

and the paucity of citations of others' work on Paleo-Indian adaptations leave this chapter isolated from relevant work both within and beyond New England. These same weaknesses imbue the following chapter, where early to middle Holocene cultural adaptations are the issue.

New terminology signals innovations in concepts discussed in chapters 5, 6, and 7. Both the concepts and the terminology will probably have short lives. It is unlikely that the term "Mast Forest Archaic" will be enthusiastically adopted. The concept it represents is highly vulnerable. Snow proposes to define and bound a cultural system (an "adaptation") in terms of its purported home environment. Cultural ecologists will object that human populations do not adapt to environmental variables at such a high level of abstraction—within the "Mast Forest" are the estuaries and uplands of southern New England, the Connecticut and Hudson valleys, the Allegheny Plateau, and other equally distinct areas. Others will object to the environmental determinism and reductionism implicit in the concept. The same arguments should also doom the "Lake Forest Archaic," which appears to equate habitats as diverse as the White Mountains and the Champlain basin, but that term, at least, has a hold in the literature already. Labeling the time span between 700 B.C. and A.D. 1000 the "Early Horticultural Period" seems to be little more than a wistful speculation. There is no indigenous New England evidence for horticulture at that time (the dubious case cited is not widely credited). Even should such evidence be found, as is expected, horticulture never spread throughout New England, so that both label and concept are blatantly inappropriate to half the region.

The discussion of the "Terminal Archaic" period compresses, generalizes, and ultimately trivializes New England evidence for the period. A dynamic and fascinating episode in New England's past is dismissed brusquely. The discussion is moved west into central New York State to speculate upon Iroquoian origins. One is left to wonder why an investigator bent upon linguistic prehistory interprets a manifestation of the Susquehanna/Broadspear tradition in central New York as an intrusion of Iroquoian speakers, while ignoring closely related cultural complexes in New England.

In the "Early Horticultural Period" chapter also, Snow emphasizes data and interpretations from central and eastern New York in preference to grappling

with the more dispersed but not nonexistent literature of New England. This propensity may confuse or mislead readers wishing to learn about New England.

For reasons going far beyond its high price, this book is not well suited for adoption as a textbook. It is too unfocused, underreferenced, logically inconsistent, and idiosyncratic. For regional specialists, it will be a stimulus, even a goad, for the publication of data sets, developed theses, and, dependably, rebuttals. Therefore, though the book does not succeed as an instructional text in the classical sense, it is certainly instructive. On the other hand, the unqualified assertions, colorfully speculative reconstructions, and lively prose convince me that the author's primary purpose is to entertain, to entice the larger public for archeology to look again at New England. That's show biz.

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Books Received

Animal Agriculture. Research to Meet Human Needs in the 21st Century. Papers from a meeting, Boyne Mountain, Mich., May 1980. Wilson G. Pond, Robert A. Merkel, Lon D. McGilliard, and V. James Rhodes, Eds. Westview Press, Boulder, Colo., 1980. xviii, 356 pp. \$20.

Animal Virus Genetics. Bernard N. Fields, Rudolf Jaenisch, and C. Fred Fox, Eds. Academic Press, New York, 1980. xxvi, 830 pp., illus. \$45. ICN-UCLA Symposia on Molecular and Cellular Biology, vol. 18.

Annual Review of Entomology. Vol. 26. Thomas E. Mittler, Frank J. Radovsky, and Vincent H. Resh, Eds. Annual Reviews, Palo Alto, Calif., 1981. x, 490 pp. \$20.

Annual Review of Fluid Mechanics. Vol. 13. Milton van Dyke, J. V. Wehausen, and John L. Lumley, Eds. Annual Reviews, Palo Alto, Calif., 1981. x, 530 pp., illus. \$20.

Annual Review of Genetics. Vol. 14. Herschel L. Roman, Allan Campbell, and Laurence M. Sandler, Eds. Annual Reviews, Palo Alto, Calif., 1980. x, 486 pp., illus. \$20.

Anthropology. Carol R. Ember and Melvin Ember. Prentice-Hall, Englewood Cliffs, N.J., ed. 3, 1981. xxiv, 582 pp., illus. \$17.95.

Anticancer Agents Based on Natural Product Models. John M. Cassady and John D. Douros, Eds. Academic Press, New York, 1980. xiv, 502 pp., illus. \$49.50.

Applied Methods in the Theory of Nonlinear Oscillations. V. M. Starzhinskii. Translated from the Russian edition (1977) by V. I. Kisin. Mir, Moscow, 1980 (U.S. distributor, Imported Publications, Chicago). 264 pp. \$8.

Approaches to the Theory of Optimization. J. Ponstein. Cambridge University Press, New York, 1980. xii, 206 pp. \$36.50.

Approximation Theorems of Mathematical Statistics. Robert J. Serfling. Wiley, New York, 1980. xvi, 372 pp. \$34.95.

Aquatic Animal Medicine. A State of the Art. Robert L. Jenkins and Joseph G. Halusky, Eds. Sea Grant Program, University of Florida, Gainesville, 1980. vi, 128 pp. Paper. State University System of Florida Sea Grant College Program Report No. 32.

Archival Sources for the History of Biochemistry and Molecular Biology. A Reference Guide and Report. David Bearman and John T. Edsall, Eds. American Academy of Arts and Sciences, Boston, and American Philosophical Society, Philadelphia, 1980. xii, 338 pp. \$28.

The Atoms within Us. Ernest Borek. Columbia University Press, New York, ed. 2, 1980. xvi, 238 pp., illus. Cloth, \$20; paper, \$8.

Behavioral Community Psychology. Progress and Prospects. David Glenwick and Leonard Jason, Eds. Praeger, New York, 1980. xvi, 502 pp. \$19.99.

Beyond the Myths of Culture. Essays in Cultural Materialism. Eric B. Ross, Ed. Academic Press, New York, 1980. xxxii, 424 pp., illus. \$37.

Bibliography of the Natural History of Newfoundland and Labrador. M. Laird. Academic Press, New York, 1980. lxxii, 376 pp., illus. \$57.50.

Bigfoot. A Personal Inquiry into a Phenomenon. Kenneth Wylie. Viking, New York, 1980. xiv, 268 pp. + plates. \$14.95.

Chemistry and Physics of Carbon. A Series of Advances. Vol. 16. Philip L. Walker, Jr., and Peter A. Thrower, Eds. Dekker, New York, 1981. xii, 322 pp., illus. \$42.50.

The Child in His Family. Vol. 6, Preventive Child Psychiatry in an Age of Transitions. E. James Anthony and Colette Chiland, Eds. Wiley-Interscience, New York, 1980. xxvi, 646 pp. \$32.50.

Child Phonology. Vol. 1, Production. Vol. 2, Perception. Proceedings of a conference, Bethesda, Md., May 1978. Grace H. Yeni-Komshian, James F. Kavanagh, and Charles A. Ferguson, Eds. Academic Press, New York, 1980. Vol. 1, xiv, 306 pp., illus. \$27. Vol. 2, xiv, 256 pp., illus. \$24. Perspectives in Neurolinguistics, Neuropsychology, and Psycholinguistics.

Child-Rearing Values. A Cross-National Study. Wallace E. Lambert, Josiane F. Hamers, and Nancy Frasure-Smith. Praeger, New York, 1979. xxiv, 432 pp., illus. \$28.95.

Children and the Faces of Television. Teaching, Violence, Selling. Edward L. Palmer and Aimée Dorr, Eds. Academic Press, New York, 1980. xx, 360 pp. \$24.50.

Children's Language. Vol. 2. Keith E. Nelson, Ed. Gardner Press, New York, 1980 (distributor, Halsted [Wiley], New York). xvi, 602 pp., illus. \$34.95.

Chondroid Bone, Secondary Cartilage and Metaplasia. William A. Beresford. Urgan & Schwarzenberg, Baltimore, 1981. xviii, 454 pp., illus. \$42.50.

Design of Microcomputer-Based Medical Instrumentation. Willis J. Tompkins and John G. Webster, Eds. Prentice-Hall, Englewood Cliffs, N.J., 1981. xvi, 496 pp., illus. \$27.95.

The Design of Urban Space. Richard M. Cartwright. Architectural Press, London, and Halsted (Wiley), New York, 1980. x, 164 pp., illus. \$44.95.

Destruction of Nuclear Energy Facilities in War. The Problem and the Implications. Bennett Ramberg. Lexington (Heath), Lexington, Mass., 1980. xviii, 204 pp., illus. \$19.50.

Effective Data Base Design. William H. Inmon. Prentice-Hall, Englewood Cliffs, N.J., 1981. xii, 228 pp., illus. \$24.95. Prentice-Hall Series in Data Processing Management.

Effects of Foods and Drugs on the Development and Function of the Nervous System. Methods for Predicting Toxicity. Proceedings of a symposium, Arlington, Va., Oct. 1979. R. M. Gryder and V. H. Frankos, Eds. FDA Office of Health Affairs, Rockville, Md., 1980. iv, 274 pp., illus. Paper.

Electron Microscopy of Materials. An Introduction. Manfred von Heimendahl. Translated from the German edition by Ursula E. Wolff. Academic Press, New York, 1980. xii, 228 pp., illus. \$20.

Human Helplessness. Theory and Applications. Judy Garber and Martin E. P. Seligman, Eds. Academic Press, New York, 1980. xviii, 402 pp. \$18.50.

Human Microscopic Anatomy. Seong S. Han and Jan O. V. Holmstedt. McGraw-Hill, New York, 1981. xiv, 642 pp., illus. \$29.95.

Human Nature and History. A Response to Sociobiology. Kenneth Bock. Columbia University Press, New York, 1980. xii, 242 pp. \$18.95.

The Human Portrait. Introduction to Cultural Anthropology. John Friedl. Prentice-Hall, Englewood Cliffs, N.J., 1981. xvi, 368 pp., illus. Paper, \$13.95. New edition of *Cultural Anthropology*.

Human Territoriality. Survey of Behavioural Territories in Man with Preliminary Analysis and Discussion of Meaning. Torsten Malmberg. Mouton, The Hague, 1980 (distributor, Walter de Gruyter, Hawthorne, N.Y.). xiv, 346 pp. Cloth, \$44.25; paper, \$17.75. New Babylon, 33.

Human Walking. Verne T. Inman, Henry J. Ralston, and Frank Todd. Jean C. Lieberman, Ed. Williams and Wilkins, Baltimore, 1981. xii, 154 pp., illus. \$25.

Hydrocarbons in Biotechnology. Proceedings of a meeting, Canterbury, England, Sept. 1979. D. E. F. Harrison, I. J. Higgins, and R. Watkinson, Eds. Published for the Institute of Petroleum by Heyden, Philadelphia, 1980. x, 202 pp., illus. \$31.50.

Hydrogen as an Energy Vector. A. A. Strub and G. Imarisio, Eds. Reidel, Boston, 1980 (distributor, Kluwer Boston, Hingham, Mass.). xii, 704 pp., illus. \$50.

Hydrogen Power. An Introduction to Hydrogen Energy and Its Applications. L. O. Williams. Perga-

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BOOKS RECEIVED

(Continued from page 1141)

mon, New York, 1980. x, 158 pp., illus. Cloth, \$25; paper, \$10.

Information Linkage between Applied Mathematics and Industry II. Arthur L. Schoenstadt, Frank D. Faulkner, Richard Franke, and I. Bert Russak, Eds. Academic Press, New York, 1980. xiv, 294 pp. \$20.

Innovation, Competition, and Government Policy in the Semiconductor Industry. Robert W. Wilson, Peter K. Ashton, and Thomas P. Egan. Lexington (Heath), Lexington, Mass., 1980. xvi, 226 pp., illus. \$21.95.

Inorganic Chemistry in Biology and Medicine. Papers from a symposium, Washington, D.C., Sept. 1979. Arthur E. Martell, Ed. American Chemical Society, Washington, D.C., 1980. viii, 436 pp., illus. \$39.50. ACS Symposium Series, 140.

Insect Thermoregulation. Papers from a symposium, Richmond, Va., Dec. 1978. Bernd Heinrich, Ed. Wiley-Interscience, New York, 1981. xii, 328 pp., illus. \$35.

Interdisciplinary Research Groups. Their Management and Organization. Papers from a conference, Schloss Reisenberg, Germany, Apr. 1979. Richard T. Barth and Rudy Steck. Interstudy, University of Washington, Seattle, 1980. x, 316 pp. Paper, \$15.

The Management of Information Systems. Kenneth L. Kraemer, William H. Dutton, and Alana Northrop. Columbia University Press, New York, 1981. xviii, 416 pp. \$25.

Masters Theses in the Pure and Applied Sciences. Vol. 24. Wade H. Shafer, Ed. Plenum, New York, 1980. xviii, 294 pp. \$75.

Mathematical Statistics and Its Applications. Richard J. Larsen and Morris L. Marx. Prentice-Hall, Englewood Cliffs, N.J., 1981. xii, 536 pp., illus. + appendix. \$22.95.

Mathematics for the Biological Sciences. From Graphs through Calculus to Differential Equations. J. C. Newby. Clarendon (Oxford University Press), New York, 1980. xvi, 320 pp., illus. Cloth, \$59; paper, \$27.

Microbiological Classification and Identification. M. Goodfellow and R. G. Board, Eds. Academic Press, New York, 1980. xiv, 408 pp., illus. \$46. Society for Applied Bacteriology Symposium Series No. 8.

Microcirculation. Vol. 3. Gabor Kaley and Burton M. Altura, Eds. University Park Press, Baltimore, 1980. xx, 532 pp., illus. \$65.

The Microelectronics Revolution. The Complete Guide to the New Technology and Its Impact on Society. Tom Forester, Ed. Basil MIT Press, Cambridge, Mass., 1981. xviii, 590 pp., illus. cloth, \$25; paper, \$12.50.

Microorganisms and Nitrogen Sources. Transport and Utilization of Amino Acids, Peptides, Proteins, and Related Substrates. J. W. Payne, Ed. Wiley-Interscience, New York, 1980. xiv, 870 pp., illus. \$135.

Molecular Electronic Structures. An Introduction. Carl J. Ballhausen and Harry B. Gray. Benjamin/Cummings Advanced Book Program, Reading, Mass., 1980. x, 134 pp., illus. \$14.50.

Nonlinear Waves in One-Dimensional Dispersive Systems. P. L. Bhatnagar. Clarendon (Oxford University Press), New York, 1979. xii, 142 pp., illus. \$22.50.

North American Urban Patterns. Maurice Yeates. Halsted (Wiley), New York, 1980. viii, 168 pp. \$27.95. Scripts Series in Geography.

Nuclear Medicine. A Comprehensive Bibliography. Compiled by Alberta D. Berton and assisted by K. Bernice Odum. IFI/Plenum, New York, 1980. vi, 352 pp. \$85. Biomedical Information Guides, vol. 2.

Nuclear Reactor Engineering. Samuel Glasstone and Alexander Sesonske. Van Nostrand Reinhold, New York, ed. 3, 1981. xviii, 806 pp., illus. \$39.50.

Nuclear-Cytoplasmic Interactions in the Cell Cycle. Gary L. Whitson, Ed. Academic Press, New York, 1980. xiv, 344 pp., illus. \$39.

Nucleic Acids Synthesis. Applications to Molecular Biology and Genetic Engineering. H. Köster, Ed. IRL (Information Retrieval Limited), New York, 1980. xii, 396 pp., illus. \$40.

Nutrition and Food Science. Present Knowledge and Utilization. Proceedings of a conference, Rio de Janeiro, Aug. 1978. Walter Santos, Nabuco Lopes, J. J. Barbosa, Dagoberto Chaves, and José Carlos Valente, Eds. Plenum, New York, 1980. Vol. 1, Food and Nutrition Policies and Programs. xiv, 808 pp., illus. \$65. Vol. 3, Nutritional Biochemistry and Pathology. xvi, 816 pp., illus. \$65.

Nutrition and Food Science. Present Knowledge and Utilization. Vol. 2, Nutrition Education and Food Science and Technology. Walter Santos, Nabuco Lopes, J. J. Barbosa, Dagoberto Chaves, and José Carlos Valente, Eds. Plenum, New York, 1980. xviii, 950 pp. \$79.50.

One World and Our Knowledge of It. The Prob-

lematic of Realism in Post-Kantian Perspective. Jay F. Rosenberg, Reidel, Boston, 1980 (distributor, Kluwer Boston, Hingham, Mass.). xvi, 210 pp. \$33.95. Philosophical Studies Series in Philosophy, vol. 23.

Operator Methods in Quantum Mechanics. Martin Schechter. North-Holland (Elsevier), New York, 1981. xxii, 324 pp. \$32.50.

Personal Construct Psychology. Psychotherapy and Personality. A. W. Landfield and L. M. Leitner, Eds. Wiley-Interscience, New York, 1980. xx, 330 pp. \$28. Wiley Series on Personality Processes.

Perspectives in Peptide Chemistry. A. Eberle, R. Geiger, and T. Wieland, Eds. Karger, Basel, 1981. xii, 444 pp., illus. \$87.

The Physics-Astronomy Frontier. Fred Hoyle and Jayant Narlikar. Freeman, San Francisco, 1980. xii, 484 pp., illus. + plates. \$19.95.

Physiology in Sleep. John Orem and Charles D. Barnes, Eds. Academic Press, New York, 1980. xiv, 348 pp., illus. \$32.50. Research Topics in Physiology, 3.

Plant Taxonomy and Biosystematics. Clive A. Stace. University Park Press, Baltimore, 1980. viii, 280 pp., illus. \$29.50.

Plasma Lipids. Optimal Levels for Health. Academic Press, New York, 1980. x, 188 pp., illus. \$15.

Sandstone Depositional Models for Exploration for Fossil Fuels. George deVries Klein. CEPCO/Burgess, Minneapolis, ed. 2, 1980. vi, 150 pp., illus. cloth, \$24.95; paper, \$18.95.

Scientific Considerations in Monitoring and Evaluating Toxicological Research. Edward J. Gralla, Ed. Hemisphere, Washington, D.C., 1981. xviii, 222 pp., illus. \$24.50. A CIIT Series.

A Scrapbook of Complex Curve Theory. C. Herbert Clemens. Plenum, New York, 1980. x, 186 pp., illus. \$22.50. The University Series in Mathematics.

Seafloor Spreading Centers. Hydrothermal Systems. Peter A. Rona and Robert P. Lowell, Eds. Dowden, Hutchinson and Ross, Stroudsburg, Pa., 1980 (distributor, Academic Press, New York). xviii, 426 pp., illus. \$45. Benchmark Papers in Geology, vol. 56.

Search Theory and Applications. Proceedings of an institute, Praia Da Rocha, Portugal, Mar. 1979. K. Brian Haley and Lawrence D. Stone, Eds. Plenum, New York, 1980. x, 278 pp., illus. \$35. NATO Conference Series II, vol. 8.

Seismic Stratigraphy. Robert E. Sheriff. International Human Resources Development Corporation, Boston, 1980. xii, 228 pp., illus. \$29.

Statistische Physik. Teil 2, Theorie des kondensierten Zustandes. E. M. Lifschitz and L. P. Pitajewski. Translated from the Russian edition (Moscow, 1978). Helmut Eschrig, Ed. Akademie-Verlag, Berlin, 1980. xiv, 390 pp. 28 M. Lehrbuch der theoretischen Physik, Band 9.

Strategies for Public Health. Promoting Health and Preventing Disease. Lorenz K. Y. Ng and Devra Lee Davis, Eds. Van Nostrand Reinhold, New York, 1981. x, 416 pp., illus. \$21.95.

Strong and Electromagnetic Interactions of Elementary Particles and Nuclei. N. B. Basov, Ed. Translated from the Russian edition by Harold H. McFaden. Consultants Bureau (Plenum), New York, 1980. viii, 206 pp., illus. Paper, \$45. The Lebedev Physics Institute Series, vol. 95.

A Structural Analysis of Complex Aerial Photographs. Makoto Nagao and Takashi Matsuyama. Plenum, New York, 1980. xxiv, 200 pp., illus. + plates. \$32.50. Advanced Applications in Pattern Recognition.

Syntax and Speech. William E. Cooper and Jeanne Paccia-Cooper. Harvard University Press, Cambridge, Mass., 1980. xii, 276 pp. \$21. Cognitive Science Series, 3.

Syntheses with Stable Isotopes of Carbon, Nitrogen, and Oxygen. Donald G. Ott. Wiley-Interscience, New York, 1981. x, 224 pp., illus. \$28.50.

Systems Engineering and Analysis. Benjamin S. Blanchard and Walter J. Fabrycky. Prentice-Hall, Englewood Cliffs, N.J., 1981. xii, 704 pp., illus. \$28.95. Prentice-Hall International Series in Industrial and Systems Engineering.

A Taxonomic Revision of the Genus *Origanum* (Labiatae). J. H. J. E. J. J. Leiden University Press, The Hague, 1980 (U.S. distributor, Kluwer Boston, Hingham, Mass.). xii, 154 pp., illus. \$31.60. Leiden Botanical Series, vol. 4.

Theoretical Approaches in Neurobiology. Based on a Work Session of the Neurosciences Research Program. Werner E. Riechardt and Tomaso Poggio, Eds. MIT Press, Cambridge, Mass., 1981. xii, 252 pp., illus. \$20.

Theoretical Orientations in Creole Studies. Proceedings of a symposium, St. Thomas, U.S. Virgin Islands, Mar. 1979. Albert Valdman and Arnold Highfield, Eds. Academic Press, New York, 1980. xii, 450 pp. \$29.50.

Theory and Applications of Stochastic Differential Equations. Zeev Schuss. Wiley, New York, 1980. xiv, 322 pp. \$25.95.

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ASSISTANT PROFESSOR, BIOLOGY

Full-time, tenure-track faculty position open for a versatile assistant professor of biology with advanced organismal physiology background and ability to teach genetics and pathophysiology to majors and health paraprofessional students.

A Ph.D. in biology and teaching experience preferred. Appointment date will be 31 August 1981. Send letter of application, detailed résumé, and names of three references by 26 June 1981 to:

Dianna B. Lammert
Director of Personnel
Maryville College-St. Louis
13550 Conway Road
St. Louis, Missouri 63141

ASSISTANT PROFESSOR OF PATHOLOGY to assume major service role in pediatric pathology program. Applicant should have M.D. with Boards in anatomic pathology and 4 years of postdoctoral training. Applicant is also expected to participate in department teaching and conduct own research program. Contact: **Stanley Inhorn, M.D., Department of Pathology and Laboratory Medicine, B6/344 Clinical Science Center, 600 Highland Avenue, Madison, Wisconsin 53792.**

Equal Opportunity/Affirmative Action Employer

ASSISTANT OR ASSOCIATE PROFESSOR OF PATHOLOGY POSITIONS available in The George Washington University Medical Center, Washington, D.C. Two full-time faculty positions are available for individuals with training and experience in academic pathology: (i) **hematopathologist** who will oversee hematology laboratory, and (ii) **anatomic pathologist** with experience to do experimental pathology and to assist in surgical pathology. Candidates should be M.D.'s with Board-certification or -eligibility. Send résumé to: **Dr. H. Sidransky, Chairman, Department of Pathology, The George Washington University Medical Center, 2300 Eye Street, NW, Washington, D.C. 20037.** *An Equal Opportunity Employer.*

UNIVERSITY OF SASKATCHEWAN DEPARTMENT OF PHYSIOLOGY

Applications are invited for an appointment as **ASSISTANT PROFESSOR OF PHYSIOLOGY.** Applicants must have an M.D., D.D.S., D.V.M., Ph.D., or equivalent qualifications with at least 2 years of postdoctoral experience. Research experience in one of the following areas is desirable: (i) cell physiology and biophysics, (ii) endocrinology, (iii) renal physiology and body fluids, or (iv) neurophysiology. The appointee will be required to teach undergraduate and graduate level classes and to conduct an independent research program.

Salary will be determined by experience. The base salary for an assistant professor is \$21,120 (1980-1981). Applications with curriculum vitae and the names of three referees should be sent to: **Dr. J. W. Phillips, Head, Department of Physiology, College of Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0.**

DEVELOPMENTAL BIOLOGY

Applications are invited for a career faculty position available 1 October 1981 in a research environment that stresses the common aspects of cancer and differentiation. Primary emphasis will be directed at appointing an outstanding individual, preferably NIH-funded, who has demonstrated exceptional productivity and originality in research at the postdoctoral or junior faculty level. Secondary emphasis will be given those applicants with interests in transformation genes and their products or the analysis of a differentiation system using gene cloning technology. Send curriculum vitae and the names of at least three references to:

Search Committee
La Jolla Cancer Research Foundation
2945 Science Park Road
La Jolla, Calif. 92037

An Equal Opportunity Employer

POSITIONS OPEN

University of Michigan Medical School, Department of Microbiology and Immunology, invites applications for a full-time, tenure-track appointment in the area of molecular virology at the **ASSISTANT/ASSOCIATE PROFESSOR** level available during the 1981-1982 academic year. Individuals must hold the Ph.D. or equivalent degree, should have postdoctoral experience in molecular virology, and be expert in modern techniques for analyzing viruses and virus/cell interactions. We primarily seek someone interested in the molecular biology of RNA viruses although molecular studies of other viruses will not necessarily be excluded. The position requires the ability to conduct substantive, independent research and to participate in the medical and graduate teaching programs of the department. Applicants should send curriculum vitae, a description of research interests and long term goals, and names of three to six references to: **Dr. William Murphy, Department of Microbiology and Immunology, University of Michigan Medical School, 6643 Medical Sciences Building II, Ann Arbor, Mich. 48109.** Application deadline: 1 July 1981. *A nondiscriminatory, Affirmative Action Employer. We are particularly interested in qualified female and minority applicants.* Code 16DO-26FO.

University of Michigan Medical School, Department of Obstetrics and Gynecology, is seeking a full-time **DIRECTOR OF THE DIVISION OF OBSTETRICS.** The director must be able to supervise a program of patient care, teaching, and research centered in Women's Hospital in Ann Arbor. Women's Hospital is a regional, tertiary care center with a large percentage of patients having high-risk pregnancies. The department has 29 residents, 17 full-time faculty, and 32 community-based clinical associate faculty. The candidate must be Board-certified in maternal-fetal medicine. Salary and academic rank are commensurate with training and experience. Please direct inquiries and curriculum vitae to: **Alan E. Beer, M.D., Professor and Chairman, Department of Obstetrics-Gynecology, Women's Hospital, Room L2122, University of Michigan Medical Center, Ann Arbor, Mich. 48109.** *A nondiscriminatory, Affirmative Action Employer.* Code 20FO.

University of Michigan Medical School, Simpson Memorial Research Institute and Department of Internal Medicine, Division of Hematology/Oncology, has as an academic position available for a **HEMATOLOGIST OR ONCOLOGIST** with clinical expertise in the subspecialty of hematology/oncology, with an active research program. Position available 1 January 1982. Please send curriculum vitae and letter outlining areas of research interest to: **Albert F. LoBuglio, M.D., 102 Observatory Street, Simpson Memorial Institute, Ann Arbor, Mich. 48109.** *A nondiscriminatory, Affirmative Action Employer.* Code 84DO.

University of Michigan Medical School, Department of Internal Medicine, has **THREE ACADEMIC APPOINTMENTS** available at the level of **INSTRUCTOR/ASSISTANT PROFESSOR.** Applicant must be Board-certified/eligible in internal medicine. Responsibilities will include attending rounds on the Internal Medicine Service and supervision of internal medicine clinics. Ability to effectively instruct house officers and students essential. Research opportunities available. Duties are to be performed at nine University of Michigan-affiliated hospitals. Send curriculum vitae (first inquiry) to: **R. R. Joseph, M.D., Professor and Director, Department of Internal Medicine, Wayne County General Hospital, 2345 Merriman, Westland, Mich. 48185.** *A nondiscriminatory, Affirmative Action Employer.* Code 291DO, 292DO, 293DO.

University of Michigan Medical School, Department of Pathology, is seeking a **PATHOLOGIST** (Board-certified or -eligible) for an academic position that will involve responsibility for service activities (particularly clinical pathology laboratories). There will be opportunities for teaching activities related to medical students and residents. There will also be opportunities to become involved in research activities related to immunopathology. Appointment in this position at the Veterans Administration Hospital will carry a full academic title in the Department of Pathology and the Medical School. Candidates should contact: **Peter A. Ward, M.D., Professor and Chairman, Department of Pathology, M5240 Medical Sciences Building I, University of Michigan Medical School, Ann Arbor, Mich. 48109,** telephone: 313-763-6384; OR **Lee A. Weatherbee, M.D., Veterans Administration Hospital, 2215 Fuller Road, Ann Arbor, Mich. 48109,** telephone: 313-769-7100, extension 357. *A nondiscriminatory, Affirmative Action Employer.* Code 50FO.

POSITIONS OPEN

University of Michigan Medical School, Department of Internal Medicine, has an **ACADEMIC APPOINTMENT** available in the Section of Cardiology at the rank of **INSTRUCTOR/ASSISTANT PROFESSOR.** Applicant must be Board-certified/eligible in internal medicine and in staffing the cardiovascular laboratory and coronary care unit. Applicant is also expected to assist in internal medicine rounds and the instruction of house officers and students. Duties are to be performed at the University of Michigan-affiliated hospital. Invasive experience preferred. Send curriculum vitae (first inquiry) to: **R. R. Joseph M.D., Professor and Director, Department of Internal Medicine, Wayne County General Hospital, 2345 Merriman Road, Westland, Mich. 48185.** *A nondiscriminatory, Affirmative Action Employer.* Code 290DO.

BIOLOGICAL RESEARCH SCIENTIST

Stauffer Chemical Company is seeking applications for positions in our biological research group.

PLANT BIOCHEMIST

Applicants should have a Ph.D. or equivalent in plant biochemistry or a related field. Preference will be given to those applicants with interest and experience in plant metabolism and plant cell culture.

We offer a competitive salary and fringe benefits package in addition to an attractive San Francisco Bay location. If you are interested in an opportunity with Stauffer, send your confidential résumé, statement of research interests and experience, and names of three references to: **D. A. Walker, Personnel Manager, Stauffer Chemical Co., 1200 South 47 Street, Richmond, Calif. 94804.** *Stauffer is an Affirmative Action/Equal Opportunity Employer.*

BIOLOGICAL RESEARCH SCIENTIST

Stauffer Chemical Company is seeking applications for positions in our biological research group.

PLANT MOLECULAR BIOLOGIST

Applicants should have a Ph.D. or equivalent in molecular biology or a related field with experience in cloning techniques. Preference will be given to those candidates who have experience and interest in yeast, higher plants, or transposons. The position involves working with plant systems.

We offer a competitive salary and fringe benefits package in addition to an attractive San Francisco Bay location. If you are interested in an opportunity with Stauffer, send your confidential résumé, statement of research interests and experience, and names of three references to: **D. A. Walker, Personnel Manager, Stauffer Chemical Co., 1200 South 47 Street, Richmond, Calif. 94804.** *Stauffer is an Affirmative Action/Equal Opportunity Employer.*

MICROBIAL GENETICIST

Stauffer Chemical Company is seeking applications for a microbial geneticist position in our biological research group located in Richmond, California. Applicants will be considered at the Ph.D. level. Expertise in genetic manipulations by transduction, transformation, conjugation, and the use of transposons required. It is desirable for the applicant to have some experience in manipulation of plasmid cloning vectors in Gram-positive organisms.

We offer a competitive salary and fringe benefits package in addition to an attractive San Francisco Bay location. If you are interested in an opportunity with Stauffer, send your confidential résumé, statement of research interests and experience, and names of three references to: **D. A. Walker, Personnel Manager, Stauffer Chemical Co., 1200 South 47 Street, Richmond, Calif. 94804.** *Stauffer is an Equal Opportunity/Affirmative Action Employer.*

MOLECULAR BIOLOGIST

Stauffer Chemical Company is seeking applications for a molecular biologist position in our biological research group. The position is located in recently constructed laboratories in Richmond, California. Applicants should have a Ph.D. with postdoctoral experience. The successful candidate should have hands-on experience with isolation of eukaryotic messenger RNA and the preparation of cDNA and cloning into prokaryotic host-vector systems.

We offer a competitive salary and fringe benefits package in addition to an attractive San Francisco Bay location. If you are interested in an opportunity with Stauffer, send your confidential résumé, statement of research interests and experience, and names of three references to: **D. A. Walker, Personnel Manager, Stauffer Chemical Company, 1200 South 47 Street, Richmond, Calif. 94804.** *Stauffer is an Equal Opportunity/Affirmative Action Employer.*

AQUATIC ANIMAL DISEASE POSITIONS

The Department of Animal Science and the School of Veterinary Medicine, University of California, Davis, have two vacancies (teaching/research positions with joint appointments) in aquatic animal disease.

- 1) **Bodega Marine Laboratory** appointment (assistant/associate professor of animal science and School of Veterinary Medicine). A Ph.D. or its equivalent and experience with aquatic animal diseases, preferably in some aspect of pathology or microbiology, is required. Appointee will: (i) develop a research program on diseases important to marine fisheries and aquaculture; (ii) develop a collaborative teaching program for undergraduates and graduates; and (iii) assist in disease diagnostic service to commercial culturists.
- 2) **Davis Campus** appointment (assistant professor of medicine, preferred, in the School of Veterinary Medicine and Animal Science Department). A postgraduate degree with advanced training and experience in comparative medicine, preferably in some aspect of aquatic animal pathology or microbiology, is required. A D.V.M. is desirable. Appointee will: (i) teach aquatic animal medicine and develop a clinical teaching practice; (ii) develop a graduate student program; (iii) develop a research program with aquatic animals significant to fisheries and aquaculture; and (iv) provide disease diagnostic service to commercial culturists.

Applicants for these two positions should submit their curriculum vitae, bibliographies, transcripts, reprints, and names and addresses of at least three persons familiar with their work to: **Aquaculture Program, Department of Animal Science, University of California, Davis, Calif. 95616**, by 19 June 1981, to be assured consideration.

In compliance with federal and state laws and university policy, the University of California does not discriminate on the basis of race, color, national origin, religion, sex, handicap, age, or against disabled veterans or veterans of the Vietnam era. The University of California is an Affirmative Action/Equal Opportunity Employer.

MEDICAL RESEARCH COUNCIL RADIOBIOLOGY UNIT DIRECTOR

The Medical Research Council (MRC) invites applications for the appointment of director of the Radiobiology Unit on the retirement of the present director, Dr. J. Vennart.

The person appointed must have an established reputation as a scientific investigator, be able to develop the Unit's research programme, and have the ability to manage and coordinate the activities of a multidisciplinary team.

Research facilities will continue to be provided in the Unit's present accommodation which is located at Harwell, Didcot, Oxfordshire. There are at present about 30 scientists, with appropriate support staff, undertaking the Unit's current programme of research which encompasses studies of the action of ionizing radiation and chemical mutagens on living tissue. The new director should be able to put forward appropriate research proposals including his or her own personal interests. The precise scope and emphasis of the future programs will be a matter for discussion between the new director and the Council.

An appointment to the Council's staff will be in accordance with the Council's terms and conditions of service and superannuation provision under the MRC pension scheme. The salary will be within the Council's special appointments grade which is equivalent to the Universities' professorial range.

Applications in the form of a short statement (not exceeding 500 words) outlining in general terms the scientific programme which the applicant would propose for the future, together with curriculum vitae, list of publications, and the names of three referees should be submitted not later than 3 August 1981 to: **The Secretary, Medical Research Council, 20 Park Crescent, London W1N 4AL England**. This post is open to male and female applicants.

Additional information, including details of the present programme of the Unit, may be obtained from Dr. D. Dunstan at the same address.

GENETIC TOXICOLOGIST

BURROUGHS WELLCOME CO., a progressive pharmaceutical company located in Research Triangle Park, N.C. and having close research contact with three major universities, has an immediate opening for a Genetic Toxicologist.

Qualified individual should be able to independently perform, evaluate and report for regulatory and/or publication purposes on microbial mutagenicity studies (Ames tests; microbial repair tests). Other responsibilities include assisting other personnel in the performance of mammalian cell mutagenesis and *in vivo* and *in vitro* cytogenetic assays and performing independent research.

Qualified candidates must have a M.S. in the biological sciences or equivalent experience, and expertise in the above areas of responsibility. Tissue culture background and an emphasis on microbial techniques are required. Experience in preparation of samples for cytogenetic studies and ability in or willingness to learn cytogenetic analysis are highly desirable.

Interested candidates should forward a curriculum vitae to the address below, or call (919) 541-9090, ext. 4649.



Wellcome

An Equal Opportunity/Affirmative Action Employer

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

ASSOCIATE DIRECTOR New Compound Evaluation

SmithKline, a leading multinational health-care firm is seeking an Associate Director, New Compound Evaluation, R & D licensing, for its world wide pharmaceutical business.

We require an individual with a PhD in one of the biological sciences. This individual should have broad training/experience in several therapeutic areas and a strong background in drug discovery and evaluation in a multidisciplinary setting. The successful candidate should have at least 5 years of relevant post-doctoral experience and must be capable of critically assessing pre-clinical and clinical data on potential compound acquisitions. Demonstrated, independent decision-making and problem solving abilities as well as excellent communications and interpersonal skills are required.

This person will be responsible for the establishment of effective scientific liaison with potential license source, and the identification and overall technical evaluation of compound acquisition candidates. About 25% international travel required.

We offer an excellent compensation and benefits package and an opportunity for professional advancement. Please send resume in confidence to:

William G. Groves, **SMITHKLINE CORPORATION**,
1502 Spring Garden Street,
Philadelphia, PA 19101.

We are an equal opportunity employer,
M/F/H/V

**SmithKline
CORPORATION**

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

UNIVERSITY OF CALIFORNIA, DAVIS

Inquiries are invited from qualified applicants for **FACULTY POSITIONS** (tenure-track) available in these areas:

Environmental physiology and endocrinology of domestic avian species; Department of Avian Sciences. Closing 15 September 1981.

Plant genetics (open to full professor rank), Department of Vegetable Crops. Ph.D. in genetics or discipline related to plant science; research experience in genetics. Closing 15 August 1981.

Postharvest physiology, Department of Vegetable Crops. Ph.D. in plant physiology, horticulture, biochemistry, or other related disciplines, and a background in plant science. Closing 18 September 1981.

Irrigation engineering, Department of Land, Air and Water Resources and Agricultural Engineering. Ph.D. in engineering or related field with strong background in irrigation and hydrodynamics, and competence in design and performance of on-farm irrigation systems. Closing 15 July 1981.

Animal science (stationed at Imperial Valley Field Station, El Centro, California). Research emphasis on nutrition and management of feedlot cattle. Department of Animal Science, Davis. Closing 1 August 1981.

These positions are to be filled at the assistant professor, 11-month salary level (unless other rank is indicated above). The positions have responsibilities for both teaching and research (in the Agricultural Experiment Station). Candidates should have a Ph.D. in an appropriate field and teaching and research experience. Applicants should submit résumé, transcripts (if within 5 years of graduation), and the names and addresses of at least three persons familiar with the applicant's qualifications to: **Department Chair (Department Name), University of California, Davis, Calif. 95616**. Please indicate the position in which you are interested. To be certain of being considered, the completed application should be received by date indicated above for each position. *In compliance with federal and state laws and university policy, the University of California does not discriminate on the basis of race, color, national origin, religion, sex, handicap, age, or against disabled veterans or veterans of the Vietnam era. The University of California is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

BIOGEOCHEMIST OR ORGANIC GEOCHEMIST. Research assistant professor with interest in organic matter cycling in coastal sediment systems as part of interdisciplinary group. Academic year appointment with opportunity for renewal of funding. Résumé, names of three references, and letter of research interests by 1 July to: **L. Mayer, Ira C. Darling Center, University of Maine at Orono, Walpole, Maine 04573.**

MARINE ECOLOGIST, with interest in herbivore-plant interactions, to investigate fragmentation of macro-algae as a source of particulate organic matter to the benthos. Academic year appointment at research assistant professor level, with opportunity for reappointment. Résumé, names of three references, and letter of research interests by 1 July to: **L. Watling, Ira C. Darling Center, University of Maine at Orono, Walpole, Maine 04573.**

Equal Opportunity/Affirmative Action Employer

CHAIR OF ASTRONOMY THE AMERICAN MUSEUM OF NATURAL HISTORY HAYDEN PLANETARIUM

The American Museum-Hayden Planetarium is seeking a chairman/chairwoman to have overall managerial and programmatic responsibility for the operation of its 660-seat planetarium. Candidates should have a strong, suitable background in some combination of the following: astronomy and physical science, science education, museum management, planetarium operation, and proven administrative ability. A doctoral degree or equivalent in training or experience is required.

Responsibilities include program development, coordination, and scheduling; budget preparation and management; and supervision of educational, physical, and daily business operations.

Send curriculum vitae and references to:

Jerome G. Rozen, Jr.
Deputy Director for Research
American Museum of Natural History
Central Park West at 79th Street
New York, N.Y. 10024

All applications must be received by 1 July 1981.

An Equal Opportunity/Affirmative Action Employer

CHAIRPERSON—DEPARTMENT OF NEUROLOGICAL SURGERY

Applications are invited from candidates having research, clinical, and administrative experience in neurosurgery. *The University of Washington is an Affirmative Action/Equal Opportunity Employer.* Applications accompanied by curriculum vitae and full list of publications should be addressed to: **H. D. Patton, Search Committee Chairman, Department of Physiology and Biophysics, University of Washington School of Medicine SJ-40, Seattle, Washington 98195**, not later than 1 October 1981.

CHEMISTRY

One tenure-track position beginning September 1981. Rank and salary open. Position involves undergraduate and graduate teaching and development of active research programs in analytical, organic, or physical chemistry. Ph.D. degree required; teaching and/or postdoctoral experience desirable. Send résumé, an original copy of graduate transcript, and three letters of reference to: **Dr. Bruce N. Storhoff, Chairman, Department of Chemistry, Ball State University, Muncie, Ind. 47306.** Applications must be postmarked by 1 July 1981.

In addition to satisfactory performance, various factors, such as staffing needs and budgetary requirements, may influence tenure recommendations.

Ball State University practices Equal Opportunity in Education and Employment.

ELECTRON MICROSCOPY ASSISTANT—Supervisor for Electron Microscopy Facility in the Department of Anatomy, Colorado State University (CSU). Duties include: laboratory instruction in two major EM courses that include TEM, freeze-fracturing, SEM, autoradiography, and immunocytochemistry; maintenance of the TEM and ancillary equipment; and maintaining an inventory of EM supplies. Four years of diversified EM experience required. Proposed salary range: \$19,560 to \$22,656 as of 1 July 1981, depending on qualifications. Ph.D. desirable. Apply to: **Personnel Services, Room 120, Student Services Building, Colorado State University, Fort Collins, Colorado 80523.** *CSU is an Equal Opportunity/Affirmative Action Employer. Equal Opportunity Office: 314 Student Services Building.*

POSITIONS OPEN

The Ohio State University invites applications for the position of **DIRECTOR—ACADEMIC COMPUTING**. The director is responsible for overall management of academic computing facilities and coordination of data processing operations of the University's instruction and research activities. Ph.D. degree and extensive knowledge of the computer field are required as well as 5 years of appropriate experience. Salary is negotiable. Application deadline is 30 June. Send inquiries to:

Dr. Dorothy Jackson
Associate Provost
Office of Academic Affairs
The Ohio State University
190 North Oval Mall
Columbus, Ohio 43210

An Equal Opportunity/Affirmative Action Employer

DIRECTOR OF PRODUCTION BIOMEDICAL

Flow Laboratories, Inc., a major supplier of biomedical reagents, equipment, and labware to biomedical and research laboratories, has an immediate opening for a director of production for our U.S. operations.

We are seeking a successful, experienced, results-oriented biological production manager with good motivational and management skills and a minimum of 5 years of experience in the life science field.

If you are interested in joining a rapidly growing company in the biomedical field, send your résumé in confidence to:

Personnel Manager
FLOW LABORATORIES, INC.
7655 Old Spring House Road
McLean, Va. 22102

An Equal Opportunity Employer, M/F/V/H

EDUCATIONAL-RESEARCH COORDINATOR

The Huntsman Marine Laboratory (HML) invites applications for the position of educational-research coordinator.

The HML is a consortium of 17 universities and several government and private sector agencies.

Applicants should have a postgraduate degree in marine biology or an allied discipline. Experience at marine biological laboratories, field stations, and aboard research vessels is essential. Administrative experience with teaching and research programs is also required.

Salary and starting date are negotiable but it is hoped that the position could be filled by 31 July 1981.

Applicants should submit curriculum vitae and references to:

Dr. W. B. Scott, Executive Director
Huntsman Marine Laboratory
St. Andrews, New Brunswick, Canada E0G 2X0

FACULTY POSITIONS IN PHARMACOLOGY UNIVERSITY OF CALIFORNIA, IRVINE

Applications are invited for two tenure-track or tenured faculty positions in cardiovascular pharmacology and neuropharmacology. Candidates should be outstanding scholars and investigators with research interests at the molecular level and with demonstrated commitment to medical and graduate education. A Ph.D. in pharmacology, biochemistry, or a related area, or M.D. is required. Level of appointment and salary will be commensurate with achievement and experience.

Curriculum vitae, references, and a summary of research interests should be sent before 15 July 1981 to: **Dr. Larry Stein, Chairman, Department of Pharmacology, College of Medicine, University of California, Irvine, California 92717.** *The University of California is an Equal Opportunity Employer.*

UNIVERSITY OF OKLAHOMA COLLEGE OF MEDICINE

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

PHYSIOLOGY (Number 292)—Associate professor. Teaching of medical, dental, graduate, and undergraduate students. Expected to develop an active, independent research program. Must have Ph.D. or M.D. degree and at least 2 years of postdoctoral experience in cardiovascular physiology. Closing date: 1 July 1981.

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

POSITIONS OPEN

EXTRAGALACTIC ASTRONOMER Arizona State University

Applicants with a specialty in observational extragalactic astronomy are being sought to fill a position as **visiting assistant professor** for the year 1981-1982 with a possibility of a second year. Experience in the use of large telescopes and data reduction is required. The astronomer filling the position will be expected to participate in the development of an Image Processing Laboratory. Submit résumé and have three letters of reference sent to:

Dr. Susan Wyckoff
Physics Department
Arizona State University
Tempe, Ariz. 85281

Telephone: 602-965-2223 or 3561

Deadline for applications is 23 June 1981. *Arizona State University is an Affirmative Action/Equal Opportunity Employer.*

Tufts University School of Veterinary Medicine, Department of Environmental Studies, is seeking applicants and nominations for a **FACULTY POSITION IN WILDLIFE MEDICINE**. The ideal candidate will: have a D.V.M. or equivalent; be Board-eligible or Board-certified in internal medicine or surgery; and have a strong research record, enthusiasm for teaching, experience with a variety of wildlife species, and demonstrated ability to communicate and cooperate with professional wildlife managers and ecologists.

The successful candidate will: play a key role in development of the Wildlife Health Resources Center to be located at the 634-acre Grafton campus, staff a wildlife clinic for the treatment and rehabilitation of native wildlife, conduct research as part of a team (including a veterinary pathologist) on wildlife issues, develop progressive teaching programs in wildlife medicine, and provide continuing education to veterinary and lay wildlife rehabilitators throughout New England. The individual chosen to fill this position will be a professional with creativity, vision, drive, and diplomacy.

Applicants should submit curriculum vitae; names, addresses, and telephone numbers of several references; and a brief statement on the role of veterinary medicine in wildlife ecology. Mail applications to: **Albert M. Jonas, D.V.M., Acting Chairperson, Department of Environmental Studies, Tufts University School of Veterinary Medicine, 203 Harrison Avenue, Boston, Massachusetts 02111.**

Salary and rank commensurate with experience.

Tufts University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION/MICROBIOLOGIST. Assistant professor, tenure-track. Available 15 August 1981. Ph.D. in microbiology required. Applicants should have a broad background in microbiology. Teaching responsibilities include general microbiology (primary responsibility), introductory biology laboratories for majors and nonmajors, and advanced microbiology courses (general mycology and parasitology desirable). Preference will be given to candidates with demonstrated teaching effectiveness and scholarly productivity. Applicants should send their curriculum vitae, a brief but detailed description of research interests, and three letters of recommendation to: **Dr. V. Jean Wainscott, Microbiology Search Committee, Department of Biological Sciences, Northern Kentucky University, Highland Heights, Kentucky 41076.** Telephone: 606-572-5301 or 572-5110. Deadline for applications is 1 July 1981. *Northern Kentucky University is an Affirmative Action/Equal Opportunity Employer and actively seeks the candidacy of minorities and women.*

HUMAN ECOLOGISTS. The Human Ecology Discipline at the University of Texas School of Public Health at Houston invites applications for a tenure-track appointment at the assistant, associate, or full professor rank, available fall 1981. Available, also, is a 1-year visiting professorship. Candidates for either position must have a Ph.D. or M.D. degree, well-defined interests in man-environment interactions and their effects on human health, an active record of original research, and a strong commitment to graduate education. The ability to organize and conduct multidisciplinary research, teaching, or assistance programs is an essential qualification. Applicants should send current curriculum vitae and copies of recent representative reprints, with an indication of position and rank desired, and the names of at least three references to: **Dr. Gene D. Schroder, University of Texas School of Public Health, P.O. Box 20186, Houston, Texas 77025.** *An Equal Opportunity/Affirmative Action Employer.*



THE
UNIVERSITY
OF CALGARY

ASSISTANT PROFESSOR IN AQUATIC ECOLOGY

Applications are invited for a two-year term appointment to commence 1 September 1981. Ph.D. required, postdoctoral experience preferred. To teach undergraduate courses in Aquatic Ecology and General Ecology and to participate in a research programme in Aquatic Ecology. Salary in the range \$21,752 – 28,451 (under review).

Applicants are requested to provide an up-to-date curriculum vitae, a brief statement of their teaching expertise and research interests, and the names of three referees. Deadline for receipt of completed applications is 15 June 1981 by Dr. R.W. Davies, Department of Biology, The University of Calgary.

2500 University Drive N.W.,
Calgary, Alberta, Canada T2N 1N4

Sr. Research Autonomic Pharmacologist

Merck Sharp & Dohme Research Laboratories, headquartered in Rahway, New Jersey, has a position available in our Immunopharmacology Department for a Senior Research Autonomic Pharmacologist. The candidate we are seeking must possess a PhD or equivalent in Pharmacology supported by 1-5 years experience in in-vivo model development. A record of scientific and academic achievement in physiology is desirable.

Primary responsibilities will be to develop and establish small and large in-vivo animal models in support of our research efforts in the area of inflammation. Supervision of junior scientific personnel is also involved.

Salary, benefits, and growth potential are excellent. Send resume to Mrs. S. R. Jenkins, Merck & Co., Inc., P.O. Box 2000, Dept. S-4, Rahway, New Jersey 07065. An equal opportunity employer m/f.



MERCK & CO., INC.

Associate Scientist With/Without Tenure

(WHOLE ANIMAL PHYSIOLOGIST)

The Woods Hole Oceanographic Institution is seeking an experienced Whole Animal Physiologist to join the biology staff in a tenure track position. Applicant should be several years beyond the Ph.D. and should have worked with marine animals in areas such as: effects of hydrostatic pressure on respiration or behavior; nutrition of oceanic animals; sensory physiology of fish, crustacea and/or cephalopods; flotation mechanisms in marine animals. Applicants must have demonstrated ability to design, fund, and carry out basic research programs and should have at-sea research experience on large ships. Participation in the joint M.I.T./W.H.O.I. Ph.D. program, either teaching or directing graduate students is expected. Appointment level and salary will depend on the experience of the successful applicant.

Resume, summary of research plans, and names of at least 5 references should be sent to:

Department Chairman
Biology Department, Box 54P

Woods Hole
Oceanographic Institution

Woods Hole, MA 02543

An equal opportunity employer M/F/H



THE
UNIVERSITY
OF CALGARY

VISUAL PHYSIOLOGY

Applications are invited for a junior faculty position in NEUROPHYSIOLOGY OF VISION in The University of Calgary Faculty of Medicine. This person will work in affiliation with the Neurosciences Research Group and the Lions' Sight Centre and will be considered for appointment in the Departments of Anatomy and Medical Physiology. Applications from investigators of retinal and central synaptic pathways and mechanisms of colour vision will be especially welcome. Candidates will be eligible to apply for Scholarships of the Alberta Heritage Foundation for Medical Research, which will support salary and initial research costs. Send curriculum vitae, summary of research interests, reprints, and names of three references to:

Dr. William K. Stell
Professor & Head
Department of Anatomy
Faculty of Medicine
The University of Calgary
3330 Hospital Drive N.W.
Calgary, Alberta, Canada T2N 4N1
Tel. (403) 284-6898

POSITIONS OPEN

HUMAN CYTOGENETICIST. Tenure-track position available September 1981. Ph.D. required. Responsible for operation of clinical cytogenetics laboratory, undergraduate and graduate teaching, and research. Submit curriculum vitae and names of three references to: **Dr. Karen Yarbrough, University of Southern Mississippi, Southern Station, Box 5165, Hattiesburg, Mississippi 39401.** *The University of Southern Mississippi is an Equal Opportunity/Affirmative Action Employer.*

MEDICAL MICROBIOLOGY—ASSISTANT PROFESSOR. We are seeking a full-time faculty member with expertise in the area of medical laboratory microbiology. Major teaching duties include responsibility for the Microbiology Laboratories for sophomore medical students and a graduate course in medical laboratory microbiology. Candidates are expected to have a Ph.D. or equivalent with postdoctoral experience, and a strong research background. Should be able to develop an independent research program preferably in an area at the interface between the basic and applied aspects of medical microbiology. The position carries with it the opportunity to train graduate students and to assist in the administration of our postdoctoral training program in clinical microbiology and M.S. program in medical technology (microbiology). Please send a résumé and the names of three references to: **Chairperson, Medical Microbiologist Search Committee, Department of Microbiology and Immunology, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, Pa. 19140.** *An Equal Opportunity/Affirmative Action Employer.*

MICROBIOLOGIST

Search reopened. Rank of assistant professor. Salary competitive. Position available 1 September 1981 or 1 January 1982. Teaching responsibilities include immunology, microbiology for science majors, and microbiology for pre-nursing students, all at undergraduate level. Research in area of microbiology not biochemistry. Ph.D., teaching ability, active research record, broad training in biology, and knowledge of clinical microbiology essential.

Send résumé, copies of representative recent publications, and a list of references with telephone numbers before 1 July 1981 to: **Dr. Richard Dapson, Department of Biology, University of Michigan-Flint, Flint, Mich. 48503.** Former applicants need not apply.

The University of Michigan-Flint, established in 1956, is an urban regional unit of The University of Michigan, located on a new campus which is being built in the city. Enrollment is approximately 4000 students in the College of Arts and Sciences, School of Management, and program in Nursing, and another 1000 in extension or graduate classes.

The University of Michigan-Flint is a nondiscriminatory, Affirmative Action Employer.

UNIVERSITY OF UMEÅ Molecular Cell Biologist

Two applicants are invited for a 2-year appointment as postdoctoral fellow.

We are looking for imaginative scientists with an active interest in molecular biology to have experience in control and expression of genes including recombinant DNA technology.

The appointed persons will work in association with molecular biologists, cellular immunologists, and cell biologists engaged in basic and applied research. The laboratory facilities are excellent and include the technical equipment required for DNA and cell culture work.

A salary of about 90,000 Swedish Crowns (about U.S. \$20,000) will be paid per annum.

Applications with curriculum vitae and the names and addresses of two referees should be sent to: **Dr. Erik Lundgren, The Unit of Applied Microbiology, University of Umeå, S-901 87 Umeå, Sweden.**

Expiring date for applications is 17 July 1981.

MOLECULAR GENETICIST—Assistant professor in the Agronomy Department, University of Kentucky, Lexington. Research and teaching in the area of biochemical/molecular genetics of agronomic plants. A 12-month, tenure-track position. A Ph.D. in genetics or biochemistry required. Retirement, vacation, insurance, and medical benefits available. Application deadline: 1 August 1981. Résumé, transcripts, and letters of recommendation should be sent to: **Dr. A. J. Hiatt, Chairman, Agronomy Department, University of Kentucky, Lexington, Kentucky 40546.** Telephone: 606-258-2631.

POSITIONS OPEN

MAX-PLANCK-INSTITUT FÜR BIOLOGISCHE KYBERNETIK. Positions in **NEUROANATOMY AND NEUROPHYSIOLOGY** of cerebral cortex available.

Dr. V. Braitenberg and Dr. J. Rauschecker
Spemannstrasse 38
D-7400 Tübingen
West Germany

PHARMACOLOGIST

Opportunity to become assistant professor of pharmacology. Candidates must have a doctorate degree with 1 or 2 years of postdoctoral training in pharmacology and must demonstrate a capacity for independent research, which will have a high probability of attracting external financial support. Some teaching experience is desirable since the position requires participation in all teaching programs of the department, including programs for medical, dental, and graduate students. The college is located on a modern, 50-acre new campus in Newark, New Jersey, and is in proximity to a wide variety of living styles. Many opportunities are available in the geographic area for academic and scientific interactions. Send curriculum vitae, including the names of three references, to: **Dr. George A. Condouris, Professor and Chairperson, Department of Pharmacology, COLLEGE OF MEDICINE AND DENTISTRY OF NEW JERSEY, 100 Bergen Street, Newark, N.J. 07103.** *An Equal Opportunity/Affirmative Action Employer.*

PLANT BREEDER-GENETICIST. Assistant scientist, 1 September 1981. Full-time research on increasing wheat yields by improving CO₂ assimilation and partitioning of photosynthate, and cooperative work on mutants with regulated photorespiration to obtain superior photosynthesis. Ph.D. with training and interest in wheat breeding. Send biography and names of three references to: **Dr. I. Zelitch, Head, Department of Biochemistry and Genetics, Connecticut Agricultural Experiment Station, P.O. Box 1106, New Haven, Conn. 06504.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW. Ph.D. position in reproductive endocrinology available immediately to study endocrine regulation of the menstrual cycle in nonhuman primates. Starting salary: \$13,500 per year for 2- to 3-year period. Send curriculum vitae and three letters of recommendation by 15 July 1981 to: **Dr. John A. Resko, Department of Physiology, University of Oregon Health Science Center, Portland, Oregon 97201.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately for study of membrane transport in bacterial and animal cells. Areas of interest include genetic, biochemical, and physiological approaches to analysis of ion coupled transport, including ATPases and substrate cotransport. Send letter with curriculum vitae and names of references to: **Peter C. Maloney, Department of Physiology, Johns Hopkins Medical School, Baltimore, Maryland 21205.**

POSTDOCTORAL POSITION/RESEARCH ASSOCIATE POSITION in experimental immunopathology available summer 1981. Areas of research include in vivo and in vitro studies of inflammation associated with tissue damage, using experimental models of environmental lung disease as model systems. Emphasis is placed on both humoral and cellular immune effector systems, including their pharmacologic regulation. Interested individuals are asked to send a résumé, a brief statement of interests and goals, and the names of two references to: **Dr. William F. Willoughby, Department of Pathology, The Johns Hopkins Hospital, Baltimore, Md. 21205.**

POSTDOCTORAL POSITIONS available for study of mechanisms of linear DNA replication. Send curriculum vitae and names of two references to: **Dr. Junetsu Ito, Department of Molecular and Medical Microbiology, College of Medicine, The University of Arizona, Tucson, Arizona 85724.** *An Equal Opportunity/Affirmative Action Employer*

POSTDOCTORAL POSITION available immediately for research on: microfilamentous-microtubular rotary motor, membrane fluidity, control of ciliary motion, or mechanosensory transduction. Projects use the protozoan "Rubberneckia" and ctenophores. Experience in biochemistry, light and electron microscopy, or electrophysiology desirable. Salary: \$14,500 or higher. Send application to: **Dr. Sidney L. Tamm, Boston University Marine Program, Marine Biological Laboratory, Woods Hole, Mass. 02543.** *Boston University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION available for 2 years in muscle biochemistry to study the regulatory role of the L₂ myosin light chain in vertebrate-striated muscle. Research experience in protein phosphorylation and in enzyme kinetics preferred. Salary: \$15,000 to \$18,000 plus fringe benefits. Send résumé and names of two references to: **Dr. S. M. Pemrick, Box 8, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, N.Y. 11203.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS available immediately and starting 1 December 1981 for a Ph.D. in chemistry or in biochemistry for studies on drug and anesthetic metabolism in animals and man. The research involves (i) cytochrome P-450 purification and characterization, (ii) quantitation and identification of drug metabolites, and will attempt (iii) to understand the regulation of the microsomal levels of cytochrome P-450.

Send résumé and names of three references to: **Dr. L. Waskell, VA Medical Center, 4150 Clement Street, San Francisco, Calif. 94121.**

POSTDOCTORAL POSITION for recent Ph.D. or M.D., U.S. citizen or permanent resident, available 1 July 1981, supported by NIH training grant (National Research Service Awards), in the area of basic cancer chemotherapy, clinical cancer chemotherapy, cancer biology, or cancer drug development (organic synthesis). Send résumé, indicating area(s) of interest, and two or more letters of reference to: **Dr. Sungman Cha, Brown University, Box G, Providence, R.I. 02912.** Telephone: 401-863-3114. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS—BIOCHEMISTRY/BIOPHYSICS. One position available immediately, one in May 1982. Research utilizes fluorescence and NMR spectroscopies to study lipid-protein interactions in membranes. Salary: \$13,500. Send curriculum vitae and names, addresses, and telephone numbers of three references to: **Dr. Gerald W. Feigenson, Section of Biochemistry, Clark Hall, Cornell University, Ithaca, N.Y. 14853.** *Cornell University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION IN MOLECULAR GENETICS to study replication and recombination of mitochondrial DNA in yeast. Position available 1 October 1981 at \$14,000 per year; starting time and salary negotiable. Ph.D. and background in molecular genetics required. Send curriculum vitae, letter describing research interests, and references to: **Dr. C. William Birky, Jr., Department of Genetics, The Ohio State University, Columbus, Ohio 43210.** *The Ohio State University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately for study of IgG Fc receptor recognition unit. Background in protein chemistry, enzymology. Salary: \$17,000, commensurate with experience. Send curriculum vitae, research experience, and names of three references to: **Dr. Max Schlammowitz, Department of Tumor Biochemistry, University of Texas System Cancer Center, Houston, Texas 77030.**

POSTDOCTORAL POSITION

Postdoctoral position available approximately September 1981 in physiological ecology of desert plants with emphasis on gas exchange, modeling, and/or nutrient aspects of succulents. Renewal probable for second year. Send curriculum vitae and names of three references to: **Park S. Nobel, Ph.D., Laboratory of Biomedical and Environmental Sciences, University of California, Los Angeles, 900 Veteran Avenue, Los Angeles, California 90024.**

POSTDOCTORAL/RESEARCH ASSISTANT available summer 1981 to study mechanism by which erythropoietin or Friend virus indicates red cell growth and differentiation in vitro. Send curriculum vitae and list of three references to: **Dr. Sanford B. Krantz, Director, Division of Hematology, Room A-5102, 21st and Garland, Nashville, Tennessee 37232.**

An NIH-funded **POSTDOCTORAL RESEARCH ASSOCIATE** position is available immediately, to study the biochemistry and function of the spectrin cytoskeletal network in normal and abnormal human erythrocytes. A strong background in biochemistry or cell biology is required. Applicants should send curriculum vitae, recent reprints, and arrange to have two letters of reference sent to: **Dr. Steven R. Goodman, Department of Physiology, The Milton S. Hershey Medical Center, The Pennsylvania State University, Hershey, Pa. 17033.**

National Institute of Mental Health
Intramural Research Program
Alcohol, Drug Abuse and
Mental Health Administration
Public Health Service
Department of Health and Human Services

OPENING DATE: June 1, 1981
CLOSING DATE: June 30, 1981
All applications must be postmarked by the
closing date

DIRECTOR, MENTAL HEALTH INTRAMURAL RESEARCH PROGRAM

The National Institute of Mental Health is recruiting for a Director of its Mental Health Intramural Research Program. The Director plans and administers a comprehensive long-term intramural research program of clinical, behavioral, and biological research dealing with the causes, diagnosis, treatment, and prevention of mental disorders and the biological and psycho-social factors that determine human behavior and development. The program provides a focus for national attention in the area of mental health research. The total staff numbers about 500 and has a FY 80 operating budget of approximately \$35 million.

This is a Civil Service position in the Senior Executive Service (SES), with base salary from \$49,198 to \$50,112 per year depending on qualifications. SES members are eligible for various bonuses and awards, and physicians are eligible for payments of up to \$10,000 per year, although total compensation cannot exceed the rate for Executive Level I (currently \$69,630 per year). (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.) The SES individual selected, if not presently in the Senior Executive Service, must serve a one-year probationary period.

Mandatory Professional/Technical Requirements:

The nature of the responsibilities of this position and the qualifications required are such that the duties may be performed with equal effectiveness by individuals trained in medicine, psychology, or the general health sciences. As a physician, minimum requirements include a degree of Doctor of Medicine or Doctor of Osteopathy; as a Psychologist, minimum requirements include completion of a 4-year course of study in an accredited college or university, leading to a bachelors or higher degree which included or was supplemented by a total of 24 semester hours in psychology; for all others, minimum requirements include completion of a 4-year course of study in an accredited college or university, leading to a bachelors or higher degree, with major study in academic field related to the health sciences pertinent to the work of the position. All candidates must also have progressively responsible experience in scientific research administration

and proven professional competence and experience in research programs directed toward the causes, diagnosis and treatment of mental disorders and/or the biological and behavioral processes related to normal and abnormal functioning.

In addition, candidates must meet the following **Mandatory Managerial/Executive Requirements:** Experience in the management of a basic or clinical research program, demonstrating competence to assume leadership responsibility in:

1. Planning, organizing, staffing, directing, coordinating, allocating resources; and selecting, developing, and utilizing subordinate staff.
2. Developing basic program goals, and assuring that national and agency goals and priorities are considered in carrying out the functions and responsibilities of the organization.
3. Establishing and maintaining relationships with key individuals and groups outside the organization.
4. Directing and guiding programs and projects, including long-term and short-term planning, establishing objectives and priorities, and conducting periodic analysis and evaluation.
5. Developing processes and overseeing activities to assure the fair and equitable employment of qualified persons, and implementing EEO objectives.

Candidates who meet the mandatory requirements will be further evaluated on the degree to which they exceed those minimum levels, and in addition, on the following desirable qualifications: scientific reputation/peer recognition, training and education, and honors and awards.

Applications (Personal Qualifications Statement, SF-171) are to be sent to: Mr. Michael H. Rosenthal, Public Health Service, Alcohol, Drug Abuse and Mental Health Administration, National Institute of Mental Health, IRP, Personnel Office, 9000 Rockville Pike, Building 36, Room 1B10, Bethesda, MD 20205. A current curriculum vita, bibliography, and letters of reference and/or appraisals of performance must accompany all applications. An Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE. Immediate opening. Synthesis and bioassay of novel fluorogenic substrates for proteolytic enzymes associated with degenerative diseases. Experience in peptide synthesis and enzyme kinetics highly desirable. Salary up to \$15,000 per year, depending on qualifications; excellent fringe benefits included. Please send résumé and names of three references to: **Dr. Paul J. Brynes, Department of Pharmacological Sciences, Health Sciences Center, State University of New York at Stony Brook, Stony Brook, N.Y. 11794. State University of New York at Stony Brook is an Equal Opportunity/Affirmative Action Employer.** AK Number 36.

POSTDOCTORAL RESEARCH ASSOCIATE position available now for Ph.D. interested in mammalian sperm enzymes to determine developmental and genetic effects of chemicals. Background and/or course work in enzyme analysis, purification, and immunology preferred. Stipend: \$13,150 to \$14,475, depending on qualifications and experience. Send curriculum vitae, graduate transcripts, and the names of three references to: **Dr. G. Fisor, Department of Biomedical Sciences, Western Michigan University, Kalamazoo, Mich. 49008. Equal Opportunity/Affirmative Action Employer.**

UNIVERSITY OF SASKATCHEWAN DEPARTMENT OF BIOLOGY

POSTDOCTORAL OR RESEARCH ASSOCIATE position available for an investigation of the use of liposomes for the uptake of macromolecules and organelles into plant protoplasts. Candidate should have a strong background in biochemistry and some knowledge of electron microscopy.

The position is available immediately for a 1-year term (possibly renewable for a second year) at a salary up to \$18,000, depending on experience and qualifications.

Interested candidates should send curriculum vitae and two letters of recommendation to: **Dr. L. C. Fowke, Department of Biology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0.**

POSTDOCTORAL RESEARCH ASSOCIATE—To study the genetic control of hybrid resistance to mouth tumors. Recent Ph.D. with background in cellular immunology preferred. Send curriculum vitae, statement of research background and interests, and the names, addresses, and telephone numbers of three references to: **Dr. Julia M. Phillips-Quagliata, Department of Pathology, New York University Medical Center, 550 First Avenue, New York, N.Y. 10016. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

Two-year position, recent Ph.D. in biochemistry, physiology, or pharmacology. Carry out metabolic and enzyme isolation and kinetics on the glycosaminoglycan system and tissue culture. Experience in enzymology a must. Tissue culture experience preferred. Send curriculum vitae and two letters of recommendation. Application deadline: 1 July 1981. Contact: **Dr. Anthony J. Verliangieri, Department of Pharmacology, School of Pharmacy, University of Mississippi, University, Miss. 38677. Equal Opportunity Employer.**

POSTDOCTORAL TRAINING PROGRAM. Position available for 1 year with strong possibility of 2 years, to study the neuroanatomical and hormonal bases of reproductive behavior in the ring dove. Persons with a strong background in methods for the quantitative analysis of behavior, and interested in acquiring some of the modern neuroanatomical tract tracing methods, immunohistochemistry and/or hormone radioimmunoassay methods are encouraged to apply. Send curriculum vitae and two letters of recommendation to: **Dr. M.-F. Cheng, Institute of Animal Behavior, Rutgers University, 101 Warren Street, Newark, New Jersey 07102. Rutgers University is an Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE, Ph.D. (i) Structure and dynamics of protein and solvent in crystals with Monte Carlo and molecular dynamics. Compare simulated thermal motion and disorder with x-ray data via Fourier techniques. (ii) Develop a least-squares/energy refinement (in collaboration with K. D. Watenpaugh). Requires solid experience in at least one of these: x-ray crystallography, computer programming, molecular physics—molecular energy calculations. Send curriculum vitae and three references to: **Dr. Jan Hermans, Biochemistry Department, University of North Carolina, Chapel Hill, N.C. 27514. Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

PHYSICAL OCEANOGRAPHER MEMORIAL UNIVERSITY OF NEWFOUNDLAND

Memorial University of Newfoundland in St. John's seeks to fill two faculty positions in physical oceanography. One position is in ocean dynamics and the other is in theoretical oceanography. Interest and experience in carrying out field programs is desirable. Candidates for both positions should hold a Ph.D. in physical oceanography, or a closely related field (for example, fluid mechanics).

The program in physical oceanography at Memorial University is new and offers the successful applicant an opportunity to participate in the development of this field in a frontier area. Memorial University is located in St. John's, Newfoundland, which is rapidly becoming a centre of ocean studies related to fisheries and offshore hydrocarbon development in eastern Canada.

Salary will be commensurate with experience and qualifications.

Applications, including curriculum vitae and the names of three referees, are to be submitted to:

**Dr. C. W. Cho, Head
Department of Physics
Memorial University of Newfoundland
St. John's, Newfoundland, Canada A1B 3X7**

RESEARCH ASSOCIATE in immunology to study the cellular immune system of the rabbit. Emphasis is on characterization of lymphocyte subpopulations as identified with monoclonal antibodies and separated by FACS. Send curriculum vitae and names of three references to: **K. L. Knight, Ph.D., University of Illinois Medical Center, SBMS Microbiology/Immunology, 835 South Wolcott, Chicago, Ill. 60612. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE IN PHOTOSYNTHESIS. The research involves spectroscopic and biochemical investigations to characterize pathways and rate-limiting reactions in electron and proton transfer. The position is available after 1 September 1981. Applicants should send their curriculum vitae and the names of their references to: **Dr. John Whitmarsh, Department of Botany, University of Illinois, 505 South Goodwin Street, Urbana, Illinois 61801. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.**

APPLICATIONS FOR RESEARCH SCHOLARSHIPS, FACULTY OF DENTISTRY, UNIVERSITY OF ALBERTA

The Faculty of Dentistry at the University of Alberta, Edmonton, Canada, in an expanding research programme, offers the opportunity for people with postdoctoral qualifications (D.D.S., M.D., D.V.M., Ph.D. degrees, or their equivalent) to apply for scholarship appointments in research. The successful applicants will have opportunities to develop research projects in oral biology and dental science.

The appointments will be eligible for support from the Alberta Heritage Foundation for Medical Research.

The first appointments will be available in 1982 and be for a period of up to 5 years.

Further details can be obtained from:

**Dr. J. A. Hargreaves
Director of Graduate Studies and Research
Faculty of Dentistry
University of Alberta
Edmonton, Alberta, Canada T6G 2N8**

APPLICATIONS FOR RESEARCH STUDENTSHIPS AND FELLOWSHIPS AT THE FACULTY OF DENTISTRY, UNIVERSITY OF ALBERTA

In an expanding research programme the Faculty of Dentistry at the University of Alberta offers studentships and fellowships for suitably qualified applicants to undertake research in oral biology, experimental embryology, connective tissue studies, dental science, preventive dentistry, and biomaterials leading to either M.Sc. or Ph.D. degrees of the University.

Applicants should have a dental or medical degree or an honours degree in science. The successful applicants will be eligible for support and research allowances from the Alberta Heritage Foundation for Medical Research.

The first appointments will be available in 1982. Further details can be obtained from:

**Dr. J. A. Hargreaves
Director of Graduate Studies and Research
Faculty of Dentistry
University of Alberta
Edmonton, Alberta, Canada T6G 2N8**

POSITIONS OPEN

RESEARCH ASSOCIATE to perform biochemical studies on mammalian central nervous system. Ph.D. or M.D. with postdoctoral experience in the field of lipid analysis and metabolism highly desirable. Salary range is \$14,000 to \$17,500 per year. Please send résumé and names of three references to: **Dr. Albert Sun or Dr. Grace Y. Sun, Sinclair Comparative Medicine Research Farm, University of Missouri, Columbia, Mo. 65201. The University of Missouri is an Equal Opportunity/Affirmative Action Employer.**

RESEARCH SCIENTISTS IN PROTEIN CHEMISTRY AND ORGANIC CHEMISTRY—The Sidney Farber Cancer Institute, affiliated with Harvard Medical School, announces openings for research scientists experienced in organic chemistry and protein chemistry, including protein purification and covalent derivatization. Applicants should have postdoctoral experience in protein chemistry and biochemistry. Appointees will join a team involved in research and development of immunotoxins as reagents for treatment of human cancers. Appointments will be on the research ladder at a level equivalent to an instructor or assistant professor. Applicants should arrange for curriculum vitae and three letters of recommendation to be sent to: **Dr. Barbara H. Sanford, Director for Research, Sidney Farber Cancer Institute, 44 Binney Street, Boston, Mass. 02115. An Affirmative Action/Equal Opportunity Employer.**

RESEARCH SCIENTIST needed for the field testing and development of new medical instrumentation. The position involves travel. The applicant should have some familiarity with instrumentation as well as a Ph.D. in biochemistry, biophysics, or a related biomedical area, and an undergraduate degree in physics or chemistry. Evidence of research capability in the form of publications or publication preprints strongly desirable. Competitive salary.

**DMG Corporation
Telephone: 516-694-2929
Box 127, SCIENCE**

VETERINARY PATHOLOGISTS

Expansion has resulted in openings for pathologists, Board-certified, Board-qualified, and entry level, some with managerial responsibility and with opportunity to serve as pathology study monitor and team leader.

Our Pathology Division consists of 125 people in necropsy pathology, histology, histopathology, clinical pathology, and administrative services. It is responsible for the pathology phase of our extensive program of toxicological research for the pharmaceutical, agricultural, chemical, and consumer industries as well as governmental agencies.

International Research and Development Corporation (IRDC) is located a few miles from Kalamazoo, Michigan, midway between Chicago and Detroit, an area affording a broad range of urban or rural life-styles with excellent cultural and recreational opportunities. We offer excellent benefit programs and a starting salary commensurate with experience. Send your résumé to:

**Dr. Ward R. Richter
Director, Division of Pathology
International Research and
Development Corporation
500 North Main Street
Mattawan, Michigan 49071
Equal Opportunity Employer**

VIROLOGIST-ASSISTANT PROFESSOR—Ph.D. or equivalent, full-time, tenure-track position beginning 1 January 1982. The applicant is expected to teach virology to sophomore medical students and to participate in the teaching of graduate virology courses. Candidates are expected to be able to carry out an active independent research program and to serve as preceptors to graduate students. Opportunities also exist to develop collaborating research programs in existing programs. Send curriculum vitae and the names of three references to: **Chairperson, Virologist Search Committee, Department of Microbiology and Immunology, TEMPLE UNIVERSITY SCHOOL OF MEDICINE, 3400 North Broad Street, Philadelphia, Pa. 19140. An Equal Opportunity/Affirmative Action Employer.**

Biochemical Engineer

DEVELOP AND APPLY NEW TECHNOLOGIES TO FERMENTATION PROCESSES . . . in Basic Research at Merck Sharp & Dohme Research Laboratories headquartered in Rahway, New Jersey. We're a long standing leader in the human and environmental and animal health care business.

This position offers unique opportunity for participation in our natural products research team . . . for publications and for broad interaction with scientists in a variety of disciplines. The successful candidate must possess a Ph.D. in biochemical engineering (or equivalent) and 1-3 years experience in fermentation bioengineering and microbiology and related computerization knowledge.

Salary, benefits and growth potential are all excellent. Send resume to: Mrs. S. R. Jenkins, Dept S-2,



MERCK & CO., INC.

P.O. Box 2000, Rahway, N.J. 07065

An equal opportunity employer, m/f

SYNTHETIC ORGANIC/ RADIOSYNTHESIS CHEMIST

Major pharmaceutical firm seeks an individual having a PhD in organic chemistry with 1-2 years experience in C-14 radiosynthetic techniques for an opening in the radiosynthesis laboratory at our Milwaukee facility.

Responsibilities include the synthesis of radioactively labeled organic chemicals to support drug metabolism programs as well as the development of synthetic methods for non-labeled, potential new drug substances.

We offer an excellent salary and opportunities for professional growth. Please send your resume in confidence citing education, work experience and salary history to:

SECTION HEAD
CHEMICAL DEVELOPMENT

Merrell

1707 East North Avenue
Milwaukee, Wisconsin 53201



MERRELL DOW PHARMACEUTICALS INC.
Subsidiary of The Dow Chemical Company
An Equal Opportunity Employer M/F

PLANT BIOLOGY

Zoecon Corporation is seeking a number of scientists as part of a major expansion of its research program in Plant Biology.

These individuals will join a substantial basic research effort focused on problems of agronomic importance. Current research includes studies on morphogenesis from cell culture, the molecular basis of cytoplasmic male sterility, and the biochemical bases of stress tolerance. Additions to the program will expand upon and complement these areas, and will be integrated with ongoing breeding research in our Seed Division.

Individuals with expertise in the following scientific disciplines are encouraged to apply:

- Plant Physiologists/Biochemists
- Plant Pathologists
- Cell Biologists/Somatic Cell Geneticists
- Plant Geneticists/Breeders

Applicants should, at a minimum, hold a PhD degree and have demonstrated research ability. The successful candidate will be expected to design, initiate and implement a productive research program.

Zoecon is a division of Occidental Petroleum Corporation with substantial domestic and international operations. Zoecon's headquarters and research facilities are located in the Stanford University Industrial Park in close proximity to San Francisco.

Please submit, not later than 8/1/81, a curriculum vitae, a statement of research interests and the names of three references, in confidence, to:

K.M. Holm
Manager, Employee Relations
Zoecon Corporation
975 California Avenue
Palo Alto, CA 94304, U.S.A.

An equal opportunity employer.

zoëcon®

POSITIONS OPEN

RADIOPHARMACIST. Assistant or associate professor for active program of patient care, teaching, research. Must have pharmacist training and be eligible for Connecticut license. Prefer strong chemistry background and ability to work in cooperative radiopharmaceutical design/synthesis. Ph.D. or equivalent. Contact: **Dr. Richard P. Spencer, University of Connecticut Health Center, Farmington, Conn. 06032. Telephone: 203-674-3120. University of Connecticut Health Center is an Affirmative Action/Equal Opportunity Employer. Women, minorities, and the handicapped are encouraged to apply.**

RESEARCH ASSOCIATE: Nuclear-Medicine Imaging. The University of Arizona, Radiology Department, is seeking a postdoctoral research associate for work on an NCI Program Project grant under the direction of Dr. H. H. Barrett. The position is available immediately and renewable annually through 1983 and involves research in novel imaging system and detectors for nuclear medicine. Experience with scintillation detectors and nuclear instrumentation systems is highly desirable. Address applications with names of three references to: **Dr. William Swindell, Radiology Department, Arizona Health Sciences Center, University of Arizona, Tucson, Arizona 85724. The University of Arizona is an Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE to participate in cell culture research concerned with cystic fibrosis and cellular aging. Postdoctoral training and solid experience in cell culture, cell fractionation, protein purification, and enzymology essential. Experience with mitochondria preferred. This is a faculty position equivalent to assistant professor and includes supervisory responsibilities. Salary: \$17,000 to \$23,000 with generous fringe benefits. Send résumé and three letters of reference by 26 June to: **Dr. B. L. Shapiro, 17-226 HSUA, University of Minnesota, Minneapolis, Minn. 55455. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.**

SCIENCE EDUCATION (ORGANIC CHEMISTRY) project requires chemist or behavioral scientist for research on cognitive processes in organic chemistry learning. Ph.D. desirable; ability to interact with learners essential. Position funded for 2 years. Curriculum vitae and three letters of recommendation should be sent by 30 June to: **John Gordon/Chemistry or Joseph Danks/Psychology, Kent State University, Kent, Ohio 44242. An Equal Opportunity/Affirmative Action Employer.**

SCIENTIST/ECONOMIST

The **ENVIRONMENTAL DEFENSE FUND** seeks to fill two science associate positions. Qualifications include a master's degree in physical science or economics. Persons with degrees in biological sciences or management/public policy also may be considered. Duties include research and policy development on issues related to energy, air quality, transportation, and water resources. The positions are filled for 1- to 2-year intervals and are usually not renewable.

Contact: **Marion Rogers, Environmental Defense Fund, Inc., 444 Park Avenue South, New York, New York 10016. Telephone: 212-686-4191.**

SYMPOSIUM

CORNELL UNIVERSITY SYMPOSIUM PHYSIOLOGY: THE NEXT DECADE Functional Regulation at the Cellular and Molecular Levels

Cornell University, Ithaca, New York
21 to 24 July 1981

The Symposium will highlight outstanding achievements of the 1970's and focus on directions and expectations for the 1980's. The scope of the Symposium encompasses the cellular and molecular bases of (i) hormone action, (ii) cell proliferation and differentiation, (iii) neuroendocrine function, and (iv) epithelial transport. Distinguished scientists responsible for some of the breakthroughs of the last decade and whose work exemplifies the utility of broad interdisciplinary approaches have been selected to speak. For further information, registration forms, and scientific program, write: **Dr. R. A. Corradino, Chairman, Symposium Committee, 720 VRT, Cornell University, Ithaca, New York 14853. Telephone: 607-256-7626.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS IN REPRODUCTIVE BIOLOGY. Applications are invited for postdoctoral fellowships in the Laboratory of Human Reproduction and Reproductive Biology of Harvard Medical School. The laboratory is an interdisciplinary center for research on biological problems in reproduction. The laboratory provides research opportunities in the anatomical, physiological, endocrinological, and biochemical approaches to ovarian testicular function, cytokinesis, and molecular biology, fertilization, the preimplantation mammalian embryo, neuroendocrine physiology, behavioral endocrinology, and contraceptive development. Send complete curriculum vitae including a statement of research interests and names of at least three references to: **Kenneth J. Ryan, M.D., Director, Laboratory of Human Reproduction and Reproductive Biology, Harvard Medical School, 45 Shattuck Street, Boston, Mass. 02115. Harvard is an Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIPS IN IMMUNOBIOLOGY

Positions available beginning fall 1981 to study various aspects of immunoregulation and lymphocyte physiology under normal and pathological conditions in the mouse model. Research focuses on idiotype interactions among lymphocytes, abnormalities of tumor-bearing host, and infections with retroviruses. Experience in tissue culture desirable. Apply with curriculum vitae with names of references to: **Dr. Jan Cerny, Department of Microbiology, University of Texas Medical Branch, Galveston, Texas 77550.**

FELLOWSHIPS

GRADUATE FELLOWSHIPS available in INSTITUTE FOR RESOURCES MANAGEMENT, a jointly operated program by the campuses of Washington State University and the University of Idaho. For further information and application materials, contact either:

Chair, Environmental Science and Regional Planning Program	Dean
305 Troy Hall	The Graduate School
Washington State University	111 Morrill Hall
Pullman, Wash. 99164	OR University of Idaho
	Moscow, Idaho 83843

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Application forms and additional information may be obtained from: **The FEINBERG GRADUATE SCHOOL, The Weizmann Institute of Science, Rehovot, Israel.**

The applications should reach the above address not later than 15 November 1981 for fellowships starting in April 1982 and not later than 15 May 1982 for fellowships starting in October 1982.

POSTDOCTORAL FELLOWSHIPS

Postdoctoral traineeship in genetics for exploiting electrophoretic and other biochemical genetic markers in research on atherosclerosis in baboons. Laboratory directed by **Dr. John VandeBerg**. Send résumé, statement of interests, names of three references, and visa status to: **Dr. Colin J. Schwartz, Program Director, NIH Training Grant, Department of Pathology, University of Texas Health Science Center, San Antonio, Texas 78284. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOWSHIP IN PERINATOLOGY. Position available to Ph.D. or M.D. for research training in renal, cardiovascular, respiratory, and calcium regulatory physiology relating to the fetus and newborn. Send résumé with references to: **Dr. Leonard J. Kleinman, University of Cincinnati, College of Medicine, 231 Bethesda Avenue, Cincinnati, Ohio 45267.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP IN BIOCHEMISTRY. Two years. Ph.D. or M.D. Immediate opening. Research involves ongoing program on structure, properties, and function of protein kinases in eukaryotes. Stipend: \$12,200 per year.

Box 136, SCIENCE

E. J. LUND BIOPHYSICS PREDOCTORAL FELLOWSHIP OFFERED BY DEPARTMENT OF MARINE STUDIES, PORT ARANSAS MARINE LABORATORY, UNIVERSITY OF TEXAS AT AUSTIN

Applications are being accepted for a 1-year, renewable fellowship for graduate studies related to biophysics at the Port Aransas Marine Laboratory of the University of Texas at Austin. As specified in a bequest from the first director of the laboratory, Professor E. J. Lund, the selected student will show exceptional merit, and pursue the Ph.D. under the guidance of a Port Aransas faculty member. Applicants should show a strong undergraduate background in biological sciences, physics, or chemistry. The E. J. Lund award will include a graduate fellowship of \$9000 for 12 months, and a supplementary research fund, each renewable annually.

Prospective applicants are encouraged to contact faculty at Port Aransas regarding research opportunities. Information on the graduate program in marine studies at the University of Texas is available from the graduate adviser at the address below. Applicants should send a letter of application and curriculum vitae, and have official transcripts, GRE scores, and three letters of recommendation sent to the address shown below:

**Chairman of the Scholarship Committee
Department of Marine Studies
University of Texas at Austin
Port Aransas Marine Laboratory
Port Aransas, Texas 78373**

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TRAINEESHIPS

POSTDOCTORAL TRAINING IN ELECTRON OPTICAL-CARDIOVASCULAR RESEARCH PENNSYLVANIA MUSCLE INSTITUTE UNIVERSITY OF PENNSYLVANIA

CARDIOVASCULAR RESEARCH with emphasis on electron probe and electron energy loss analysis, scanning, scanning transmission and high voltage microscopy, image processing and preparatory techniques involving rapid freezing and cryoultramicrotomy, freeze fracture, and spectrophotometry. Research interests of the faculty are excitation-contraction coupling, the structure of the contractile apparatus, and alterations of vascular smooth muscle in hypertension and atherosclerosis.

STAFF: A. P. Somlyo (director), C. Franzini-Armstrong, T. Frey, J. Haselgrove, J. S. Leigh, L. D. Peachey, A. Scarpa, H. Shuman, and A. V. Somlyo.

ELIGIBILITY: U.S. citizens or permanent residents with an M.D. or Ph.D. in basic biological sciences, physics, or chemistry and background in conventional electron microscopy or spectroscopy.

FINANCIAL SUPPORT: National Heart, Lung and Blood Institute Training Grant.

APPLICATION: Send curriculum vitae, bibliography, and two letters of reference to: **A. P. Somlyo, M.D., Pennsylvania Muscle Institute, University of Pennsylvania School of Medicine, B42 Anatomy-Chemistry Building/G3, Philadelphia, Pa. 19104.**

POSTDOCTORAL TRAINEESHIPS IN PARASITOLOGY/VECTOR BIOLOGY available in: (i) comparative biochemistry or pharmacology of parasitic helminths (H. Szaj); (ii) vector competence of *Aedes* mosquitoes for California group arboviruses (G. Craig). Appointments (NIH/NRSA) beginning 1 July 1981 for 1 year, renewable for second year. Stipends start at \$13,380 a year, plus medical benefits. Candidates must be U.S. citizens or permanent residents. Send résumé and three letters of reference to: **Dr. Paul P. Weinstein, Department of Biology, University of Notre Dame, Notre Dame, Ind. 46556. Equal Opportunity/Affirmative Action Employer.**

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For further information,
and registration forms,
write or call:

Ms. Kathy Petersen
The Oil Shale Task Force
University of Colorado at
Denver
1100 14th Street
Campus Box 136
Denver, Colorado 80202
303/629-3460

Registration Fee: \$195
Registration deadline is July
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Odense University, Denmark **Neurobiologist**

A tenure-track position at the assistant/associate professor level is available at the Institute of Biologi, starting 1 January, 1982.

The Institute is seeking a Neurobiologist with broad interests and research experience with invertebrates. The candidate should have research experience in one or more of the following fields: Neuroethology (neurobiological mechanisms or mechanisms of animal orientation), animal communication (acoustic or chemical), and neurotoxicology (the neurobiological mechanisms of toxic substances). With respect to teaching, the candidate should have broad training in biology. Foreign candidates should be willing to teach in Danish after acquiring a command of the language.

The position carries research, teaching and administrative responsibilities. The Institute has 11 faculty members (four non-nationals). The research activities of the Institute focus on environmental biology, covering areas of adaptation physiology and biochemistry, aquatic ecology, environmental toxicology, and neurobiology. Neurobiological research centers on biomechanical studies of auditory systems, acoustic communication and behavior (insects and bats), and neuroethology (escape mechanisms). Much of the teaching at the Institute involves environmental biology at the undergraduate and graduate levels. For further information contact: The Chairman, Institute of Biologi, Odense University, DK-5230 Odense M, Denmark. Telefon (09) 158600, ext. 2752.

The terms of employment will be those established by agreement between the Ministry of Finance and the professional association of which the successful applicant is a member.

Applications will be assessed by a committee of qualified adjudicators, whose findings will be communicated in full to all applicants.

Applicants' teaching qualifications will be subject to supplementary assessment by the Studies Board (*Studienævnet*), and to this end a separate form should be completed and submitted with the application. The form is obtainable from the University Administration, tel. (09) 15 86 00, ext. 2899.

Applications, marked "position no. 0182", and containing information (with certification) on both academic and teaching qualifications, should be submitted in three copies, and should reach the following address not later than July 15, 1981: Odense Universitets journalkontor, Campusvej 55, 5230 Odense M. Publications and other scholarly works which are to be taken into account in the assessment should be submitted (likewise in three copies) together with the application.

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