ontario, Canada N6A 5B8.

POSTDOCTORAL POSITION available immediately. Nutritionally induced adaptations of plasma-membrane-associated functions in adipocytes and hepatocytes. Experience in glycoprotein synthesis desirable but not essential. Send curriculum vitae and names of three references to: Dr. Jay Tepperman, Department of Pharmacology, State University of New York, Upstate Medical Center, Syracuse, N.Y. 13210. An *Equal Opportunity/Affirmative Action Employer*.

OVERSEAS ASSIGNMENT

Marine Pollution Research

The Kuwait Institute for Scientific Research, a rapidly expanding institute for applied science and technology, has current vacancies for scientists, oceanographers and ocean engineers experienced in both thermal and chemical marine pollution.

Kuwait Institute offers attractive salaries commensurate with qualifications and experience, liberal fringe and medical benefits, and round-trip air tickets.

If you are interested and qualified, please airmail your resume to:
The Personnel Manager, Selection and Recruiting Division,
Kuwait Institute for Scientific Research, P.O. Box 12009, Kuwait.

Or for fastest response, call our agent's toll-free operator
(800) 638-1914.

Kuwait Institute for Scientific Research

MICROBIOLOGY MANAGER

Ethicon Inc., the world's largest manufacturer of surgical sutures and Allied Medical Products, has an opening for Manager of Microbiology.

This significant position demands a dynamic individual who has the ability to manage a complex function. It offers the opportunity to exercise an aggressive role in a very important area of our business. Programs under way include research on sterilization processes, biological indicators, the sterilization of new products and sterility assurance.

The individual we are seeking will hold a Ph.D or have equivalent experience in microbiology and will have had several years of supervisory experience in an industrial microbiology department, including sterilization of medical products using ethylene oxide and gamma radiation.

Ethicon offers a competitive compensation and benefits package. We afford an excellent opportunity for financial and professional advancement. Our modern facility is located in suburban central New Jersey, one hour from New York City.

Qualified applicants should forward resumes in confidence, including salary history and requirements to:

Joan Campbell, Employment Manager

ETHICON, INC.

a Johnson & Johnson Company

Route 22 Somerville, N.J. 08876

An Equal Opportunity Employer. M. F.

POSITIONS OPEN

POSTDOCTORAL POSITION to study interactions between diabetes, steroid action in brain, and behaviors. Available 1 November 1977. Background in endocrinology desirable. Send curriculum vitae and three letters of reference to: **George N. Wade, Psychology Department, University of Massachusetts, Amherst, Mass. 01003; telephone: 413-545-0772. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION to work on the mechanisms of photosynthesis in marine phytoplankton. Experience with continuous cultures of marine algae and with the enzymology and intermediary metabolism of algae desired. Send curriculum vitae to: **Dr. I. Morris, Bigelow Laboratory, McKown Point, West Boothbay Harbor, Maine 04575. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION—M.R.C. group on protein structure and function. Available as early as October 1977 for a chemist or biochemist just completing his or her Ph.D. Salary: \$12,000 per annum. Research area: the structure and function relationships of the muscle proteins; tropomyosin, the troponins and actin through the chemical synthesis of peptide fragments and peptide fragment analogs. Send curriculum vitae and two letters of reference to: **Dr. Robert S. Hodges, Department of Biochemistry, University of Alberta, Edmonton, Alberta, Canada T6G 2H1; telephone: 403-432-2112.**

A **POSTDOCTORAL POSITION** (up to 2 years) will be available 1 November 1977 for a recent D.D.S., M.D., or Ph.D. with research interests in **neuroendocrinology**. Beginning stipend is \$11,000. Send curriculum vitae and references to: **Dr. Jon D. Dunn, Department of Anatomy, Schools of Medicine and Dentistry, Oral Roberts University, 7777 South Lewis, Tulsa, Oklahoma 74171.**

Two **POSTDOCTORAL POSITIONS** available immediately in the area of **cardiac metabolism related to shock and diabetes**. Individuals with training in carbohydrate or lipid biochemistry preferred. Salary: \$10,000 to \$12,000 per year. Send curriculum vitae and inquiries to: **Dr. Maw-Shung Liu, Department of Physiology, Louisiana State University Medical Center, 1542 Tulane Avenue, New Orleans, La. 70112, telephone: 504-568-6187.**

POSTDOCTORAL POSITION available immediately to study insulin control of ion transport and metabolism. Training in physiology, biophysics, and biochemistry relevant. Experience with intracellular microelectrodes, ion transport, and/or (Na-K) ATPase desirable. NIH supported. One to 3 years. Send résumé and names of three references to: **Dr. Richard D. Moore, Section of Biochemistry/Biophysics, State University of New York, Plattsburgh, N.Y. 12901. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS DEPARTMENT OF ANATOMY Georgetown University Medical Center

Two positions are available immediately. Research involves autoradiography, electron microscopy, and neurophysiologic aspects regeneration of spinal cord injury. Send curriculum vitae and names of three references to:

**Dr. B. B. Bhussary, Chairman
Department of Anatomy
Georgetown University Medical Center
3900 Reservoir Road, NW
Washington, D.C. 20007**

An Equal Opportunity/Affirmative Action Employer

College of Veterinary Medicine and Biomedical Sciences Department of Physiology and Biophysics

The Reproductive Biology Program, Colorado State University, has openings for **POSTDOCTORAL** (starting date: 28 November) and **PREDOCTORAL FELLOWS** (starting date: 2 January). Training offered in areas of reproductive endocrinology, neuroendocrinology, cell biology, seminal physiology, fertilization, embryo culture, and mechanism of steroid, peptide, and protein hormone action. Send curriculum vitae and three letters of recommendation by 15 November to: **Dr. Gordon Niswender, Department of Physiology and Biophysics, Colorado State University, Fort Collins, Colorado 80523.**

Colorado State University is an Equal Opportunity Employer and complies with Title IX requirements. Complaints should be filed with the Office of Equal Opportunity, Student Services Building.

POSITIONS OPEN

POSTDOCTORAL POSITION

Available in Biochemistry Department of midwestern medical school. Experience in virology and membrane biochemistry required.

Box 367, SCIENCE

POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS available at various times in soil and crop science, crop physiology, genetics, soil physics, and other disciplines; 1 year with opportunity for second year subject to performance and availability of funds. Send biographical data, transcripts, and names of three references to: **R. W. Howell, Department of Agronomy, University of Illinois, Urbana, Ill. 61801.**

An Affirmative Action/Equal Opportunity Employer, and encourages applications from minorities and women.

POSTDOCTORAL RESEARCH ASSOCIATE

Two-year appointment to work on myelin membrane assembly and myelinogenesis. Previous experience in protein biochemistry helpful. Please send curriculum vitae to: **Chairman, Department of Neurology, Medical University of South Carolina, 171 Ashley Avenue, Charleston, S.C. 29403. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE—Position immediately available for 1 or 2 years to study the role of lipids in intestinal carcinogenesis. Ph.D. in biochemistry with experience in lipid analysis essential. Salary: \$14,000 to \$15,000. Send application including curriculum vitae and three letters of reference to: **Dr. Norman D. Nigro, Wayne State University School of Medicine, Department of Surgery, 540 East Canfield Avenue, Detroit, Mich. 48201. Wayne State University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH POSITION. Two-year appointment for recent Ph.D. in anatomy or biology to work on anatomy of vascular supply to the orbit and periorbicular tissues. Background in macroscopic anatomic techniques and EM work helpful. Send résumé to: **Lloyd M. Wilcox, Jr., M.D., Department of Ophthalmology, Tufts New England Medical Center, 171 Harrison Avenue, Boston, Mass. 02111. An Equal Opportunity Employer, M/F.**

PRE- AND POSTDOCTORAL

Positions are available for studies on the protein synthesizing system with special emphasis on ribosomes—topography, biogenesis, and function under various conditions of growth and development. Teaching opportunities available.

Reply with résumé to: **Professor Bruce H. Sells, Laboratories of Molecular Biology, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1C 5S7.**

RESEARCH PHYSICIAN (M.D.) for independent research in various subjects related to cellular immunology. A minimum of 5 years of postdoctoral research experience is required with strong background in immunology. Applicant must be capable of designing procedures for research into biological aspects of thymus and bone marrow—derived lymphocytes and macrophages; devising new approaches to problems of isolation and characterization of surface membranes on lymphocytes; supervising junior postgraduate researchers. Salary: \$34,000 per annum. Interested individuals submit curriculum vitae, list of publications, and three letters of reference by 4 November to: **John Oliver, Employment Development Department, 4235 National Avenue, San Diego, California 92113. Advertisement paid for by the employer. Equal Opportunity Employer.**

RESEARCH SCIENTIST II. Perform research, interpret results, and determine scientific significance of research projects. Doctorate or equivalent professional degree required with training/experience in magnetospheric or ionospheric physics. Must be capable of handling large quantities of satellite data with the computer. Salary range: \$14,700 to \$22,884; normally starting salary not to exceed \$16,500 per year. Forward résumé by 21 October 1977 to: **Roger Arnoldy, Director, Space Science Center, Demeritt Hall, University of New Hampshire, Durham, N.H. 03824. Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

RESEARCH ASSOCIATE

Research position available to study regulation of glycolysis in lung. Applicants should have Ph.D. and experience in intermediary metabolism, spectrophotometric techniques, and use of radioisotopes. Send curriculum vitae and names of reference to: **Dr. R. A. Rhoades, Indiana University School of Medicine, Department of Physiology, Indianapolis, Ind. 46202.**

RESEARCH POSITION—Biochemist (Ph.D.) preferably with postdoctoral experience. Research involves enzyme purification and characterization. Renewable 1-year appointment. Salary negotiable. Send curriculum vitae and letters of reference to: **W. Edgar Barnett, Director, University of Tennessee—Oak Ridge Graduate School of Biomedical Sciences, Biology Division, ORNL: P.O. Box Y, Oak Ridge, Tenn. 37830. An Equal Opportunity/Affirmative Action Employer.**

THE UNIVERSITY OF WOLLONGONG SENIOR LECTURER/LECTURER Department of Biology

The Biology Department offers a general first-year course followed in second and third years by a core of subjects on bioenergetics at levels ranging from energy metabolism through physiology to ecology. Additional subjects will be introduced in 1978. The appointee will develop and teach a course in neurobiology and behaviour and will also be expected to contribute to first-year teaching. Applicants should have high academic qualifications with substantial postgraduate research experience. This is a tenurable appointment.

Further information may be obtained from: **Dr. R. M. Lilley, Acting Chairman, Department of Biology or from Professor A. D. Brown, Department of Chemistry, Yale University, New Haven, Conn. 06520.**

Closing date: 1 November 1977. Commencing salary, according to qualifications and experience will be in these ranges: senior lecturer: A\$19,676 to A\$22,955 per annum; lecturer: A\$14,632 to A\$19,262 per annum.

For details of appointment write to: **The Bursar, The University of Wollongong, P.O. Box 1144, Wollongong, New South Wales 2500, Australia.**

STAFF OFFICER

A nonprofit organization in Washington, D.C., is seeking a staff officer for a new committee on risk assessment and risk-benefit evaluation.

Qualifications should include a Ph.D. or its equivalent and a thorough knowledge of the interdisciplinary literature, methodologies, and techniques of risk assessment and risk-benefit evaluation as they relate to public policy decision-making. Candidates must also have previous experience in the conduct of risk/cost-benefit analyses and broad gauge interest in public policy and environmental issues surrounding the subject of risks and hazards. Duties will include preparing study plans, arranging committee and workshop meetings, preparing meeting minutes, supervising consultants and support personnel, preparing manuscripts for publication, and developing proposals for additional research projects. Evidence of excellent administrative ability and good writing skills are required. The salary is competitive and will be based on the candidate's qualifications and experience. Candidates should send résumé and salary requirements to **Box 366, SCIENCE. An Equal Opportunity Employer.**

Position open for a **SURGICAL PATHOLOGIST** at the level of assistant professor, Northwestern Memorial Hospital and Northwestern University School of Medicine, Chicago, Illinois. Competence in general surgical pathology with special interest in neoplasia. Active research program in chemical carcinogenesis obligatory. Send résumé to: **Box 368, SCIENCE. Equal Opportunity/Affirmative Action Employer.**

SYSTEMS ANALYSTS/ OPERATIONS RESEARCHERS

Ph.D./M.S. with multidisciplinary experience in weapons-systems engineering and cost-effectiveness studies or quantitative economic analysis of R & D programs. Emphasis on U.S. Air Force weapon systems and on health care delivery systems. U.S. citizens only (security clearance). Résumés and salary history to: **Analytic Services Inc. (ANSER), 5613 Leesburg Pike, Falls Church, Va. 22041, an independent nonprofit corporation. Equal Opportunity/Affirmative Action Employer, M/F.**

Project Manager Thermal-Mechanical Energy Storage

R&D Institute located in the San Francisco Bay Area is seeking a Project Manager to work with in our Energy Storage Program. The successful candidate will plan, evaluate, and manage projects in areas of hydroelectric, compressed air, and thermal-energy storage methods/systems. Qualifications include an advanced degree in engineering (mechanical preferred) with several years experience in power engineering, e.g. thermodynamics, power plant design, and cost estimation. Electric utility experience highly desirable.

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POST DOCTORAL RESEARCH

The National Research Council is now accepting applications for the Research Associateship Programs for 1978. The programs provide scientists and engineers opportunities for postdoctoral research on problems in the fields of CHEMISTRY — SPACE SCIENCES — PHYSICS — ATMOSPHERIC & EARTH SCIENCES — ENGINEERING — LIFE SCIENCES — MATHEMATICS and ENVIRONMENTAL SCIENCES.

Complete details including information on specific research opportunities and application materials may be obtained by writing:

Associateship Office (JH606-S1)
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

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ASSISTANT PROFESSOR POSITIONS

Department of Geological Sciences
The University of Texas at Austin

The University of Texas at Austin, Department of Geological Sciences, invites applications for two assistant professor positions, effective 1 September 1978.

One position is in the field of economic geology, preferably with specialization in one of the following areas:

- 1) Ore deposits,
- 2) Solution geochemistry,
- 3) Stratabound mineral deposits, or
- 4) Mineral economics.

The successful applicant for this position will be expected to participate in the undergraduate teaching program that includes economic geology and field geology, in addition to graduate courses in the individual's specialty.

The second position available is in the field of structural geology, preferably with specialization in either analytical structural geology or rock mechanics.

The successful applicant for this position will be expected to participate in the undergraduate teaching program that includes structural geology and field geology, in addition to graduate courses in the individual's specialty.

Applicants for these positions must have the Ph.D. degree by 1 September 1978. Qualified persons should send a complete résumé including names of references and a statement of research interests and planned research projects to:

Dr. Robert E. Boyer, Chairman
Department of Geological Sciences
The University of Texas at Austin
Austin, Texas 78712

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Part I appears January 1978; \$25 per annum. Write to: **Carnivore, Burke Museum, University of Washington, Seattle, Wash. 98195.**

POSITIONS OPEN

SYSTEMS ECOLOGIST. Ph.D. in wildlife or fisheries plus competence to teach. Nine-month academic year. Assistant or associate professor. Salary commensurate with training and experience. Send résumé, transcripts, reprints of publications, and three references to: **Dr. D. R. Progulské, Head, Department of Forestry and Wildlife Management, University of Massachusetts, Amherst, Mass. 01003. Telephone: 413-545-2257.** *The University of Massachusetts is an Affirmative Action/Equal Opportunity Employer.*

Applications from Ph.D.'s are invited for **TEACHING POSITIONS** in the following courses:

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The university is located in the West Indies. Please send curriculum vitae to:

**St. George's University
c/o Foreign Medical School Service Corp.
One East Main Street
Bay Shore, New York 11706**

TERRESTRIAL (WILDLIFE) BIOLOGIST. International consulting firm involved in environmental impact assessments seeks a Ph.D. in wildlife biology with at least 2 years of experience in environmental consulting. Interested candidates should contact:

**Caleb Roehrig
5050 Garfield Street
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TUMOR IMMUNOLOGIST—Faculty appointment. Basic and applied tumor immunology relating to response of tumor or local irradiation; murine, and clinical studies. Facilities: a defined flora, SPF mouse colony (C3H, BALB/c, normal, nude), excellent general laboratory research opportunity. Active clinical trials of immunopotentiators in progress. Qualifications: M.D. or Ph.D.; at least 1 year of postdoctoral work. Start: 15 October 1977. Apply: **Dr. H. D. Suit, Department of Radiation Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts 02114.** *Equal Opportunity Employer.*

TRAINEESHIPS

POSTDOCTORAL TRAINEESHIP

Applicants should have a background in immunology, molecular biology, or microbiology for research on the control of production and expression of proteins by mammalian cells or the immunology of syphilis. Salary range: \$10,000 to \$13,200, depending on experience. Respond to:

**Dr. Stewart Sell
Department of Pathology, M-012
University of California, San Diego
La Jolla, California 92093**

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GRADUATE STUDY

GRADUATE STUDIES: Department of Physiology and Biophysics, University of Kentucky Medical Center, seeks applicants for its Ph.D. program beginning fall semester 1978. Graduate assistantships (\$3900 per year) are available on a competitive basis. Current research projects of the faculty include but are not limited to: circulatory dynamics, cardiovascular regulation, pulmonary function and regulation, neurobiology, and renal physiology.

Write: **Graduate Coordinator, Department of Physiology and Biophysics, University of Kentucky College of Medicine, Lexington, Ky. 40506.**

SCIENTIFIC EXCHANGES

RESEARCH IN THE U.S.S.R., GERMAN DEMOCRATIC REPUBLIC, BULGARIA, CZECHOSLOVAKIA, HUNGARY, POLAND, ROMANIA, AND YUGOSLAVIA. Exchange programs provide opportunities for 2 to 10 months of individual research to scientists in all fields at the advanced graduate student level and above through placements at universities and academy institutes. U.S. citizenship and command of the host country language sufficient for the purposes of research are required for participation. Application deadlines: 1 November for 1978–1979 academic year. Write: **International Research and Exchanges Board, 110 East 59th Street, New York, N.Y. 10022, or telephone: 212-826-0230** for a brochure and application forms.

COURSES

SECOND ICIP/UNEP GROUP TRAINING COURSE ON COMPONENTS ESSENTIAL FOR ECOLOGICALLY SOUND PEST MANAGEMENT SYSTEMS

PURPOSE: The course is primarily designed to acquaint young scientists actively engaged in pest and vector management, as well as research scientists and university lecturers, with recent advances in the fields of pest and vector management and environmental ecology. Emphasis will be placed on a demonstration of the efficacy of new technologies in insect population management.

TENTATIVE DATE: 16 July to 6 August 1978.

VENUE: The International Centre of Insect Physiology and Ecology, Chiromo Campus, Nairobi, Kenya.

LANGUAGE: English.

PARTICIPANTS: Interested institutions in Africa, Asia, Middle East, and South America should send nominations of their candidates together with full curriculum vitae, addresses of personal and professional references, and four passport-size photographs to:

**The Training Officer
ICIPE Research Centre
P.O. Box 30772
Nairobi, Kenya**

CLOSING DATE: 31 December 1977. Interested individuals can also apply directly to the above address.

FELLOWSHIPS

FELLOWSHIPS: Applications are invited from recent Ph.D. graduates for fellowships in microbial genetics, ultrastructure, virology, immunology, and bacteriology. Details available from: **Dr. K. B. Easterbrook, Department of Microbiology, Dalhousie University, Halifax, Nova Scotia, Canada B3H 4H6.**

POSTDOCTORAL FELLOWSHIPS IN BIOCHEMICAL TOXICOLOGY

Two positions are available immediately in the areas of (i) bioactivation and detoxification of chemicals and (ii) biochemical mechanisms of chemically induced lung injury. Both positions are for 1 or 2 years. Candidates should have a doctoral degree in biochemistry, pharmacology, toxicology, or related biomedical areas and have proven research potential. Send curriculum vitae and three letters of reference to: **Dr. Donald A. Hart, Chemical Industry Institute of Toxicology, P.O. Box 12137, Research Triangle Park, N.C. 27709.** *The Chemical Industry Institute of Toxicology is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOWSHIP—Biochemist or virologist completing graduate studies in bacteriophage or animal virus work with superior record and strong biochemical background in nucleic acids, to carry out original work with Epstein-Barr virus DNA. Unique resources and colleagues. Stipend is \$10,000 to \$11,500 per year. Send curriculum vitae and three letters of recommendation to: **Dr. Joseph S. Pagano, Director, Cancer Research Center, Box 30, Clinical Sciences Building, Chapel Hill, N.C. 27514.**

FELLOWSHIPS

PREDOCTORAL FELLOWSHIPS

The Division of Experimental Pathology at the University of Kentucky College of Medicine has predoctoral fellowships available to students seeking the Ph.D. degree. An interdisciplinary program is available with research opportunities in the areas of cellular immunology, immunochemistry, tumor immunology, neuroimmunology, molecular and tumor virology, cell biology, and tumor cytogenetics. For further information contact: **Dr. Thomas L. Rozman, Division of Experimental Pathology, Department of Pathology, University of Kentucky, Lexington, Kentucky 40506.**

Two **POSTDOCTORAL FELLOWSHIPS** of 2 years duration available immediately for M.D. with an approved ophthalmology residency or Ph.D. with background in physiology, biophysics, or related area. Computer background is useful. Candidates must be permanent residents of the United States and be committed to a career in academic medicine or visual science research for at least 2 years after completion of training. Stipends range from \$10,000 to \$12,200 depending upon previous postdoctoral experience.

Research projects available under Dr. Albert M. Potts:

Research on (i) the optic nerve, (ii) ophthalmic toxicology, (iii) the VER, or (iv) experimental glaucoma surgery;

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Research projects available under Dr. Theodore Lawwill:

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Send résumé to:

**Diana Hammond
Academic Business Administrator
Department of Ophthalmology
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MARKET PLACE

A slide-tape program, *How to Use Biological Abstracts* by Eva S. Jonas, has been published by Harvard University. It consists of 60 slides, a 20-minute tape (with pulses for automatic slide advancement), and a script. Order from: **Eva Jonas, Cabot Science Library, Harvard University, Cambridge, Mass. 02138.** Price: \$100.

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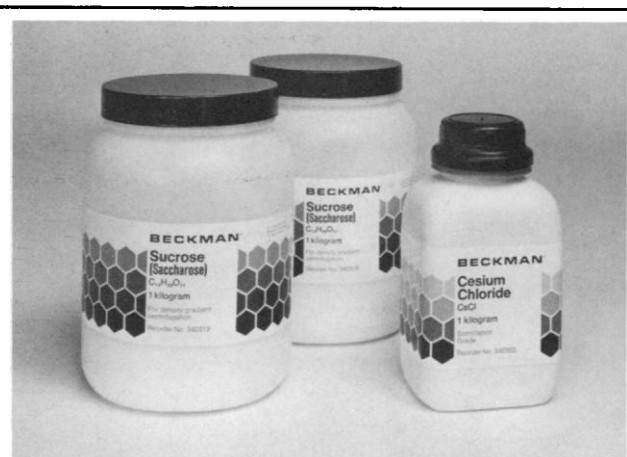
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