

cedence, essential to any satisfactory explanation, can only be attempted within the kind of well-controlled, fine-grain chronological framework that is often lacking in archeology.

This was exactly the problem facing archeologists interested in unraveling the developmental history of Moundville, a prehistoric political and religious mound center of major proportions situated just south of Tuscaloosa, Alabama. The five centuries of cultural development (A.D. 1050 to A.D. 1550) at this extensively researched Mississippian site had been compressed into a single undifferentiated mass, preventing any attempt at developmental analysis.

In *Ceramics, Chronology, and Community Patterns* Vincas Steponaitis provides the reader with a clearly written, detailed description of the numerical seriation of 8212 well-provenienced ceramic sherds and 1121 whole vessels (mostly from grave lots) that allowed a partitioning of the Moundville sequence into three finer temporal units (Moundville I, A.D. 1050 to 1250; Moundville II, A.D. 1250 to 1400; Moundville III, A.D. 1400 to 1550), with the second and third of these further subdivided into early and late periods. It has with few exceptions not been possible to slice major Mississippian developmental sequences any finer than the 75-to-200-year periods achieved by Steponaitis.

This book should stand for many years not only as a chronological benchmark for the last half millennium of prehistory in the Southeast but also as a methodological classic that will be of enduring interest to archeologists grappling with problems of chronological control and cultural process. It demonstrates both the analytical vigor of the type-variety classification system and the value of carefully implemented numerical seriation techniques.

Although its primary goal is explicitly that of establishing a sound diachronic framework for Moundville and the adjacent region, this well-documented study (with 183 pages devoted to illustrations and descriptions of the ceramics used in the analysis) also provides a first glimpse of the changing organizational configuration of Moundville through time and allows Steponaitis to offer a concise and interesting speculative framework for the evolution of the Moundville polity.

Steponaitis also provides a quite eloquent, if implicit, statement concerning the relative intellectual merit of chronological problems. Long disdained by "new" archeology as the unworthy goal of a burned-out paradigm and banished to a minor role as a necessary, if unsav-

ory, initial step on the way to explaining cultural process, chronology has now clearly been taken out of the closet. The elegant and meticulous analysis of Steponaitis convincingly demonstrates that chronological problems are challenging and worthwhile scientific puzzles in and of themselves.

BRUCE D. SMITH

*Department of Anthropology,
National Museum of Natural History,
Washington, D.C. 20560*

BOOKS RECEIVED

Analytic Functional Calculus and Spectral Decompositions. Florian-Horia Vasilescu. Translated from the Romanian edition (Bucharest, 1972). Editura Academiei, Bucharest, and Reidel, Boston, 1982 (distributor, Kluwer Boston, Hingham, Mass.). xiv, 378 pp. \$78.50. Mathematics and Its Applications (East European Series), vol. 1.

Animal Behaviour. Ecology and Evolution. C. J. Barnard. Croom Helm, London, 1983. 340 pp., illus. Cloth, £17.95; paper, £8.95.

Annual Review of Neuroscience. Vol. 6. W. Maxwell Cowan, Eric M. Shooter, Charles F. Stevens, and Richard F. Thompson, Eds. Annual Reviews, Palo Alto, Calif., 1983. x, 564 pp., illus. \$27.

Annual Review of Physiology. Vol. 45. Robert M. Berne and Joseph F. Hoffman, Eds. Annual Reviews, Palo Alto, Calif., 1983. xiv, 710 pp. \$27.

Anti-Diuretic Hormone. Vol. 5. Mary Forsling. Eden Press, St. Albans, Vt., 1982. vi, 194 pp. \$33. Annual Research Reviews.

Applied Solar Energy. David Kut and Gerard Hare. Butterworths, Boston, ed. 2, 1983. viii, 190 pp., illus. \$29.95.

L'Apprentissage chez l'Animal. Faits et Théories. M. E. Bitterman, V. M. Lolorodo, J. B. Overmier, and M. E. Rashotte. Translated and adapted from the English edition (New York, 1979) by Marc Blancheteau. Mardaga, Brussels, 1982. 240 pp., illus. Paper, 690 BF. Psychologie et Sciences Humaines, 114.

The Aquarium Encyclopedia. Günther Sterba. Translated from the German edition (Leipzig, 1978) by Susan Simpson. Dick Mills, Ed. MIT Press, Cambridge, Mass., 1983. 608 pp., illus. \$35.

Aquatic and Terrestrial Humic Materials. Papers from a symposium, Chapel Hill, N.C., Nov. 1981. Russell F. Christman and Egil T. Gjessing, Eds. Ann Arbor Science (Butterworths), Boston, 1983. xii, 538 pp., illus. \$39.95.

The Archaeology of Social Disintegration in Skunk Hollow. A Nineteenth-Century Rural Black Community. Joan H. Geismar. Academic Press, New York, 1982. xii, 276 pp., illus. \$24.50. Studies in Historical Archaeology.

Are We Alone? The Possibility of Extraterrestrial Civilizations. Robert T. Rood and James S. Trefil. Scribner, New York, 1983. x, 262 pp., illus. Paper, \$7.95. Reprint of the 1981 edition.

Art and the Wish to Die. Fred Cutter. Nelson-Hall, Chicago, 1983. xiv, 294 pp., illus. \$24.95.

Aspects of Avian Endocrinology. Practical and Theoretical Implications. Papers from a symposium, Benalmadena, Spain. C. G. Scanes, M. A. Ottinger, A. D. Kenny, J. Balthazart, J. Cronshaw, and I. Chester Jones, Eds. Texas Tech Press, Lubbock, 1982. 412 pp., illus. Cloth, \$59.95; paper, \$29.95. Graduate Studies, Texas Tech University, No. 26.

Aspects of Modern Otolaryngological Practice. Papers from a congress, Pattaya, Thailand, Dec. 1981. S. Prasansuk, C. Bunnag, and P. Srisomboon, Eds. Karger, Basel, 1983. xii, 234 pp., illus. \$98.25. Advances in Oto-Rhino-Laryngology, vol. 29.

Astronomy. The Cosmic Perspective. Michael Zeilik and John Gaustad. Harper and Row, New York, 1983. xx, 954 pp., illus., + appendixes. \$33.95.

Atoms in Astrophysics. P. G. Burke, W. B. Eissner, D. G. Hummer, and I. C. Percival, Eds. Plenum, New York, 1983. xviii, 356 pp., illus. \$49.50. Physics of Atoms and Molecules.

The Australian Crickets (Orthoptera: Gryllidae). Daniel Otte and Richard D. Alexander. Academy of Natural Sciences of Philadelphia, Philadelphia, 1983. vi, 478 pp., illus. Paper, \$45. Monograph 22.

Autism in Adolescents and Adults. Eric Schopler and Gary B. Mesibov, Eds. Plenum, New York, 1983. xviii, 438 pp. \$35. Current Issues in Autism.

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ceedings of an institute, Bonas, France, Sept. 1981. Alan W. Biermann and Gérard Guiho, Eds. Reidel, Boston, 1983 (distributor, Kluwer Boston, Hingham, Mass.). x, 374 pp., illus. \$52.50. NATO Advanced Study Institutes Series C, vol. 95.

Computers in Congress. The Politics of Information. Stephen E. Frantzich. Sage, Beverly Hills, Calif., 1982. 288 pp. \$24. Managing Information, vol. 4.

Computing in Biological Science. Michael J. Geisow and Anthony N. Barrett, Eds. Elsevier, New York, 1983. xxii, 446 pp., illus. \$68.

Contemporary Textile Engineering. F. Happey, Ed. Academic Press, New York, 1982. xvi, 454 pp., illus. \$74.

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Controlled-Release Technology. Bioengineering Aspects. K. G. Das, Ed. Wiley-Interscience, New York, 1983. xii, 226 pp., illus. \$50.

The Convolution Product and Some Applications. Wilhelm Kees. Translated from the Romanian edition (1978) by Victor Giurgiuțiu. Editura Academiei, Bucharest, and Reidel, Boston, 1982 (distributor, Kluwer Boston, Hingham, Mass.). xviii, 332 pp. \$69.50. Mathematics and Its Applications (East European Series), vol. 2.

The Cosmic Dancers. Exploring the Physics of Science Fiction. Amit Goswami and Maggie Goswami. Harper and Row, New York, 1983. xii, 292 pp., illus. \$18.50.

Cosmic Horizons. Understanding the Universe. Robert V. Wagoner and Donald W. Goldsmith. Freeman, San Francisco, 1983. xii, 196 pp., illus. Paper, \$9.95. Reprint of the 1982 edition.

Creation and Restoration of Coastal Plant Communities. Roy R. Lewis, III, Ed. CRC Press, Boca Raton, Fla., 1982. viii, 220 pp., illus. \$67.50.

CR Submanifolds of Kaehlerian and Sasakian Manifolds. Kentaro Yano and Masahiro Kon. Birkhäuser, Boston, 1983. x, 214 pp. \$17.50. Progress in Mathematics, vol. 30.

Essentials of Clinical Biochemistry. D. N. Baron. Elsevier, New York, 1982. xii, 292 pp., illus. Paper, \$26.95.

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Eye to Eye. The Quest for the New Paradigm. Ken Wilber. Anchor/Doubleday, Garden City, N.Y., 1983. x, 326 pp. Paper, \$9.95.

Flight of the Storm Petrel. Ronald M. Lockley. Illustrated by Noel W. Cusa. David and Charles, London, and Eriksson, Middlebury, Vt., 1983. 192 pp. \$16.95.

Flow Phenomena in Porous Media. Fundamentals and Applications in Petroleum, Water, and Food Production. Robert A. Greenkorn. Dekker, New York, 1983. xii, 550 pp., illus. \$75. Energy, Power and Environment, 16.

Handbook of Psychopharmacology. Vol. 17. Biochemical Studies of CNS Receptors. Leslie L. Iversen, Susan D. Iversen, and Solomon H. Snyder, Eds. Plenum, New York, 1983. xiv, 436 pp., illus. \$55.

Haphazard Reality. Half a Century of Science. Hendrik Casimir. Harper and Row, New York, 1983. xii, 356 pp. \$20. Alfred P. Sloan Foundation Series.

Hemoglobin and Oxygen Binding. Papers from a symposium, Airlie, Va., Apr. 1980. Chien Ho and seven others, Eds. Elsevier, New York, 1982. xxviii, 486 pp., illus. \$80.

High School Physics. Notes and Examples. James W. McLaughlin. Vantage, New York, 1982. xiv, 378 pp., illus. \$12.95.

The High-Energy Limit. Proceedings of a course, Erice, Sicily, July 1980. Antonio Zichichi, Ed. Plenum, New York, 1983. xii, 1104 pp., illus. \$125. The Subnuclear Series, vol. 18.

Molecular Structure and Biological Activity. Proceedings of a meeting, Buffalo, N.Y., Aug. 1981. Jane F. Griffin and William L. Duax, Eds. Elsevier, New York, 1982. xxx, 422 pp., illus. \$65.

Mount St. Helens. One Year Later. Papers from a symposium, Cheney, Wash., May 1981. S. A. C. Keller, Ed. Eastern Washington University Press, Cheney, 1982. viii, 244 pp., illus. Paper, \$20.

The Natural History of Alcoholism. George E. Vaillant. Harvard University Press, Cambridge, Mass., 1983. xiv, 360 pp., illus. \$25.

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(Continued on page 978)

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Neuropsychology of Language, Reading, and Spelling. Ursula Kirk, Ed. Academic Press, New York, 1983. xviii, 286 pp., illus. \$29. Educational Psychology.

Passive Solar Design Handbook. Vol. 3, Passive Solar Design Analysis and Supplement. J. Douglas Balcomb and five others. American Solar Energy Society, New York, 1983. viii, 262 pp., illus., + appendixes. \$59.50.

Passive Solar Heating. J. Richard Williams. Ann Arbor Science (Butterworths), Boston, 1983. xii, 308 pp., illus. \$24.50.

Perspectives for Peas and Lupins as Protein Crops. Proceedings of a symposium, Sorrento, Italy, Oct. 1981. R. Thompson and R. Casey, Eds. Published for the Commission of the European Communities by Nijhoff, The Hague, 1983 (U.S. distributor, Kluwer Boston, Hingham, Mass.). viii, 380 pp., illus. \$54.50. World Crops, vol. 8.

Pharmacology of Alcohol. Dora B. Goldstein. Oxford University Press, New York, 1983. xii, 180 pp., illus. Cloth, \$24.95; paper, \$16.95.

Physical and Biological Processing of Images. Proceedings of a symposium, London, Sept. 1982. O. J. Braddick and A. C. Sleight, Eds. Springer-Verlag, New York, 1983. xii, 404 pp., illus. \$33. Springer Series in Information Sciences, vol. 11.

Physics of Thin Films. Advances in Research and Development. Vol. 12. Georg Hass, Maurice H. Francombe, and John L. Vossen, Eds. Academic Press, New York, 1982. xviii, 322 pp., illus. \$49.50.

Primate Communication. Papers from a symposium, Parma, Italy, July 1980. Charles T. Snowdon, Charles H. Brown, and Michael R. Petersen, Eds. Cambridge University Press, New York, 1983. xx, 444 pp., illus. \$39.50.

Principles of Animal Physiology. Dennis W. Wood. Arnold, Baltimore, ed. 3, 1983. xii, 348 pp., illus. Paper, \$19.95. A Series of Student Texts in Contemporary Biology.

Recherches sur la Baie d'Hudson et la Baie James. Scientific Studies on Hudson and James Bays. Papers from a symposium, Guelph, Ontario, Canada, Apr. 1981. I. P. Martini and six others, Eds. Université Laval Département de Biologie, Sainte-Foy, Québec, 1982. Two volumes. pp. 295-1020, illus., + appendix. Paper, \$28. *Le Naturaliste Canadien*, vol. 109, Nos. 3 and 4.

Recombinant DNA Research. Vol. 7. Documents Relating to "NIH Guidelines for Research Involving Recombinant DNA Molecules." November 1980-August 1982. Office of Recombinant DNA Activities, National Institutes of Health, Bethesda, Md., 1982. vi, 830 pp. Paper. NIH Publication No. 83-2604.

Reevaluations of Dosimetric Factors, Hiroshima and Nagasaki. Proceedings of a symposium, Germantown, Md., Sept. 1981. V. P. Bond and J. W. Thiessen, Eds. U.S. Department of Energy Technical Information Center, Oak Ridge, Tenn., 1982 (available as DE810279 from the National Technical Information Service, Springfield, Va.). x, 298 pp., illus. Paper, \$15.75. DOE Symposium Series 55. CONF-810928.

Reliability Evaluation of Engineering Systems. Concepts and Techniques. Roy Billinton and Ronald N. Allan. Plenum, New York, 1983. x, 350 pp., illus. \$42.50.

The Second Sickness. Contradictions of Capitalist Health Care. Howard Waitzkin. Free Press (Macmillan), New York, and Collier Macmillan, London, 1983. xviii, 282 pp. \$19.95.

Seed Proteins. Papers from a symposium, Versailles, Sept. 1981. J. Daussant, J. Mossé, and J. Vaughan, Eds. Academic Press, New York, 1983. xiv, 336 pp., illus. \$50. Annual Proceedings of the Phytochemical Society of Europe, No. 20.

Stress Analysis for Creep. J. T. Boyle and J. Spence. Butterworths, Boston, 1983. x, 284 pp., illus. \$59.95.

Stress and Alcohol Use. Proceedings of a symposium, New Brunswick, N.J., June 1982. Larissa A. Pohorecky and John Brick, Eds. Elsevier, New York, 1983. xvi, 452 pp., illus. \$74.

Texture Analysis in Materials Science. Mathematical Methods. H.-J. Bunge. Translated from the German edition (Berlin, 1969) by Peter R. Morris, with revisions by the author. Butterworths, Boston, 1982. xx, 594 pp., illus. \$89.95.

Ultrastructure of the Small Intestinal Mucosa. Normal and Disease-Related Appearances. Margot Shiner. Springer-Verlag, New York, 1983. xii, 164 pp., illus. \$70.

Water Chemicals Codex. National Academy Press, Washington, D.C., 1982. x, 74 pp. Paper, \$7.25.

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ACADEMIC STAFF POSITION (rank to be negotiated) available in Nuclear Medicine Division of the Department of Internal Medicine at the University of Michigan, Ann Arbor. Certification (or Board-eligible) in nuclear medicine and preferably internal medicine or radiology. Special interest should be in thyroidology, basic and clinical. Applicant should have documented record of academic achievements. Please send curriculum vitae to: **William H. Beierwaltes, M.D., Physician-In-Charge, Division of Nuclear Medicine, Box 021, W-5630, University Hospital, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer. 56.

ACADEMIC STAFF POSITION (rank to be negotiated) available in Nuclear Medicine Division of the Department of Internal Medicine at the University of Michigan, Ann Arbor. Certification (or Board-eligible) in nuclear medicine and preferably internal medicine or radiology. Special interests should be in clinical investigations and in coordinating clinical activities of the division. Applicant should have documented record of academic achievements. Please send curriculum vitae to: **William H. Beierwaltes, M.D., Physician-In-Charge, Division of Nuclear Medicine, Box 021, W-5630, University Hospital, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer. 23.

ASSISTANT PROFESSOR, CELL BIOLOGY/IMMUNOLOGY

The Department of Biology, University of California, Riverside, seeks a broadly trained cell biologist who will provide teaching and technical expertise in immunology. We seek an individual with demonstrated research potential to complement existing strengths in cell surface phenomena, membranes, reproductive biology, cell motility/cytoskeleton, and molecular genetics. Teaching duties include an undergraduate course in immunology and a graduate course in the candidate's field of interest. The appointment will be at the assistant professor level (tenure-track) starting 1 July 1984. Applications including curriculum vitae, a description of research and teaching interests, reprints of scientific papers, and three letters of recommendation should be sent to:

Professor Edward G. Platzer, Acting Chairman
Department of Biology
University of California
Riverside, California 92521

The University of California is an Equal Opportunity/Affirmative Action Employer. Applications are invited from all qualified individuals.

ASSISTANT ADJUNCT PROFESSOR. Biochemist-cell biologist interested in lipoprotein-receptor interactions and/or lipoprotein biogenesis. Background should include Ph.D. in membrane chemistry and/or immunochemistry. Appointment includes teaching graduate and undergraduate students; responsibility as a co-principal investigator on La Jolla Specialized Center of Research on Arteriosclerosis. Send curriculum vitae by 23 September 1983 to: **Dr. Daniel Steinberg, Department of Medicine (M-013D), University of California, San Diego, La Jolla, Calif. 92093.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSORS OF PHYSIOLOGY

Applications are solicited for two positions at the rank of assistant professor in the Department of Physiology, Yale University School of Medicine. Candidates must hold a M.D. or a Ph.D. degree with experience and interest in membrane biophysics and/or membrane transport processes. One successful candidate should have as research emphasis studies of single channels in excitable cell membranes or artificial membranes. A second successful candidate should have as field of interest the structure-function relation of membrane components involved in cellular or epithelial membrane transport. Opportunities are available for both collaborative and independent research and for graduate and medical student teaching.

Please send complete curriculum vitae, including publications and the names and addresses of three references, to:

Emile L. Boulpaep, M.D.
Chairman, Department of Physiology
Yale University School of Medicine
333 Cedar Street
P.O. Box 3333
New Haven, Conn. 06510

Yale University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

The Department of Poultry Science at Oregon State University invites applications for a position at the ASSISTANT PROFESSOR level in the area of poultry research involving physiology and management of poultry. Both research and teaching responsibilities will be involved. The Ph.D. degree is required. Salary is commensurate with experience and qualifications. The position will be available 15 March 1984. Application deadline: 31 December 1983. *Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.* For information about the department and the requirements for the position, write:

Dr. G. H. Arscott, Head
Department of Poultry Science
Oregon State University
Corvallis, Oregon 97331-3402

ASSISTANT PROFESSOR OF PHARMACOLOGY

The department invites applications for two tenure-track positions from candidates with postdoctoral training who have an innovative program of research. Candidates must be highly talented and (i) have a clearly defined long-term independent research program that can be funded at the national level; (ii) they should preferably, but not necessarily, have expertise in cellular and molecular approaches to fundamental problems of pharmacological interest; and (iii) they should be capable of making significant contributions to the overall teaching program of the department. Particular areas of preference include studies on stimulus secretion coupling, pharmacology of immune and inflammatory responses, central nervous system pharmacology, anticancer pharmacology, the structure of membrane proteins, and the study of drugs which influence transport processes.

Send curriculum vitae, a statement of research interest, and the names of three references to: Dr. James D. Potter, Chairman, Department of Pharmacology (R-189), University of Miami School of Medicine, P.O. Box 016189, Miami, Florida 33101.

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ASSISTANT PROFESSOR OF MICROBIOLOGY

The department has a tenure-track position which is immediately available and invites applications from candidates with postdoctoral training. We are looking for an individual who will be skilled in the use of modern techniques in molecular biology to investigate problems in microbial pathogenesis. The successful applicant will be expected to develop a strong, independent research program. Responsibilities of the position include participation in departmental teaching of medical students and graduate student training.

Send curriculum vitae, a statement of research interests, and the names of three references to: Dr. Harry W. Taber, Department of Microbiology/Immunology, Albany Medical College of Union University, Albany, New York 12208.

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ASSISTANT PROFESSOR IN INORGANIC CHEMISTRY AT IOWA STATE UNIVERSITY

Applications are invited for this position which will become available in summer 1984. All research areas in inorganic chemistry will receive consideration. Candidates with outstanding potential for, and commitment to, excellence in both research and teaching are sought to join a faculty with a strong tradition of research in inorganic chemistry. Applicants should submit curriculum vitae, transcripts, a documented summary of past accomplishments, and an explicit statement of research plans and teaching objectives to: Professor D. K. Hoffman, Chairman, Chemistry Department, Iowa State University, Ames, Iowa 50011. Applicants also should arrange for at least three letters of recommendation to be sent. Evaluation of applications will begin in December 1983. *Women and minority applicants are encouraged to apply. Iowa State University is an Affirmative Action/Equal Opportunity Employer.*

George Washington University, Department of Medicine. ASSISTANT RESEARCH PROFESSOR position available immediately to work on studies of microvascular blood flow of sickle erythrocytes; 1 to 2 years of relevant experience required. Curriculum vitae, bibliography, and references to: Jorge C. Rios, M.D., 2150 Pennsylvania Avenue, NW, Suite 407, Washington, D.C. 20037. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR position in the Department of Pathology, Temple University Medical School, M.D. and/or Ph.D. with strong research interest in molecular biology. Applications should be sent to: Dr. Joseph Baum, Department of Pathology, Temple University School of Medicine, Philadelphia, Pa. 19140. *Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR OF PHYSIOLOGY

Applications are invited for a full-time tenure-track position in the Department of Physiology and Biophysics. Outstanding candidates with a Ph.D. or M.D. degree, at least 2 years of postdoctoral experience, and a strong commitment to developing an independent research program of high quality are sought. Applicants whose primary research interest lies in the study of hormone interactions with receptors are preferred. Responsibilities include participation in the departmental teaching of medical and graduate students. Send summary of research plans, curriculum vitae, and names of three references to: Dr. Rodney A. Rhoades, Professor and Chairman, Department of Physiology and Biophysics, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, Indiana 46223, by 31 October 1983. *Indiana University is an Equal Opportunity/Affirmative Action Employer.*

The University of California, Irvine, has an opening for an ASSISTANT PROFESSOR IN-LINE IN NEUROLOGY at the University Medical Center. Candidate must be Board-certified in neurology, electromyography, and electroencephalography with research interests in neuromuscular disorders and somatosensory-evoked potentials. Experience in directing electrodiagnostic laboratory is preferred. Send curriculum vitae and the names of three referees to: Dr. Arnold Starr, University of California, Irvine, Neurology Department, Room 154/Med Surge I, Irvine, Calif. 92717. Deadline for applications: 23 September 1983. *An Equal Opportunity/Affirmative Action Employer.*

CANCER BIOLOGIST NORRIS CANCER CENTER UNIVERSITY OF SOUTHERN CALIFORNIA

The newly opened Norris Cancer Center at the University of Southern California is seeking a cancer cell biologist to develop a new program in the general area of urological cancer biology. Applicants should possess a Ph.D. or M.D. degree and have expertise in the area of tumor biology in one or more of the following areas: in vitro cultivation of human tumors, tumor cell heterogeneity, metastasis, invasion, angiogenesis, growth factors, chemotherapeutic assay systems, cell differentiation, and epithelial cell biology. The appointment will be made at the level of assistant or associate professor with the possibility of a joint appointment in a basic science department. The Division of Urology has a large patient base, and will commit substantial funding and resources for the development of this new program. The successful applicant will be expected to develop a strong, innovative, independent program and to integrate with other research currently under way at the Norris Cancer Center. Approximately 900 square feet of new space are available at this time and the possibilities for collaboration, and so forth, are outstanding.

Send curriculum vitae and the names of three references to:

Dr. Peter Jones
Chair, Search Committee
Department of Biochemistry
University of Southern California
School of Medicine
2025 Zonal Avenue
Los Angeles, Calif. 90033

COLLEGE OF VETERINARY MEDICINE VM-190. DEAN/PROFESSOR (full year, full time, tenure system). Chief executive officer of the college; responsible to the provost and the president for the general administration of the college. Applicants must have a D.V.M. or its equivalent and evidence of leadership and scholarship. Ph.D. or equivalent is highly desirable. Must meet standards for appointment at the rank of professor (with tenure) in an academic department. Starting date: 1 July 1984. Send applications and nominations no later than 15 October 1983 to: Michigan State University (MSU), Chairperson, Search and Rating Committee, Dean of the College of Veterinary Medicine, c/o Office of the Provost, 432 Administration Building, East Lansing, Mich. 48824. *MSU is an Affirmative Action/Equal Opportunity Institution.*

CLEVELAND STATE UNIVERSITY DEAN OF THE COLLEGE OF ARTS AND SCIENCES

Cleveland State University invites applications and nominations for the position of DEAN of the College of Arts and Sciences. The dean is the chief officer of the largest college of the University, with a faculty of 325, and approximately 9000 FTE students enrolled in 25 departments. The College offers 31 undergraduate, 17 M.A./M.S., and two Ph.D. programs. It also houses several interdisciplinary programs, a cluster college, and an external degree program.

Candidates for the position must have a Ph.D. and be qualified for tenured appointment at the rank of professor in one of the disciplines represented in the College. In addition, candidates must have successful teaching experience, substantial scholarly achievement, evidence of significant administrative skills and experience, a personal commitment to public higher education, and a demonstrated capacity to exercise academic leadership.

Cleveland State University, founded in 1964 as part of the Ohio system of higher education, has a faculty of 550 and a student body of 20,000. The University has seven colleges: Arts and Sciences, Education, Engineering, Business Administration, Law, Urban Affairs, and Graduate Studies. The University is located in downtown Cleveland, within walking distance of one of the largest public libraries in the United States, and provides extraordinary opportunities for urban educational experiences. The Cleveland metropolitan area has a population of 2,000,000 and uncommon cultural resources, health care, and recreational advantages.

Salary is competitive. The starting date is 1 July 1984.

Deadline for submission of completed applications is 1 November 1983. Nominations or letters of application should include a comprehensive résumé. At least four confidential letters of recommendation should be addressed to: Dr. Leon Soule, Chairperson of Dean Selection Committee, Department of Anthropology, 1983 East 24 Street, Cleveland State University, Cleveland, Ohio 44115.

Equal Opportunity Employer, M/F/H

UNIVERSITY OF MINNESOTA-TWIN CITIES DIRECTOR OF THE INSTITUTE OF TECHNOLOGY LIBRARIES

The Director of the Institute of Technology (IT) Libraries is responsible for administering six libraries (Architecture, Chemistry, Engineering, Geology, Mathematics, and Physics) with a budget of over \$1 million, staff of 21 FTE, and a collection of 300,000 plus cataloged volumes. The director of the IT Libraries reports to the university Librarian and participates in University Libraries-wide planning and policy development, together with the directors of the other major University libraries departments.

A minimum of 5 years of experience in a science or technology library is required, as is either a master's degree in library or information science, or an appropriate advanced degree in a relevant field. Experience in a large research or academic library and an academic degree in the physical or applied sciences is desirable.

Applicants for this position must also have demonstrated skills in administration, planning, and interpersonal relations. They must have a sophisticated knowledge of information science and its application in the physical and applied sciences. They must be able to work effectively with faculty, students, academic administrators, library colleagues, and staff.

Salary for this academic-administrative position is negotiable, with a minimum of \$37,500. A full array of fringe benefits, including a retirement system and medical-dental coverage, is provided.

Applications must be postmarked by 1 November 1983. Nominations should be received by 1 October 1983.

If interested in applying, please send a letter of application, curriculum vitae, and names of four references to: Robert Wright, Personnel Officer, University Libraries, 499 Wilson Library, 309 19th Avenue South, Minneapolis, Minn. 55455.

The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

POSITIONS OPEN

A research appointment (ASSISTANT RESEARCH SCIENTIST) is available in the Department of Radiology, Division of Radiologic Physics and Engineering, for a **medical physicist**. Initial responsibilities would be in funded research including transducer array development ultrasonic-computed tomography and pulse-echo tissue characterization. Opportunities are offered for some self-initiated research in ultrasound imaging, digital fluoroscopy, and other radiologic imaging.

Applicants must have a Ph.D. on a biophysics or medical physics topic, teaching experience in all aspects of radiologic physics, and more than 3 years of postdoctoral experience concentrated on ultrasound-wave propagation, transducer design and development, digital signal processing, other diagnostic imaging modalities, and assembly language programming. Graduate training and a thesis or dissertation in acoustics is desired. Desired also are research or clinical responsibilities in diverse radiologic physics areas such as computed tomography, physiologic modeling, nonlinear optimization, blood flow analysis, radiation safety, scattering theory, and image quality control.

Interested applicants should contact: **William Martel, M.D., Chairman, Department of Radiology, The University of Michigan Medical School, Ann Arbor, Michigan 48109. A nondiscriminatory, Affirmative Action Employer.**

ASSOCIATE OR FULL PROFESSOR. The Department of International Public Health Sciences in the School of Public Health, University of Alabama in Birmingham, has reopened the search for applicants with a Ph.D. in nutrition for a tenure-earning position of associate or full professor. The appointee will develop an independent research program in growth and development and/or maternal-child nutrition with a strong physiological-biochemical basis and will participate in the organization of a curriculum leading to an M.P.H. in public health nutrition. Candidates should submit, before 1 November 1983, curriculum vitae, including a list of publications, and letters of reference (three to five) to: **Dr. Juan M. Navia, Chairperson of the Search Committee, School of Public Health, University of Alabama in Birmingham, University Station, Birmingham, Alabama 35294.** The starting date for this position is 1 June 1984 or earlier. *Equal Opportunity/Affirmative Action Employer.*

BIOLOGY DEPARTMENT CHAIRPERSON: Tenure-track position, to begin summer 1984. Seeking an active, experienced scientist with outstanding credentials. Rank and salary commensurate with experience. Provides leadership in curriculum development, budgeting, scheduling, personnel evaluation, and so forth for eight-member department, teaches, and conducts research. Teaches two courses per year (two semesters). Initiates active research program involving undergraduates. Ph.D., teaching/research/administrative experience, and commitment to undergraduate teaching required. Preference will be given to applicants with experience in molecular genetics or plant biology, but candidates with related specialties will be considered. Submit interest letter, curriculum vitae, transcripts, and names of three references by 14 October 1983, to: **Biology Chair Search, University of Puget Sound, P.O. Box 7297, Tacoma, Wash. 98407. An Equal Opportunity/Affirmative Action Educator/Employer.**

ELECTRON MICROSCOPIST

We seek a qualified person for a full-time, nontenure-track, staff position of electron microscopist. Duties include operation and maintenance of the electron microscope facilities (scanning and transmission electron microscopes), scheduling of equipment use, service assistance to faculty and students, some instructional responsibilities, and so forth. Extensive training in both scanning and transmission electron microscopy is important. Master's degree preferred. Applications should include cover letter, curriculum vitae, and samples of recent work in electron microscopy. Also request letters of support from three professionally qualified referees. Send applications and letters by 10 October 1983 to: **Dr. Vicki Martin, Department of Biology, University of Notre Dame, Notre Dame, Indiana 46556.**

Tenure-track, full-time **FACULTY POSITION** available fall 1983. Responsibilities include research and teaching of medical and graduate students. Send curriculum vitae to: **Dr. M. Michael Sigel, Chairman, Department of Microbiology and Immunology, University of South Carolina School of Medicine, Columbia, South Carolina 29208. The University of South Carolina is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

BIOCHEMIST, assistant professor (position anticipated), **Department of Biochemistry, College of Basic Sciences, Louisiana State University, and the Louisiana Agricultural Experiment Station, Baton Rouge, La. 70803.** Preference for research background in recombinant DNA technology in any area of plant sciences, Ph.D. in biochemistry or related area, and postdoctoral experience. Competitive salary and start-up funds available. Send curriculum vitae, research plans, and three letters of recommendation to: **Search Committee**, at the above address.

CELL BIOLOGIST

The University of North Carolina at Chapel Hill invites applications for a junior or senior faculty position in the Department of Anatomy and Laboratories for Cell Biology. Applicants should have postdoctoral research experience and demonstrated excellence in any area of cell biology. Preference will be given to research in cell surface or membrane biology, cellular neurobiology, or biology of the cytoskeleton. Teaching responsibilities will be in human gross anatomy or medical histology. *Women and minorities are encouraged to identify themselves voluntarily.* Send curriculum vitae, a brief description of research plans, and the names of three references to: **Dr. Charles R. Hackenbrock, Chairman, Department of Anatomy, School of Medicine, 108 Swing Building 217H, University of North Carolina, Chapel Hill, N.C. 27514. An Equal Opportunity/Affirmative Action Employer**

CEREBROVASCULAR RESEARCH

The Section of Cardiovascular Neurobiology, Division of Research, Cleveland Clinic Foundation, is seeking applicants for a faculty position in the Cerebrovascular Research Laboratory. Applicants must have an M.D. or Ph.D. degree and experience in cerebrovascular research. Individuals with a background in neurochemistry, autoradiography, and/or cerebral blood flow measurement are preferred. The position also requires participation in the postgraduate neuroscience education program and an interest in clinical neuroscience.

Candidates should submit their curriculum vitae, bibliography, and three references to: **Carlos M. Ferrario, M.D., Department of Cardiovascular Research, Division of Research, Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, Ohio 44106.**

CHAIRPERSON DEPARTMENT OF ENTOMOLOGY THE OHIO STATE UNIVERSITY

Applications and nominations are invited for the position of chairperson of the Department of Entomology. Candidates should have an earned doctorate and an outstanding record of research accomplishments and be dedicated to the provision of leadership in research, teaching, and cooperative extension. The department currently includes 32 faculty located on the Columbus campus and at the Ohio Agricultural Research and Development Center (Wooster). Applications and nominations will be received until 1 November 1983 or thereafter until the position is filled. Send résumés and names of three references to: **David L. Denlinger, Chairman of the Search Committee, Department of Entomology, The Ohio State University, 1735 Neil Avenue, Columbus, Ohio 43210. An Affirmative Action/Equal Opportunity Employer.**

FACULTY POSITIONS

The Division of Toxicology, Department of Radiation Biology and Biophysics, at the University of Rochester School of Medicine and Dentistry invites applications until 1 November 1983 for three tenure-track positions at the assistant or associate professor level to be filled by September 1984.

PULMONARY IMMUNOLOGIST PULMONARY CONNECTIVE TISSUE BIOCHEMIST AEROSOL SCIENTIST

Successful candidates will be expected to develop interactive, independent research programs and participate in graduate education programs. A Ph.D., M.D., or comparable advanced degree is required; 2 to 5 years of postgraduate experience is desirable. Salary is negotiable. Applicants should send a brief statement of research interests, curriculum vitae, and names of three references to:

**Dr. Paul L. La Celle
Pulmonary Search Committee
Box RB&B
University of Rochester
601 Elmwood Avenue
Rochester, New York 14642**

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

POSITIONS OPEN

DIRECTOR OF NUCLEAR PHARMACY position (rank to be negotiated) available in the Nuclear Medicine Division, Department of Internal Medicine, University of Michigan Medical Center. Specialty certification (or Board-eligible) and advanced degree in nuclear pharmacy or related area desired. Applicant should also possess documented record of academic achievements. Special interests should include nuclear medicine and clinical and radiopharmaceutical research and development. Send curriculum vitae to: **William H. Beierwaltes, M.D., Physician-in-Charge, Division of Nuclear Medicine, Box 021, W-5630, University of Michigan Medical Center, Ann Arbor, Michigan 48109. A nondiscriminatory, Affirmative Action Employer. 204 BO.**

ELECTROPHYSIOLOGIST (Ph.D.)—Administrative (associate director) as well as research responsibilities included in position for electrophysiologist with interest in extracellular and intracellular recording from nerve tissue cultures (explants). Familiarity with computer applications required. Equipped laboratory provided. Position available for 3 years (full salary for 2 years and one-half of third year to be supplemented from research grant) beginning 1 October 1983, with reasonable possibility of continued support thereafter. Salary range from \$24,508 to \$29,374 (GS-11 or -12). Academic appointment at affiliated medical school. Send curriculum vitae and names of three references to: **F. J. Seil, M.D., Director, Office of Regeneration Research Programs (151N), VA Medical Center, Portland, Ore. 97207. Telephone: 503-222-9221, extension 2613. Equal Opportunity Employer.**

REPRODUCTIVE ENDOCRINOLOGIST

VISITING ASSISTANT PROFESSOR (nontenure-track) to teach general physiology lecture course in spring 1984 to premed students. We seek candidates active in reproductive physiology of **LOWER VERTEBRATES** (fish preferred) to interact with other faculty in this area. Excellent research facilities. Position is available for 1 year beginning September 1983. Submit curriculum vitae, publications, names of three referees, and statement of research interests to: **Dr. Theodore J. Crovello, Chairman, Department of Biology, University of Notre Dame, Notre Dame, Indiana 46556. Notre Dame is an Affirmative Action Employer. Qualified women and minority group candidates are urged to apply.**

EXECUTIVE SECRETARY PANEL ON BASIC BIOLOGY

The Commission on Life Sciences of the National Research Council seeks an executive secretary to develop and administer a program of studies on basic biology. Extremely broad experience and proven expertise are required in areas ranging from ecology to genetics and neuroscience. Applicants should have at least 15 years of experience in the academic or government environment, preferably a combination of both. A Ph.D. or equivalent in one of the life sciences is required. Candidates should have a record of holding increasingly responsible positions involving the examination of issues requiring knowledge of basic biology and science policy, for example, issues pertaining to science education, research resources, research trends. Send curriculum vitae and letter of interest to: **Dr. Alvin G. Lazen, Executive Director, Commission on Life Sciences, National Research Council, 2101 Constitution Avenue NW, Washington, D.C. 20418. An Equal Opportunity Employer**

FACULTY POSITION IN BIOCHEMISTRY Hahnemann University School of Medicine

Applications and nominations are invited for highly qualified individuals for a full-time faculty position at the associate or full professor level in the Department of Biochemistry. Candidates should have a Ph.D., an excellent record of research accomplishment, dedication to a research career, and current external research support. Research field of interest is open. Successful candidate will be expected to participate in the academic activities of the department. The department is dedicated to excellence in research and in teaching of medical and graduate students. Support for start-up of new faculty is available. Applicants should submit curriculum vitae, bibliography, copies of two recent publications, and names of three references to: **Thomas M. Devlin, Ph.D., Chairman, Department of Biological Chemistry, Medical School, Hahnemann University, Philadelphia, Pa. 19102. The Hahnemann University is an Equal Opportunity/Affirmative Action Employer and welcomes applicants from women and members of minority programs.**

SENIOR FERMENTATION SCIENTIST

■ Eli Lilly and Company is actively seeking candidates for a senior technical service scientist position. The successful candidate should have a Ph.D. degree in the biological sciences, preferably microbiology, and some demonstrated experience in fermentation technology. The position will involve production scale development on mature fermentation antibiotic products. The focus of this position will be new process implementation and optimization.

Qualified candidates, who are interested in joining a company committed to growth in the field of biotechnology, are asked to send their resume and salary requirements to:

Arthur L. Taylor
Eli Lilly and Company
P.O. Box 685
Lafayette, Indiana 47902



Eli Lilly and Company is an
Equal Employment Opportunity employer.

THE FIRST WORD IN ... PHARMACEUTICAL DEVELOPMENT

Abbott Laboratories is recognized traditionally as a leading force in the development of pharmaceutical products. Our commitment to new products begins with talented scientists, involves extensive research and testing, and results in a growing product line with major domestic and international sales.

TOXICOLOGIST

Responsibilities include preparing toxicology protocols, supervising studies, writing reports, and coordinating activities with Pathology and Drug Metabolism as well as serving as a liaison to various divisions. A Ph.D. or equivalent in Toxicology or Pharmacology will be essential. Relevant Post-Doctoral research experience will be helpful.

Headquartered in an attractive suburban area just 30 miles north of Chicago, Abbott provides an exceptional compensation package which includes profit sharing and a stock retirement plan. For prompt consideration, submit a resume with salary history, in confidence to: **Charlene Crusoe-Ingram/Corporate Placement.** Abbott is an Affirmative Action Employer.

 **ABBOTT**
ABBOTT PARK ILL. 60064

"HEALTH CARE WORLDWIDE"

THE FIRST WORD IN ... SUCCESS

Pulmonary Physiologist and Biochemist

Pfizer Central Research has two openings for Ph.D. scientists in the Department of Immunology and Infectious Disease. These positions are part of a drug discovery team investigating the pathophysiology of asthma and other hypertensive disease states.

Qualified candidates must have a Ph.D. in Biochemistry, Immunology or Physiology and a minimum of two years postdoctoral experience. A background in the area of animal models of pulmonary disease and/or the role of bioactive lipids as mediators of the disease process is essential. A publication record indicative of the ability to perform creative, independent research is desirable.

This position offers an excellent opportunity for professional recognition and career growth. We also offer competitive compensation, benefit package and the opportunity to live in an attractive Connecticut shore community. Please send resume and a brief description of research interests to: Jerry K. Larson, Ph.D., Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, Connecticut 06340.



An equal
opportunity employer

TOXICOLOGIST

Stauffer Chemical Company, an international industry leader, is seeking a Toxicologist to conduct a variety of subchronic, chronic, and special studies. Responsibilities include participation in the design studies, preparation of protocols, implementation and overall supervision of studies, evaluation and interpretation of results, and preparation of written reports and summaries.

The position offers excellent opportunity for collaborative work in the pathogenesis of toxic effects with veterinary pathologists and staff in Mutagenesis/Carcinogenesis, Reproductive Biology/Teratology and Metabolism/Pharmacokinetics.

The successful applicant will have an MS or PhD degree or equivalent experience in toxicology, pharmacology or biochemistry.

Stauffer provides an excellent salary and outstanding benefits. The Stauffer Environmental Health Center is adjacent to the University of Connecticut Health Center, in one of the state's most attractive semi-rural towns. To apply, please send your curriculum vitae, a brief description of your experience and salary requirements in complete confidence to:



Mrs. P. Frutchey
Stauffer Chemical Company
400 Farmington Avenue
Farmington, Conn. 06032

An Equal Opportunity Employer

POSITIONS OPEN

FACULTY POSITION—MOLECULAR BIOLOGIST. Tenure-track opening for a molecular biologist at the assistant or associate professor level in the Department of Chemistry (Biochemistry Division) at Texas Tech University (TTU) for the fall semester of 1984. Experience with recombinant DNA techniques and/or related molecular biological methods required. Prior to 1 November 1983, applicants should forward a résumé and description of proposed research and arrange to have three letters of recommendation sent to: **Professor Pill-Soon Song, Department of Chemistry, Texas Tech University, Lubbock, Texas 79409. Telephone: 806-742-3092. TTU is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION IN BIOTECHNOLOGY AT MIT

We invite applications for a tenure-track faculty position in the area of biotechnology. Preferred areas of doctoral training might include: molecular genetics, cell biology, bioseparations, drug delivery, biomaterials, and bioorganic chemistry. Specific research interests are less important than the ability to participate in and develop existing educational programs, and to establish a strong independent research program.

Please send curriculum vitae (including a list of publications), a description of research interests and future research plans, and the names of at least three references to: **Dr. Gerald N. Wogan, Massachusetts Institute of Technology (MIT), Room 16-333, Cambridge, Mass. 02139.**

MIT is an Equal Opportunity/Affirmative Action Employer. Members of minority groups are urged to apply.

FACULTY POSITIONS

The Department of Biochemistry and Molecular Biology at the University of Texas System Cancer Center, M.D. Anderson Hospital and Tumor Institute, invites applications for tenure-track positions at the assistant, associate, and full professor levels. Applicants should have a Ph.D. or M.D. and a proven record of accomplishments as a postdoctoral student or faculty member. Strong preference will be given to biochemists and molecular or cell biologists with demonstrated interests in some aspect of the regulation of differentiation and development. Applicants should send a letter outlining their research interests, their résumé, and three letters of reference from individuals familiar with their work to: **Dr. William J. Lennarz, Department of Biochemistry and Molecular Biology (Box 117), The University of Texas System Cancer Center, 6723 Bertner Avenue, Houston, Texas 77030. Deadline for all application materials is 15 October 1983. An Affirmative Action/Equal Opportunity Employer.**

FACULTY POSITION. The Institute of Biological Sciences at Oakland University invites applications for a tenure-track position at the assistant professor level to conduct basic eye research related to ocular pharmacology and experimental glaucoma. This is a full-time research position in an Institute which is devoted exclusively to ophthalmic research. Applicants must have a Ph.D. with postdoctoral research experience or equivalent. Preference will be given to a candidate with evidence of an ability to conduct independent research which merits external grant support. Applications, including a complete résumé with a list of publications, a brief description of research interest, and names of three references, should be submitted by 1 December 1983 to: **Dr. H. Shichi, Chairman of Search Committee, Institute of Biological Sciences, Oakland University, Rochester, Michigan 48063. An Equal Opportunity/Affirmative Action Employer.**

MICROBIOLOGY. Tenure-track position in Division of Basic Medical Sciences. Candidate's credentials should include a Ph.D. in microbiology, postdoctoral experience, and ability to teach in a microbiology/infectious disease course. Preference will be given to candidates with research interests in gene expression as related to mechanisms of pathogenesis. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.* Candidates should forward curriculum vitae, brief statement of research plans, and the names of three individuals who can provide references to:

**Dr. Stephen M. Boyle
Division of Basic Medical Sciences
Faculty of Medicine
Memorial University of Newfoundland
St. John's, Newfoundland, Canada A1B 3V6**

POSITIONS OPEN

FACULTY POSITIONS IN PHARMACOLOGY

Subsequent to the recent arrival of Dr. H. D. Kim, Professor and Chairman of the Department of Pharmacology, University of Missouri-Columbia, the search for candidates for two tenure-track positions at the assistant professor rank [*Science* 219, 1466 (1983)] is being extended. These positions will be available beginning 1 September 1983. In addition, we anticipate that more tenure-track positions will be open by September 1984. Candidates must have a Ph.D. and/or M.D. degree with two or more years of postdoctoral research experience. For the two positions currently available, preference will be given to candidates with a strong background in:

- 1) **Molecular, cellular, or endocrine pharmacology** (receptors for peptide hormones such as insulin, parathyroid hormone or calcitonin; membrane transport, lipoproteins and regulation of cellular function),
- 2) **Neuropharmacology** (receptor-mediated mechanisms of regulation in the autonomic or central nervous system).

Candidates will be evaluated on the basis of demonstrated research skills, background training in academic pharmacology, and potential for teaching of pharmacology to medical and graduate students. Successful candidates will be expected to develop an independent research program and obtain extramural funding to support their research. Competitive salary commensurate with experience. Please send curriculum vitae and names of three references by 15 October 1983 to: **Dr. Leonard R. Forte, Chairman of the Search Committee, M-523 Medical Sciences Building, University of Missouri, School of Medicine, Columbia, Missouri 65212.**

The Department of Obstetrics and Gynecology of the University of South Carolina School of Medicine invites applications for a **FACULTY RESEARCH POSITION IN REPRODUCTIVE ENDOCRINOLOGY.** The opening is at the assistant professor level, and candidates are expected to have the Ph.D. and two or more years of postdoctoral experience in molecular/hormonal regulation of cellular growth and differentiation. Research interests in hormonal control of ovarian development or receptor-site involvement in gynecologic cancer preferred. The successful candidate will be expected to obtain extramural funding and to participate in teaching of medical and graduate students. Inquiries, including curriculum vitae, a brief description of research plans, and names of three references, should be submitted within 30 days to: **Edward J. Dennis, M.D., Chairman, Department of Obstetrics and Gynecology, University of South Carolina School of Medicine, 3321 Medical Park Road, Columbia, S.C. 29203. An Affirmative Action/Equal Opportunity Employer.**

GROSS ANATOMIST: Tenure-track position available 1 January 1984. Southern Illinois University School of Dental Medicine. Assistant/associate professor level with major teaching role in gross anatomy. Ph.D. or equivalent in human health sciences and demonstrated research ability required. Preference given to applicants with additional training in biochemistry or microbiology. Deadline for receiving application: 8 October 1983. Send application and résumé to: **Herbert C. Butts, Dean, Southern Illinois University School of Dental Medicine, 2800 College Avenue, Alton, Illinois 62002. An Affirmative Action, Equal Opportunity Employer.**

INSTRUCTOR IN MOLECULAR NEUROBIOLOGY. Faculty position available to pursue research on genetic neurological diseases. Applicant should be experienced in techniques of molecular biology including recombinant DNA methodology, formation of genomic and cDNA libraries and cloning procedures. Send curriculum vitae to: **Dr. Roger N. Rosenberg, Department of Neurology, University of Texas Health Science Center at Dallas, Southwestern Medical School, 5323 Harry Hines Boulevard, Dallas, Texas 75235. Equal Opportunity Employer.**

Tenure-track faculty position for MEDICINAL CHEMIST with keen interest in research. Expected to instruct pharmacy students in organic medicinal chemistry, and to participate in graduate training leading to the M.S. and Ph.D. degrees in medicinal chemistry. Teaching load depends on involvement in meaningful and productive research. Salary and rank are contingent on expertise, experience, and capability to attract extramural funding. Address applications to: **Chairman, Department of Medicinal Chemistry, College of Pharmacy, University of Tennessee Center for the Health Sciences, Memphis, Tennessee 38163. The University of Tennessee is an Equal Opportunity Employer.**

POSITIONS OPEN

VISITING LECTURER IN PHYSIOLOGY. The Department of Animal Physiology at the University of California, Davis, invites applications for a visiting lecturer in physiology, the level depending on background and experience. Appointment will be made for 1 year beginning 1 January 1984, with reemployment possible for a second year. This is a 9-month, full-time appointment. Minimum qualifications include a Ph.D. in systemic physiology. The successful applicant will be expected to contribute to the department's teaching and advising program in systemic physiology for undergraduate students. Applicants should submit curriculum vitae, bibliography, recent reprints, transcripts (if Ph.D. conferred within last 5 years), and the names and addresses of at least three references to: **Chair, Visiting Lecturer Search Committee, Department of Animal Physiology, University of California, Davis, Calif. 95616. Closing date for receipt of applications is 1 October 1983.**

The University of California is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.

MARINE ORGANIC CHEMIST—Research associate in the Cooperative Institute of Marine and Atmospheric Sciences, University of Miami and National Oceanic and Atmospheric Administration (NOAA). Experience in GC-MS-DS and sampling from ships or aircraft desired. M.S. preferred. Contact: **Chairman, Search Committee, D. K. Atwood, NOAA/AOML, 4301 Rickenbacker Causeway, Miami, Florida 33149.**

MICROBIOLOGISTS

Tenure-track faculty position to begin spring or fall 1984. Duties: teach undergraduate courses in microbiology, microbial ecology, and general biology; participate in graduate offerings; advise students; and serve on department committees. Research is encouraged; facilities are available. Qualifications: Ph.D. required; strong background in genetics preferred. Rank: assistant professor; salary \$18,000 to \$26,000, depending upon experience. Send curriculum vitae, transcripts, and names of three references by 1 October 1983 to: **Chairperson, Hiring Committee, Biology Department, Towson State University, Baltimore, Md. 21204. An Equal Opportunity/Affirmative Action Employer.**

MOLECULAR BIOLOGISTS ISRAEL

International Genetic Sciences (IGS) Partnership is seeking molecular biologists for our Jerusalem research facility. Applicant should have experience in recombinant DNA technology in either animal or plant cells. Please send curriculum vitae, list of publications, and recommendations to:

**IGS PARTNERSHIP
155-25 Styler Road
Jamaica, New York 11433**

MOLECULAR BIOLOGY

Postdoctoral positions to study control of histone gene expression in mouse cells or mechanism of small nuclear RNA biosynthesis in sea urchin embryos. Experience in molecular biology desirable but not necessary. Well-equipped marine laboratory on the Gulf of Mexico available for sea urchin work. Send curriculum vitae and two references to: **Dr. William Marzluff, Department of Chemistry, Florida State University, Tallahassee, Fla. 32306.**

PATHOLOGISTS. The Department of Pathology at University of California, Los Angeles (UCLA), School of Medicine, has positions available at the assistant professor level to start on or before 1 July 1984. Qualifications include an M.D. degree, Board-eligibility or certification in anatomic or specialty pathology, demonstrated research ability and eligibility for California licensure. Individuals with specialized interests in neuropathology, pulmonary pathology, pediatric pathology, and cell biology will be favored, although candidates with other specialties will be considered. Duties will include assistance on the autopsy service, teaching undergraduate and graduate students and residents, and development of an independent research program. Applications including curriculum vitae, summary of research interests, and names and addresses of four references, should be sent to: **P. A. Cancilla, M.D., Chairman, Department of Pathology, UCLA School of Medicine, Los Angeles, California 90024.**

UCLA is an Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.

POSTDOCTORAL RESEARCH APPOINTMENTS IN SCIENCE AND ENGINEERING

LOS ALAMOS NATIONAL LABORATORY

The Los Alamos National Laboratory is seeking candidates for our Postdoctoral Research Program. Appointments are considered in many areas of theoretical and experimental physics, chemistry, engineering, biology, materials science, environmental health, mathematics, and geoscience.

Applicants should have received their doctoral degree within the past three years. The appointments are for one year, renewable for a second year. The annual stipend range is \$24,720-\$26,040 per year; employee benefits and moving expenses are provided.

Postdoctoral appointments are awarded in a Laboratory-wide competition. The Selection Committee meets four times a year in December, February, May, and August. Applications are accepted any time during the year.

Send resume or employment application (usually available from your placement office) with supporting documents to, or request application from:

Madeline Lucas
MS P280, DIV 83-AB
Los Alamos National Laboratory
Los Alamos, NM 87545

University of California

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

An Affirmative Action/Equal Opportunity Employer:
Women, Minorities, Handicapped and Veterans are urged to apply.

Microbiologist Animal Health Research

Pfizer Central Research has an opening for a Ph.D. microbiologist in its Animal Health Research Group. This position represents an opportunity to participate in the discovery of drugs aimed at control of respiratory and enteric diseases of livestock. Responsibilities will include the development of new laboratory methodologies and the management of established *in vitro* and *in vivo* biological test systems.

In addition to a Ph.D. in microbiology, applicants must have 1 or 2 years postdoctoral experience. A background and prior research experience with gnotobiotic animals or obligately anaerobic and microaerophilic bacteria is essential.

This position offers an excellent opportunity for professional recognition and career growth. Publication of important findings will be encouraged. We also offer competitive compensation, benefit package and the opportunity to live in an attractive Connecticut shore community. Please send resume and a brief description of research interest to: Jerry K. Larson, Ph.D., Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, Connecticut 06340.



An equal
opportunity employer

Laboratory Manager

Biogen is a leading biotechnology company with laboratories in the United States and Switzerland. We are seeking an experienced Laboratory Manager to oversee day-to-day operations of the scientific support functions of our Cambridge laboratory.

The Laboratory Manager will be responsible for procurement of goods and coordination of services as this applies to the daily and long term functioning of the scientific research operations of the company. This will involve supervision and direction of a staff of individuals who are responsible for operations in these areas:

- Media preparation and glassware washing
- Equipment maintenance and machine shop
- Materials resource staff (purchasing, stock room and receiving)
- Building maintenance staff
- Radiation, chemical and fire safety

Reporting to the Associate Scientific Director, the laboratory manager is expected to play a key role in preparation of scientific equipment budgets and facilities planning as the company continues to grow in the scientific area. The successful candidate should have an understanding of the laboratory facilities and support services used in research in molecular biology and biochemistry. Preference will be given to candidates who have demonstrated experience in management of scientific resources and the organization of support functions and support staff.

Biogen offers an excellent compensation and benefits package. Please send your resume and the names of three references to:

Nanci Pye, Manager of Human Resources: 14 Cambridge Center, Cambridge, MA 02142

BIOGEN

IMMUNEX

Immunex Corporation is expanding its scientific staff in order to keep pace with its achievements in commercial development of lymphokines and immune response modifiers. Immunex currently has vacancies in the following areas:

Senior Staff Scientist/Molecular Biology: The successful candidate should have demonstrated an ability to conduct a competitive research program and to have acquired peer reviewed funding or its equivalent. Additionally they should have experience in directing a sizeable laboratory. The program to be administered is a broadly based one, involving all aspects of recombinant DNA research. The position offers the chance to direct the molecular biology component of interdisciplinary projects and to be centrally involved in the recruitment of additional scientific staff.

Associate Staff Scientist/Immunochemist: Ph.D. or M.D. required. Successful applicant should have relevant experience in generation of specific antisera and small animal immunization regimens. The position will involve production of anti-protein and anti-synthetic peptide reagents, either through development of conventional antisera or monoclonal antibodies. The applicant should have post-doctoral experience together with relevant publications in immunochemistry.

Staff Scientist/Associate Staff Scientist/Immunology: Ph.D. or M.D. required. Successful applicants should have post-doctoral experience with proven productivity in the general areas of cell-mediated immunity, suppressor cell functions or T cell cloning/hybridoma generation.

Staff Scientist/Associate Staff Scientist/Molecular Biology: We are seeking individuals with at least 2 years post-doctoral experience in recombinant DNA techniques. In particular, experience in the following areas would be advantageous: prokaryotic gene expression, molecular immunology, eukaryotic expression vectors, or protein secretion.

Immunex Corporation is a Seattle-based, biotechnology company specializing in immunoregulation by lymphokines. The company offers competitive salaries, an equity participation program, and a generous fringe benefit package. To apply, please send resume and the name of 3 references to either Dr. C. S. Henney or Dr. S. Gillis.

Immunex Corporation
51 University Street
Seattle, WA 98101

Industrial Toxicologist

Are you qualified to handle a large scale contract toxicology testing program for a major multinational organization?

This non-laboratory position carries primary responsibility for the corporate program and requires a professional with an advanced degree and 2-5 years relevant experience, preferably in the chemical industry or contracts laboratory. Your technical base should specifically include experience with protocol development, interpretation of results, and evaluation of toxicology literature. Well developed oral/written communication skills required.

This NYC based position involves travel, and working with trade associations.

For confidential consideration please forward resume with salary history to

Sci Box 229

an equal opportunity employer

POSITIONS OPEN

NEUROPHYSIOLOGIST

RESEARCH ASSOCIATE position available January 1984 for a recent Ph.D. or M.D. to join an ongoing study of the function and specificity of synaptic contacts during the development and regeneration of autonomic neurons. Opportunity for fluctuation and quantal analysis of synapses. Send curriculum vitae and names of three references to: **Dr. Lawrence M. Marshall, Department of Physiology 206H, University of North Carolina, Chapel Hill, N.C. 27514.** An Affirmative Action/Equal Opportunity Employer.

NUCLEAR CHEMIST

Applications are invited for a tenure-track position in experimental nuclear science in the **Department of Chemistry, Washington University, St. Louis, Missouri.** Preference will be given to applicants at the assistant professor level, but appointment as associate or full professor will be considered for candidates with demonstrated distinguished research and teaching accomplishments. Liberal start-up funds will be made available to the successful applicant. Applicants are requested to submit, by 31 December 1983, curriculum vitae and a statement of research interests and to arrange to have three letters of reference sent to: **Professor William D. Phillips, Chairman, Department of Chemistry, Washington University, St. Louis, Mo. 63130.**

Washington University is an Equal Opportunity/Affirmative Action Employer.

ORNITHOLOGIST to conduct research on the ecology and dynamics of wild populations of resident and migratory birds, to analyze and interpret data collected, prepare manuscripts for publication, and seek outside sources of funding when appropriate. Applicants must have a Ph.D., a strong interest in conducting field research, an academic background in the biological and physical sciences, and experience in field research on avian ecology. Salary, up to \$25,000 per year for a 12-month appointment, will be commensurate with experience and qualifications. Closing date for applications is 10 October 1983, or when position is filled. Résumé, record of college coursework, copies of recent publications, and names of three references (request references to write directly) should be sent to: **Dr. Glen C. Sander-son, Head, Section of Wildlife Research, Illinois Natural History Survey, 607 East Peabody Drive, Champaign, Ill. 61820.** Telephone: 217-333-6870.

The Illinois Natural History Survey is an Equal Opportunity/Affirmative Action Employer.

PHYSIOLOGY

Assistant or associate professor, initially a term appointment, renewable with prospects for a career position. The successful candidate will be expected to develop his/her own research projects, in coordination with an already established group studying the short- and medium-term effects of ionizing radiation. *This advertisement is directed to Canadian citizens and permanent residents.* Respond with curriculum vitae and names of two references by 15 November 1983 to: **Chairman, Department of Physiology, University of Ottawa, Ottawa, Ontario, Canada K1H 8M5.**

POSTDOCTORAL POSITIONS in biochemical pharmacology and toxicology. Positions available in biochemical aspects of glucuronyltransferases and in molecular and biochemical studies on folate biochemistry. Experience with immunology, monoclonal antibody, HPLC, enzymology, and tissue culture preferred. Send curriculum vitae and names of three references to: **Dr. Thomas R. Tephly, Department of Pharmacology, The University of Iowa, Iowa City, Iowa 52242.**

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

POSTDOCTORAL POSITION in plant physiology to study fluoride-induced alterations in processes associated with senescence. Qualifications include Ph.D. in plant physiology or biochemistry with experience in senescence physiology. Experience with calcium nutrition/metabolism is also desirable. Appointment will begin in January 1984 for a minimum of 1 year and is renewable for up to 3 years. Starting salary: \$16,000. Send curriculum vitae and names of three references to: **Dr. D. C. MacLean, Boyce Thompson Institute at Cornell University, Tower Road, Ithaca, N.Y. 14853.** *Boyce Thompson Institute is an Affirmative Action/Equal Opportunity Employer.*

PROJECT MANAGER — PHARMACEUTICAL PRODUCT DEVELOPMENT

Abbott Laboratories is currently seeking qualified candidates for a project management position in our pharmaceutical products division. Abbott project managers assume full responsibility for all aspects of the development of new pharmaceutical products intended for marketing both domestically and internationally.

The major responsibilities of our project managers include the coordination of development activities among R&D, clinical research and regulatory affairs departments. Specific duties include the organization of submissions (particularly IND's and NDA's) to the FDA and other regulatory agencies and the preparation of research and commercial plans for new products.

The successful accomplishment of these challenging tasks will require all candidates to have a strong background in a scientific discipline, as evidenced by the attainment of at least a Master's Degree in the Biological or Medical Sciences, with 6 or more years of professional experience in new drug development. Familiarity with domestic and international regulatory operations is essential, as is a demonstrated ability to supervise the work of other scientific professionals. Experience with computer-based project management systems is also required. The successful candidate must be able to communicate effectively both orally and in writing, with all levels of management.

Abbott Park, Abbott's headquarters, is located in an attractive suburban area on the Lake Michigan shoreline, 30 miles north of Chicago. We offer an excellent salary and benefits package which includes profit sharing and a stock retirement plan. For consideration, send your resume with salary history in confidence to: **Dave Kennedy/Corporate Placement.**

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"HEALTH CARE WORLDWIDE"

Abbott is an Affirmative Action Employer

STATE OF KUWAIT
KUWAIT UNIVERSITY
Academic Posts for 1984/1985

Applications are invited for the posts of Lecturers (Assistant Professors), Assistant Professors (Associate Professors) and Professors (Full Professors). Contracts commence from September 1, 1984 for three years maximum, renewable for a similar period if convenient to both applicant and the University. Appointments are in accordance with the following:

- a) English is the medium of instruction in the Faculty of Science.
- b) Method of teaching at Kuwait University is based on the credit system.
- c) Copy of the Ph.D. degree or its official equivalent must be attached to the application.

No application will be considered from those who are not holders of Ph.D. at time of application. Only applications for vacancies advertised will be considered.

FACULTY OF SCIENCE

- | | |
|---|---|
| Mathematics Department | : Computer Science, Numerical Analysis, Statistics. |
| Physics Department | : Electronics, Atomic Physics, Molecular Physics, Theoretical Physics. |
| Biochemistry Department | : Biochemical Genetics or Enzymology.
(Visiting Professor for a contract of one or two years) |
| Botany and Microbiology Department | : Microbial Physiology, Microbial Ecology, Plant Taxonomy of Flowering, Plants Paleobotany. |
| Zoology Department | : Genetics, Desert Ecology, Comparative Animal Physiology, General Zoology. |
| Geology Department | : Geophysics-Tectonics, Crystallographer Mineralogist, Metamorphic Petrologist, Isotope Geochemistry. |

Application forms and conditions of service are obtainable from the Kuwait University Office, 3500 International Drive, Washington, D.C. 20008.

Completed applications, together with non-returnable copies of academic qualifications and the candidate's publications should be sent by registered post *directly* to the **Department of Administrative Affairs, Kuwait University, P.O. Box 5969, Kuwait, to be received not later than 28th December, 1983.** Those who applied last year may renew their applications provided this advertisement included their fields of specialization. All recent data and publications should be included.

Rio Grande Research Corridor
Computing Research Laboratory

Lead Scientist/Director

New Mexico has launched a bold new program to enhance the state's leadership in science and technology. The Rio Grande Research Corridor (RGRC) consists of the national research laboratories and universities located along the 300-mile stretch of the Rio Grande River from Los Alamos to Las Cruces. Research facilities in the corridor include Los Alamos National Laboratory, Sandia National Laboratory, Air Force Weapons Laboratory, White Sands Missile Range, and the Telemetry Data Relay Satellite System test facility in addition to the three universities located along the Rio Grande. To enhance further the technological capabilities of New Mexico, the state has funded five centers of technical excellence including the Computing Research Laboratory (CRL) at New Mexico State University. This funding will support professional personnel and support staff as well as providing research facilities.

The CRL is dedicated to interdisciplinary research on knowledge-based systems. The laboratory will pursue parallel programs of basic and applied research in such areas as distributed processing, knowledge representation, models and simulation, human/computer interactions, machine sensory systems and knowledge-based control. The professional personnel of the CRL will include faculty, visiting scientists, post-doctoral students, and graduate students. The laboratory will also provide the focal point for a strong interdisciplinary academic program including graduate degrees.

An outstanding senior scientist is sought to direct the Computing Research Laboratory. Applicants should have research expertise in computer applications and the ability to administer interdisciplinary research. The person's responsibilities will include: (a) leading his or her own research team, (b) guiding all research activity in the laboratory, (c) coordinating interdisciplinary academic activities of the laboratory, (d) representing the laboratory to the university, government, and industry, (e) recruiting new faculty, post-doctoral students and graduate students for the laboratory, and (f) coalescing existing strengths in computer applications at New Mexico State University. The successful applicant will hold a tenured academic appointment in an appropriate department.

Salary is competitive with public and private institutions and is commensurate with the requirements of the position. Applicants should send a curriculum vitae and the names of three references to:

**Dr. Roger Schvaneveldt, CRL Search Committee,
 Department of Psychology, New Mexico State University
 Box 3452, Las Cruces, NM 88003**

The position will remain open until it is filled. However, the selection will not be made before November 1, 1983.

An Affirmative Action/Equal Opportunity Employer.



POSITIONS OPEN

PHYSICAL OCEANOGRAPHER. A postdoctoral position is open for a physical oceanographer or fluid mechanician interested in taking measurements of oceanic turbulence, analyzing the data to parameterize the rates of turbulent mixing in the ocean and relating the measurements to larger scale forcing processes. The research program will be under the direction of Dr. Michael C. Gregg. Candidates will be considered for a joint appointment in the Applied Physics Laboratory and in the School of Oceanography as a postdoctoral research associate. The appointment will extend for 1 year, with a second and final year granted upon successful progress. Recent Ph.D.'s with interest and experience in the above research are requested to submit a résumé and three letters of recommendation to: **Dr. Brian T. R. Lewis, Director, School of Oceanography, WB-10, University of Washington, Seattle, Wash. 98195** (telephone: 206-543-6487), before 31 October 1983. *The University of Washington is an Equal Opportunity/Affirmative Action Employer.* Oceanography Advertisement No. 833.

POSTDOCTORAL POSITION available in January 1984 to explore methods for calculating protein tertiary structure. The tenure will be 1 year with possible extensions. Salary depends on qualifications. Applicants should be familiar with the protein structural field, Fortran programming, numerical methods, and molecular mechanics. Send curriculum vitae and names of three references to: **Dr. G. M. Crippen, Chemistry Department, Texas A & M University, College Station, Texas 77843.**

POSTDOCTORAL POSITIONS

Several postdoctoral positions are available immediately in the area of brain-specific drug delivery. Candidates should have a Ph.D. and interest in either neuropharmacology, pharmacokinetics, or synthesis of novel biologically active compounds. Send résumé and three letters of recommendation to: **Dr. Nicholas Bodor, Graduate Research Professor, Department of Medicinal Chemistry, Box J-4, J. Hillis Miller Health Center (JHMH), University of Florida, Gainesville, Fla. 32610.**

POSITIONS OPEN

PLANT MITOCHONDRIAL DNA—POSTDOCTORAL POSITION starting fall 1983 for 2 to 3 years to ask why the plant mitochondrial genome is so large by studying its structure and expression in watermelon (330-kb genome size) and muskmelon (2400 kb). Experience in cloning required; sequencing or R-looping preferred. Send résumé and three references to: **Dr. Arnold Bendich, Botany KB-15, University of Washington, Seattle, Wash. 98195.**

POSTDOCTORAL ASSOCIATE IN IMMUNOLOGY at the Plum Island Animal Disease Center, Greenport, N.Y. Antigenic and immunogenic analysis of foot-and-mouth disease viruses; contributing to a multidisciplinary effort in veterinary medicine (molecular biology, protein chemistry, immunology) studying the virus and its constituent peptides. Will produce and characterize anti-FMDV monoclonal antibodies and their epitopes. Requirements: D.V.M. and/or Ph.D. with research experience in immunology. Experience with viruses desirable. Term of employment: One year renewable for a second year. Salary commensurate with training and experience. Contact: **Dr. J. J. Callis, Director (DM), USDA, ARS, Plum Island Animal Disease Center, P.O. Box 848, Greenport, N.Y. 11944.** *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL ASSOCIATES IN IMMUNOLOGY at the Plum Island Animal Disease Center, Greenport, N.Y. Developing methodology for enhancing magnitude and duration of immune response of cattle and swine to vaccination against foot-and-mouth disease. Will be responsible for the evaluation of the effect of immunopotentiating substances on the response of animals to FMDV immunogens including selection and development of immunopotentiators. Requirements: D.V.M. and/or Ph.D. with research experience in immunology. Experience with viruses desirable. Term of employment: One year renewable for a second year. Salary commensurate with training and experience. Contact: **Dr. J. J. Callis, Director (McK), USDA, ARS, Plum Island Animal Disease Center, P.O. Box 848, Greenport, N.Y. 11944.** *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

NIH-supported **POSTDOCTORAL POSITION** available immediately in the fields of cell biology and epithelial physiology. Successful candidate will join ongoing research on the structure-function aspects of cell volume regulation and ion transport in epithelia. Send curriculum vitae, description of research experience, and names of three references to: **Dr. John W. Mills, Department of Anatomy, Dartmouth Medical School, Hanover, N.H. 03756.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available 1 January 1984 for Ph.D. to study the role of cell coupling in pancreatic islets. Experiments involving microinjection of dyes and microelectrode techniques will explore the correlation between cell secretion and junction-mediated cell coupling in isolated islets and cultured islet cells. Computer-assisted video analysis of fluorescent dye transfer will be used. Experience with endocrine cell biology and/or with microelectrode techniques highly desirable. Send application letter, curriculum vitae, and names of three referees to: **Dr. Judson Sheridan, Department of Anatomy, 4-135 Jackson Hall, 321 Church Street SE, University of Minnesota Medical School, Minneapolis, Minn. 55455.** *The University of Minnesota is an Equal Opportunity Educator and Employer.*

POSTDOCTORAL POSITION available now to participate in ongoing research dealing with behavioral pharmacology of stimulants in rodents. Recent Ph.D., with formal training in the behavioral analysis of drug actions. Background and/or experience in neurochemistry, neuroanatomy, central administration of drugs, and/or neurotransmitters preferred. Experience or training in statistics and computer-assisted data analysis and demonstrated writing ability highly desirable. Salary commensurate with experience; appointment is for a maximum of 2 years.

Applicants should send curriculum vitae and names of three references to: **Dr. David S. Segal, Psychiatry Department (M-0003), School of Medicine, La Jolla, California 92093.**

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

THE SMITHSONIAN INSTITUTION extends its search for **DIRECTOR** for the **NATIONAL ZOOLOGICAL PARK (NZP)**, Washington, D.C. The NZP operates a public exhibition zoo of 168 acres in Washington's Rock Creek Valley and a conservation and research center of 3,100 acres near Front Royal, Virginia. It maintains a large and varied animal collection for exhibition, research, and education as well as for the conservation of endangered species. It also conducts active research programs in animal management, animal health, animal behavior and medicine, and animal propagation. Qualifications: scholarly distinction in biological sciences, veterinary medicine, animal ecology, animal refuge management, or natural resource management; professional experience in a zoological park management, research, or similar environment; and demonstrated administrative and managerial ability. Salary range: \$56,945 to \$78,184 (currently limited by statute to \$63,800). Send a Standard Form 171, Personal Qualifications Statement, and curriculum vitae and bibliography by 14 October 1983 to: **Dr. David Challinor, Chairman, NZP Search Committee, c/o Personnel Office, Smithsonian Institution, Washington, D.C. 20560, attention: MPA-EX-02-83.** *An Equal Opportunity Employer.*



SUMMER RESEARCH

The U.S. Department of Energy (DOE) technology centers in Bartlesville, OK; Pittsburgh, PA; and Morgantown, WV, invite applications from qualified **faculty members and graduate students.** The unique and advanced facilities and the state-of-the-art research and development programs provide challenging opportunities for participation in fossil energy research for the summer of 1984 and a few sabbatical leaves.

Information and application materials (indicate your academic status) may be obtained from

Fossil Energy Research
Opportunities
University Programs Division
Oak Ridge
Associated Universities
P.O. Box 117
Oak Ridge, Tennessee 37831

This is an equal opportunity program open to qualified persons without regard to race, sex, creed, color, handicap, or national origin. The program is open to U.S. citizens and permanent resident aliens.

TUFTS UNIVERSITY School of Nutrition

HENRY LUCE PROFESSORSHIP IN AGRICULTURAL PRODUCTION AND SOCIETY

The Tufts University School of Nutrition invites applications and nominations for the Henry Luce Professorship in Agricultural Production and Society.

The appointee to this non-tenured position will develop courses and curricula for non-farming students. The curricula will be directed toward undergraduates and graduate students in nutrition, public health and development studies whose careers will entail decision-making in areas affecting and affected by agriculture.

Areas of particular research and teaching interest include implications of agricultural policies and technology on nutrition and food safety; the relationship between agriculture and the larger economy; and the influence of agricultural policies on environmental quality and rural economic and social life.

The candidate must have demonstrated the ability to work in an exceptionally broad range of agricultural areas—scientific, technical and social—required to fulfill the promise of this chair.

The Tufts School of Nutrition is a multidisciplinary faculty including biomedical, social, and political scientists whose mission is to conduct research, educational and community service programs in nutrition.

Applications and nominations should include curriculum vitae, names of three references and statements of teaching and research interests, and should be submitted by November 1, 1983 to:

**Stanley N. Gershoff, Ph.D., Dean
School of Nutrition
Tufts University
Medford, MA 02155**

Tufts University is an Equal Opportunity/Affirmative Action Employer.

SEARCH REOPENED

PROJECT MANAGER

Atmospheric Dynamics & Chemistry

EPRI, on the SAN FRANCISCO PENINSULA, an R&D firm chartered to provide research and development for all segments of the U.S. electric utility industry, seeks a senior Professional to initiate and manage research contracts in the specific area of atmospheric chemistry and physics. Principal focus will be the management of long-term fundamental studies utilizing advanced laboratory techniques and scientific analyses of existing and future experimental field measurements.

Candidates will have a PhD/Atmospheric Sciences and at least 10 yrs. responsible research in atmospheric dynamics and chemistry as related to air quality. Proven management ability in contract research and good interpersonal skills necessary.

EPRI offers a stimulating environment and competitive salaries, benefits and relocation program. For immediate consideration, please send your resume, including salary requirements, to D. Mattison, Employment Administrator, EPRI, 3412 Hillview Ave., P.O. Box 10412, Palo Alto, CA 94303. An equal opportunity employer.

EPRI
ELECTRIC POWER
RESEARCH INSTITUTE

J. ROBERT OPPENHEIMER RESEARCH FELLOWSHIPS

Los Alamos National Laboratory announces the competition for the J. Robert Oppenheimer Postdoctoral Fellowships. The appointments are designed to foster continuing contacts between the Laboratory and recent recipients of doctoral degrees who show clear and definite promise of becoming outstanding leaders in scientific research areas.

Appointments are considered in many areas of experimental and theoretical physics, chemistry, mathematics, computer science, biology, materials science, environmental health, geoscience, and engineering.

Candidates may be persons completing their doctoral work or finishing a current postdoctoral appointment, as well as junior faculty members seeking support for a period of concentrated research.

Appointments are for two years, with the possibility of renewal for a third year. We provide a stipend of \$39,480 per year (12 months). Fringe benefits are also provided including incoming travel and moving expenses.

Applications submitted for this fellowship are referred to appropriate technical groups for review. Particularly outstanding candidates are selected for sponsorship by Laboratory Staff Members. A detailed research proposal reflecting the candidates' creativity, interest, and abilities is developed in consultation with the sponsor. Final selection is determined in a Laboratory-wide competition based on the proposed research project, in addition to, previous academic and research excellence.

To insure timely consideration a resume or employment application (usually available from Placement Office) and a statement of research interest and goals should be submitted by mid-December to:

Madeline Lucas
J. Robert Oppenheimer Program
MS P-280, DIV 83-AC
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

University of California

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

An Affirmative Action/Equal Opportunity Employer:
Women, Minorities, Handicapped and Veterans are urged to apply.

Berkeley Center for X-Ray Optics

Applications are being accepted for positions at the newly formed Center for X-Ray Optics at Lawrence Berkeley Laboratory (LBL). The Center will provide specialized expertise on XUV (broadly, 10 eV to tens of keV) radiation techniques and their general applications to science and industry; and it will emphasize the emerging technologies required for the efficient transport, dispersion, focusing, and detection of XUV radiation from synchrotron light and other sources of radiation.

The Center, which will consist of a core group at LBL and affiliated Research Associates from the scientific and industrial community throughout the country, will develop new XUV techniques for scientific applications in physics, chemistry, materials science and the life sciences. It will be closely associated with the new synchrotron radiation source—the Advanced Light Source (ALS)—currently being planned at LBL, but will also be involved with other emerging sources of XUV Radiation.

Positions are available for Ph.D. Scientists with expertise in the following areas:

- General X-ray instrumentation,
- Multilayer coatings for X-ray optics,
- Monochromator design,
- Reflective and diffractive X-ray optics, and
- X-ray detectors.

Send two copies of resumé to: J. Schilling, Lawrence Berkeley Laboratory, Employment Office, Building 65, #1 Cyclotron Road, Berkeley, CA 94720. Equal opportunity employer, m/f/h.

LB LAWRENCE
BERKELEY
LABORATORY

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 - ☐ \$118 air-surface delivery via Holland

- ☐ **Subscriber rates**
 - ☐ \$90 USA ☐ \$114 Canada ☐ \$117 Foreign
 - ☐ \$155 air-surface delivery via Holland

- ☐ Payment enclosed ☐ Bill me later

Name Please print

Address

City

State

Zip

SM09

**ATTACH
LABEL
HERE**

POSITIONS OPEN

POSTDOCTORAL FELLOW position available immediately for individual with Ph.D. in immunology to study the effects of aging on lymphokine production and effects on immunoregulation, thermoregulation, and production of serum amyloid. Experience in tissue culture and protein biochemistry desired. Send curriculum vitae and names of three references to: **Dr. Gail S. Habicht, Department of Pathology, State University of New York (SUNY) at Stony Brook, Stony Brook, N.Y. 11794.** *SUNY, Stony Brook is an Equal Opportunity/Affirmative Action Employer.* AK689.

POSTDOCTORAL FELLOW. Pharmaceutical, physical, or analytical chemistry background required to design and develop injectable formulations for anticancer drugs. Send résumé and three references to: **Dr. Samuel Yalkowsky, College of Pharmacy, University of Arizona, Tucson, Arizona 85721.**

Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL POSITION available 1 October to study the toxicology and metabolism of epoxidized compounds. Training in biochemistry, pharmacology/toxicology, or organic chemistry required. Experience in enzymology, pharmacokinetics, molecular biology, or natural product synthesis desirable. Send curriculum vitae, reprints, and three references to: **Dr. Sarjeet Gill, Division of Toxicology and Physiology, University of California, Riverside, Calif. 92521.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION IN CARDIAC ELECTROPHYSIOLOGY available 1 September 1983 to study membrane currents and mechanisms of antiarrhythmic drug action in myocardial cells using voltage-clamp techniques. Previous experience in intracellular microelectrode recording and computer analysis desirable. Send curriculum vitae to: **Dr. T. J. Colatsky, Cardiovascular Pharmacology, Wyeth Laboratories, Box 8299, Philadelphia, Pa. 19101.**

POSTDOCTORAL POSITION available immediately for study of the hormonal regulation of actin-binding proteins in isolated cells from the gastric mucosa. Experience in cell biology and/or biochemistry desirable. Send curriculum vitae and three letters of reference to: **Dr. Gary C. Rosenfeld, Department of Pharmacology, University of Texas Medical School, P.O. Box 20708, Houston, Texas 77025.** *An Equal Opportunity Employer. Women and minorities are encouraged to apply.*

POSTDOCTORAL POSITION available for the study of the interaction of hemolytic drug metabolites with the RBC. Strong background in biochemistry/cell biology required; extensive experience with erythrocytes and erythrocyte membrane proteins highly desirable. Send curriculum vitae and names of three references to: **Dr. David Jollow, Department of Pharmacology, Medical University of South Carolina, Charleston, S.C. 29425.**

POSTDOCTORAL POSITION available for the study of the hepatic and RBC formation and fate of hemotoxic drug metabolites. Strong background in biochemistry/pharmacology/cell biology required. Experience in drug metabolism/pharmacokinetics desirable. Send curriculum vitae and names of three references to: **Dr. David Jollow, Department of Pharmacology, Medical University of South Carolina, Charleston, S.C. 29425.**

POSTDOCTORAL POSITION available to study effects of cancer chemotherapy on cellular proliferation. Experience in experimental chemotherapy/biochemical pharmacology desirable. Send curriculum vitae and three letters of reference to: **A. Krishan, Ph.D., Cancer Center (R-71), University of Miami School of Medicine, P.O. Box 016960, Miami, Florida 33101.**

POSTDOCTORAL POSITION. Immediately available. Some experience in membrane biochemistry, energy metabolism in erythrocytes, insulin receptor, lipoproteins, or organ perfusion studies is desirable. Salary negotiable. Please send résumé and three references to: **Dr. H. D. Kim, Department of Pharmacology, University of Missouri School of Medicine, Columbia, Mo. 65212.** *An Equal Opportunity Institution.*

POSTDOCTORAL POSITION available 1 December 1983 to perform molecular and cellular studies on a mouse B cell line that can be induced to undergo Ig heavy chain switching in vitro. Send letter describing present research, curriculum vitae, and names of three references to: **Dr. Janet Stavnezer, Sloan-Kettering Institute, 1275 York Avenue, New York, N.Y. 10021.**

POSITIONS OPEN

POSTDOCTORAL POSITION FOR PHYSIOLOGICAL-BIOCHEMICAL INVESTIGATION OF SALT INJURY AND SALT TOLERANCE IN VASCULAR PLANTS. Available immediately. Experience in energetics, osmoregulation, and membrane process is desirable. Salary: \$20,000 per year and up, depending on qualifications. Please send curriculum vitae and three professional references to: **Box 230, SCIENCE.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION—MEMBRANE RECEPTORS. Available for a Ph.D. in biochemistry or a related discipline. Research on molecular basis of taste reception, emphasizing membrane biochemistry, monoclonal antibodies, and labeling of receptor proteins and their isolation and characterization. Available December 1983; NIH-funded; located in multidisciplinary institute in association with University of Pennsylvania and Veterans Administration Medical Center. Send curriculum vitae to: **Dr. Robert H. Cagan, Monell Chemical Senses Center, 3500 Market Street, Philadelphia, Pa. 19104.** *An Equal Opportunity Employer.*

POSTDOCTORAL SCIENTISTS. Two positions are available in the Behavioral Medicine Laboratory of our Department of Cardiopulmonary Diseases, sponsored by a National Research Service Award. The program provides postdoctoral research training and experience for graduates from biobehavioral, biomedical, and veterinary sciences. These positions provide an opportunity to acquire essential skills in several aspects of quantitative behavioral medicine as it applies to atherosclerosis research in socially living nonhuman primates. The annual stipends are set by the NIH schedule and include provisions for previous years of postdoctoral experience. Interested candidates should respond to: **Personnel Manager, Southwest Foundation for Research and Education, P.O. Box 28147, San Antonio, Texas 78284.** Please include curriculum vitae and three references, including supervisory professor. *An Equal Opportunity/Affirmative Action Employer.*

PRE- AND POSTDOCTORAL POSITIONS ENVIRONMENTAL PATHOLOGY/ TOXICOLOGY

Applications invited in environmental pathology/toxicology. Research emphasis on molecular and morphologic effects of toxic substances, especially biotransformations and respiratory pathophysiology. Applicants must be U.S. citizens or permanent residents. Send résumé, three letters of reference, and research interest to: **N. Karle Mottet, M.D., Professor, Pathology and Environmental Health, SM-30, University of Washington, Seattle, Wash. 98195.** *An Equal Opportunity/Affirmative Action Employer.*

THE INSTITUTE FOR ADVANCED STUDY Princeton, New Jersey 08540 SCHOOL OF MATHEMATICS

The Institute for Advanced Study invites applications for a **PROFESSORSHIP** in the School of Mathematics. Candidates must have distinguished records of achievement in mathematical research. The professors in the Institute's School of Mathematics are collectively responsible for maintaining a strong program of research through their own work and also by selecting a number of visiting members every year. Applications, including curriculum vitae and list of publications, should be addressed to: **Executive Officer, School of Mathematics, Institute for Advanced Study, Princeton, New Jersey 08540.** *An Equal Opportunity Employer; women and minority group members are encouraged to apply.*

PROJECT DIRECTOR for Hypertension Laboratory in large, university-affiliated teaching hospital. Expanding basic science and clinical research program closely allied with renal and cardiovascular research laboratories has immediate opening for Ph.D. with 2 to 3 years of independent research experience. Background in neuropharmacology, membrane physiology, vascular smooth muscle studies, or similar areas would be suitable. Send curriculum vitae to: **Donald J. DiPette, M.D., Allegheny General Hospital, Pittsburgh, Pa. 15212.**

RESEARCH FELLOW, DEVELOPMENTAL BIOLOGY. Funded position on research grant.

Apply to: **Dr. Elizabeth D. Hay, Department of Anatomy, Harvard Medical School, 25 Shattuck Street, Boston, Mass. 02115.**

Harvard is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

RESEARCH ASSOCIATE position available now for Ph.D. to study mechanisms of gene transfer in *Streptococcus pneumoniae* and other streptococci. Current efforts focus on cloning and restriction analysis of conjugative transposons and related elements found in the chromosomes of clinical isolates. Experience in recombinant DNA and/or streptococcal genetics is highly desirable. Send curriculum vitae, statement of research experience, and names of three references to: **Dr. Walter R. Guild, Department of Biochemistry, Duke University, Durham, N.C. 27710.** *An Equal Opportunity/Affirmative Action Employer.*

VIROLOGIST ASSISTANT/ASSOCIATE PROFESSOR West Virginia University Medical Center

Tenure-track position now available in the Department of Microbiology. Applicants must be interested in teaching in medical and graduate programs. The successful applicant must be able to establish a strong research program in one or more of the following areas of medical virology: molecular, clinical, or tumor virology, viral immunology, mechanisms of viral infection. Rank will be based upon qualifications, as will salary level. Applications will be accepted through 15 October 1983. Please send curriculum vitae, names of three references, and a description of research interests to: **Dr. Irvin S. Snyder, Professor and Chairman, Department of Microbiology, West Virginia University Medical Center, Morgantown, W. Va. 26506.** *West Virginia University is an Affirmative Action/Equal Opportunity Employer.*

Applications are invited to fill an immediate position in the **DEPARTMENT OF SURGERY**, Division of Urology. Ph.D. required with at least 2 years of postdoctoral experience in immunological research. The applicant is expected to initiate and maintain a strong and independent research program in prevention and diagnosis of genitourinary cancer. Please send curriculum vitae and a brief statement of research interest along with the names of three references by 1 October 1983 to: **Dr. Jean B. deKernion, Department of Surgery/Urology, University of California, Los Angeles, Medical Center, 10833 LeConte Avenue, Los Angeles, California 90024.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

THE UNIVERSITY OF ADELAIDE WAITE AGRICULTURAL RESEARCH INSTITUTE invites applications from both men and women for the following position:

WAITE CHAIR OF ENTOMOLOGY (E1080) (TENURABLE)

The Chair is in the Department of Entomology which was founded in 1928 and has since that time been concerned principally with the applied ecology of insects and related organisms and with associated physiological and behavioural studies.

The Chair has become available following the retirement of Professor T. O. Browning.

SALARY: A\$46,977 per annum. The University of Adelaide operates a superannuation scheme, membership of which is obligatory.

FURTHER INFORMATION: Statements setting out the formal terms and conditions of appointment and providing details about the University, the Waite Agricultural Research Institute and the Department of Entomology are obtainable from the registrar of the University. Any further information about conditions of appointment or about the University should be sought from the registrar. Further information about research and facilities at the Waite Agricultural Research Institute and in the Department of Entomology may be obtained from the Institute's director, Professor J. P. Quirk, AO, FTS, FAA.

It is University policy to encourage women to apply for consideration for appointment to, in particular, tenurable academic positions.

Holders of full-time tenured or tenurable academic appointments have the opportunity to take leave without pay on a half-time basis for a specific period of up to 10 years where this is necessary for the care of children.

APPLICATIONS, IN DUPLICATE, quoting reference number and giving full personal particulars (including citizenship), details of academic qualifications, and names and addresses of three referees should reach the **Personnel Manager, University of Adelaide, GPO Box 498, Adelaide, South Australia, 5001** (Telex UNIVAD AA 89141) not later than 31 October 1983.

The University reserves the right not to make an appointment or to appoint by invitation.

SCIENTIST Clinical Nutrition

The American Medical Association's Personal and Public Health Policy Division is currently recruiting a PhD trained in nutrition or a MD with special competence in clinical nutrition.

Incumbent will assist in the development and execution of projects and activities addressing issues in nutrition in health and disease along with informing the profession on the latest concepts in therapeutic dietary management. Will additionally assist in the development of AMA and public policy related to nutrition and food uses in disease risk reduction and health maintenance, and encourage the teaching of nutrition in medical education.

Individuals interested in pursuing this opportunity are encouraged to forward resume and salary history to:

Thomas J. Nilles
AMERICAN MEDICAL
ASSOCIATION
535 N. Dearborn St.
Chicago, IL 60610
equal opportunity
employer m/f.



BIOCHEMIST

Cargill, Inc. is an international leader in the agribusiness industry.

We are currently seeking scientist candidates at any degreed level to work on agricultural processing and product development research. Specific areas to be studied include, Biochemical orientation to enzymes, carbohydrates and cellulosic materials, chemical processing of agricultural substrates, fermentation systems, and applications of new biotechnology.

The Cargill Research Center is located in an attractive residential area 12 miles west of downtown Minneapolis, Minnesota. We offer an excellent salary and benefits package. If qualified, please send resume and salary history to:

Martha MacMillan
Cargill, Inc.
P.O. Box 9300
Minneapolis, MN 55440
Equal Opportunity Employer



SCIENCE

SCIENCE Introduces "The Four-Day Close"

We now offer our recruitment advertisers the convenience formerly found only in daily newspapers. We call it "**The Four-Day Close.**" Instead of reserving space a month or more in advance, you now have until just four days before the issue is mailed to its 160,000-plus subscribers.

Film (right-reading, emulsion face down, 1/4 or 1/2 page size only) and insertion order must reach: **SCIENCE, Room 107, 1515 Massachusetts Avenue, N.W., Washington, D.C. 20005**, by 3 p.m. Mondays (except for legal holidays when material must reach Washington by 3 p.m. Fridays). Because space is limited, the four-day close page will be reserved on a first-come, first-served basis.*

Now you don't have to wait for the professional you need **as soon as possible**. Nor must you advertise in a Sunday paper that pans a lot of sand, but not much gold. Scientific employers know that **SCIENCE** ads fill the job better. Now they fill it faster, too.

We call it "**The Four-Day Close.**"

You can call it "**Instant Recruitment.**"

For further information, telephone **Dick Charles at SCIENCE: 212-730-1050**, or write: **1515 Broadway, New York, N.Y. 10036**.

*At a 15% premium.

POSITIONS OPEN

RESEARCH ASSOCIATE with strong background in protein sequencing and purification is required to participate in a research program concerning regulatory proteins. Candidate should have 3 to 5 years of postdoctoral training with good publication record. Starting salary is \$25,000 per year. The appointment is of 2-year duration initially and renewable. Interested candidate should send curriculum vitae and three names of referees to: **J. H. Wang, Department of Medical Biochemistry, University of Calgary, Calgary, Alberta, Canada T2N 1N4.**

Canadian immigration regulations require that Canadians and landed immigrants should be given preference.

RESEARCH ASSOCIATE/ASSISTANT SCIENTIST

A position is available immediately for a postdoctoral (Ph.D.) research scientist in the ocular virology-tissue culture laboratory. Candidate must be skilled in virologic, tissue and organ culture techniques. Basic pharmacologic and immunologic knowledge are desirable.

Work involves the in vivo and in vitro study of active and latent ocular and other forms of herpes simplex infections and new chemotherapeutic approaches to therapy. Possibility of Harvard Medical School appointment. Funding available with salary commensurate with qualifications. Applicant should obtain own partial support in 2 years. Send curriculum vitae and research interests to: **D. P. Langston, M.D., Eye Research Institute of Retina Foundation, 20 Staniford Street, Boston, Mass. 02114. Equal Opportunity/Affirmative Action Employer, M/F.**

RESEARCHER—Advanced independent research on speech recognition systems. Must have a knowledge of pattern recognition, artificial intelligence, linguistics, psychology, and speech recognition and synthesis systems. Must be familiar with VAX-11, UNIX, and personal computing environments to research voice mail systems. Must know C, PASCAL, and BCL; \$24,000 per year. M.S. in electrical engineering or computer science required. Send résumés to: **Job Order Number 3638963, c/o Charles Wilson, Office of Employment Security, 1301 State Office Building, Pittsburgh, Pa. 15222.**

RESEARCH SCIENTIST—Research re: computer-aided design. Digital design methodologies and environments. Development of automated computer-based system design environment at the architectural level. Expertise in computer graphics and very large data bases. Required: Ph.D. in electrical engineering or computer science; \$28,000 per year. Send résumés to: **Job Order Number 3649602, c/o Charles Wilson, Office of Employment Security, 1301 State Office Building, Pittsburgh, Pa. 15222.**

ROCK MECHANICIST

Argonne National Laboratory invites applications for an anticipated position in rock mechanics, commencing October 1983. Minimum requirements include M.S. or Ph.D. degree and 5 years of experience. Background in rock mechanics and related numerical modeling and code development essential. Knowledge of bedded or dome salt formations highly desirable. Applicants should send résumé to: **R. Bottino, Box D-EES-3825-55, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, Ill. 60493. An Affirmative Action/Equal Opportunity Employer.**

SALES ENGINEER

Radiation measuring instrumentation of life science market. Background required in at least one of the following technologies:

**Liquid Scintillation Counting
High Pressure Liquid Chromatography
Thin Layer Chromatography**

*Electronics and computer experience helpful
Salary to be commensurate with experience. Company car; major medical. Send résumé to: **Box 234, SCIENCE.**

SAFETY COORDINATOR

The University of Florida Division of Environmental Health and Safety has an immediate opening for a **safety coordinator**. Responsibilities include general laboratory safety, chemical waste management, and industrial hygiene. Interaction with faculty, staff, and students at all levels is anticipated. Requires a bachelor's degree and 2 years of experience in industrial hygiene, chemistry, or other appropriate discipline. Master's degree preferred. Salary negotiable. Interested applicants should submit a complete résumé by 16 September 1983 to: **Jan Eller, Central Employment Center, University of Florida, 4th Floor Stadium, Gainesville, Fla. 32611. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

VICE PRESIDENT—MUSEUM. Academy of Natural Sciences, Philadelphia (ASNP), seeks energetic, creative, experienced administrator with demonstrated record of innovation and success in science education/museum field, or substantial experience and achievements in a parallel field which can be successfully transferred into this setting. One of the major divisions of the Academy, the natural history museum presently includes Exhibits, Education, Membership, and Outside-In (children's participatory museum). Successful applicant will be expected to provide strong administrative leadership for this major urban natural history museum—develop fundable programs/exhibits; community service; national professional interaction. Computer involvement a must. Candidates should have at least one advanced degree, preferably in science education or organismal/environmental sciences (Ph.D. desirable but not mandatory), OR in parallel/related area. Salary highly competitive. We seek a candidate with the highest credentials who will make the most of this challenging opportunity to join in ANSP's continued growth and success. Please send letter of nomination, or curriculum vitae, three references, and letter of application, before 16 September to: **Cynthia Lister, Special Assistant to the President, Academy of Natural Sciences, Logan Square, Philadelphia, Pa. 19103.** All inquiries in confidence. *Affirmative Action/Equal Opportunity Employer.*

TRAINING PROGRAMS

POSTDOCTORAL TRAINING PROGRAM

Postdoctoral positions are available, commencing 1 September 1983, in our NIH-supported research training program in microbiology and immunology. Applicants should have a Ph.D., M.D., or D.V.M., or equivalent degree. Areas of research include microbial, physiology, mycology, pathogenesis, ultrastructure, virology, molecular biology, microbial genetics, cellular and molecular immunology, and infectious diseases. Preference will be given to those interested in interdisciplinary research training. A separately funded option in clinical laboratory microbiology consonant with the applicable towards eligibility for certification in medical laboratory microbiology, by the American Board of Medical Microbiology may be available. Candidates must be U.S. citizens or permanent residents. Please address letters of inquiry and application (consisting of curriculum vitae and the names of at least three references) to: **Chairman, Department of Microbiology and Immunology, Temple University School of Medicine, Philadelphia, Pa. 19140. An Equal Opportunity Affirmative Action Employer.**

JOINT INSTITUTE FOR LABORATORY ASTROPHYSICS (JILA)

JILA (operated jointly by the U.S. National Bureau of Standards and the University of Colorado) is devoted to research, study, and teaching in atomic and molecular physics, laser physics, astrophysics, precision measurements, geophysical measurement, and related areas. **Applications are invited for three programs:**

- 1) **Research Associateships**, for advanced research by recent Ph.D.'s. Applications are accepted and considered anytime throughout the year.
- 2) **Research Fellowship for Teachers**, for U.S. teachers who have an active role in the instruction and counseling of minority and women students. Deadline for completed applications: 13 January 1984.
- 3) **Visiting Fellowships**, for advanced research by senior scientists. Deadline for completed applications: 13 January 1984.

Further information can be obtained from: **The Secretary, Visiting Scientists Program, JILA, Box 440, University of Colorado, Boulder, Colo. 80309.**

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

FELLOWSHIPS

HEISER PROGRAM FOR RESEARCH IN LEPROSY

Beginning postdoctoral research fellowships, research grants, and visiting research awards available in amounts up to \$18,000 per year, plus other allowances, depending on type of award applied for. Applicants should have M.D., Ph.D., or equivalent degree. Applications by 1 February 1984 for awards to be activated June to December 1984. For information, write: **The Heiser Program, 450 East 63 Street, New York, N.Y. 10021.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP IN ENDOCRINOLOGY starting in September 1983 for a period of 1 or 2 years. Research on comparative endocrinology of the vertebrate adrenal gland. Enquiries to: **Dr. D. G. Butler, Department of Zoology, University of Toronto, Toronto, Ontario, Canada M5S 1A1.**

PFIZER POSTDOCTORAL FELLOWSHIPS

Pfizer Pharmaceuticals is offering postdoctoral fellowships to begin 1 July 1984. Physicians who have completed at least 3 years of residency training in psychiatry, internal medicine, or pediatrics, and who wish to begin research careers in cardiovascular medicine, rheumatology, psychiatry, diabetes, or infectious diseases are eligible. These awards will be available for up to 3 years. The application deadline is 1 November 1983. All fellows must be sponsored by an established investigator and recommended by the chairman of the department where the applicant will take the fellowship training.

For further information and applications, please write: **Rita Wroblewski, M.D., Director of Medical Affairs, Pfizer Pharmaceuticals, 235 East 42 Street, New York, N.Y. 10017.**

THREE POSTDOCTORAL FELLOWSHIPS in biophysics, biochemistry, or cell biology. Immediately available for 2 years. (i) γ -Interferon: Mechanism of interaction with target cell membrane; membrane dynamics; nanosecond fluorescence anisotropy; (ii) Membrane of malignant cells: Adenosine deaminase; and (iii) NMR, bio-organic applications. To join our Biophysical-Biochemical (Medical School) group. Send curriculum vitae and recommendations to: **Chemistry Department, Ben-Gurion University, Beer-Sheva, Israel, attention: Biophysics.**

CONFERENCES

SECOND INTERNATIONAL CONFERENCE ON SAFETY EVALUATION AND REGULATION OF CHEMICALS

24 to 29 October 1983; Cambridge, Massachusetts
SPONSORED BY EPA, Abbott, Polaroid Foundation, Inc., Sandoz, and Stauffer Chemical Co.

REVIEW OF international regulations and their impact; state of the art of safety evaluation; scientific advances, future projections; alternative methods to animal bioassays.

ACCREDITED BY American Board of Industrial Hygiene, Academy of Toxicological Sciences, Boston University School of Medicine.

First 2 days available as separate **COURSE** on U.S. Safety Regulations.

Proceedings of first conference 1982 published by S. Karger, N.Y. (\$89.25).

INFORMATION: Bio-Research Institute, 9 Commercial Avenue, Cambridge, Mass. 02141. Telephone: 617-864-8735.

THE NEW YORK ACADEMY OF SCIENCES

Conference on

**MULTIPLE SCLEROSIS:
THEORY AND PRACTICE**

The Roosevelt Hotel, New York City

29 November to 1 December 1983

Multiple Sclerosis has been the object of intensive multinational and interdisciplinary attention from almost every branch of the basic and applied neurosciences. This broadly based meeting drawing on an international group of researchers will consolidate and disseminate recent advances in virology, immunology, neuropathology, diagnosis, clinical management, and psychosocial adaptation.

The conference will feature a limited number of poster presentations. The deadline for submission of abstracts is 7 October 1983. The abstracts should include the name of the author(s), institution, and a 100- to 200-word summary of the work to be presented. Send abstracts to the conference cochairmen: **Labe Scheinberg, M.D. and Cedric S. Raine, Ph.D., Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, N.Y. 10461.**

For conference program and registration information, write to:

**Conference Department
The New York Academy of Sciences
2 East 63 Street
New York, N.Y. 10021**

**U.S. DEPARTMENT OF ENERGY
Summer Research Opportunities**

Faculty members, postgraduates, graduate and undergraduate students are invited to apply for appointments to selected U.S. Department of Energy (DOE) research facilities. Faculty and student appointments are for the summer. Postgraduate and graduate student appointments are for six months to one year.

Challenging opportunities for research training are available in a broad range of energy research and engineering activities directed toward energy production, utilization, conservation, and their societal implications. The participating DOE laboratories offer unique combinations of specialists, facilities, and programs.

Participating DOE research facilities are located in Oklahoma, Pennsylvania, Puerto Rico, South Carolina, Tennessee, and West Virginia.

Information and application materials (indicate your academic status) may be obtained from

**DOE Laboratory University
Cooperative Programs
University Programs Division
Oak Ridge Associated Universities
P.O. Box 117
Oak Ridge, Tennessee 37831**

This is an equal opportunity program open to qualified persons without regard to race, sex, creed, color, handicap, or national origin. The program is open to U.S. citizens and permanent resident aliens.

FACULTY RESEARCH LEAVE AT ARGONNE

Argonne National Laboratory, one of the U.S. Department of Energy's major research and development centers, invites inquiries and applications to its Program of Faculty Research Leave at Argonne (FRLA). This Program enables faculty members on sabbatical leave from U.S. universities to collaborate in Argonne research programs in the basic physical and life sciences, mathematics, computer science, and engineering, as well as in a variety of applied research programs relating to coal, conservation, environmental impact, fission, fusion, and solar energy. Typical financial support remitted to the university for these appointments includes 50% of salary and fringe benefits for nine months of the appointment and 100% of the summer salary and fringe benefits.

Additional information may be obtained from: ARGONNE DIVISION OF EDUCATIONAL PROGRAMS, Box D-55, South Cass Avenue, Argonne, Illinois 60439. Or call (312) 972-3365.

An Affirmative Action,
Equal Opportunity Employer



DIRECTOR, DIVISION OF KIDNEY, UROLOGIC, AND HEMATOLOGIC DISEASES and Associate Director for Kidney, Urologic, and Hematologic Diseases (dual positions)

The National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases invites nominations and applications for the position of Director, Division of Kidney, Urologic, and Hematologic Diseases (KUHD). The candidate must be internationally recognized within the scientific community as an authority in kidney disease. In addition, the candidate should demonstrate an interest and a commitment to urologic and hematologic diseases. This Institute conducts, fosters, and supports research and research training in the prevention, management, and cure of arthritis, and related bone and skin diseases, diabetes and related endocrine and metabolic diseases; kidney, urologic and hematologic diseases, and digestive diseases. Programs encompass intramural laboratory research and extramural (grants and contracts) activities in fundamental arthritis, diabetes, digestive and kidney disorders.

The Director, serves as the primary official with responsibility for planning and executing the Institute's extramural programs in kidney, urologic, and hematologic diseases, including: basic and applied research, training fellowships and institutional training awards, multipurpose centers of research, clinical trials, technological development and application of research findings; and collection and dissemination of reliable data and information, budget development, and advising and participating with outside voluntary health organizations and the National Advisory Council in identifying and assessing the needs and requirements for re-

search and manpower development in categorical diseases. Additionally, the incumbent serves as principal advisor to the Institute Director on matters and policies pertaining to these areas. Also, the incumbent will conduct intramural research projects in the areas of kidney and related diseases.

This is a Civil Service position in the Senior Executive Service (SES), with a salary range from \$56,945 to \$63,800 per annum, depending on qualifications. Currently the payable salary is limited to \$63,800. Physicians may be eligible for an additional comparability allowance up to \$10,000 per year. (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service). Mandatory professional/technical qualifications are a medical degree, or Ph.D. degree in a health or health related science (or equivalent) and research program administration and/or clinical experience in kidney diseases. Further information on these qualifications are available by contacting Syd Carter, Personnel Management Specialist, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, Building 31, Room 9A34, Bethesda, Maryland 20205, (301) 496-4231.

Mandatory managerial/executive qualifications include evidence of management of a basic or clinical research program, demonstrating ability to assume leadership responsibilities in developing program goals; representing the program to outside groups; directing program

planning, execution, and evaluation; and conducting a fair and equitable employment program, including the attainment of EEO objectives.

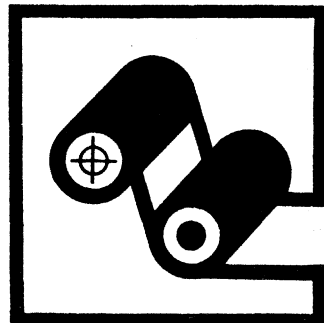
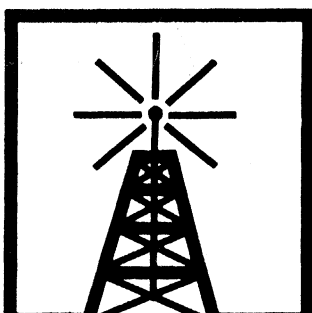
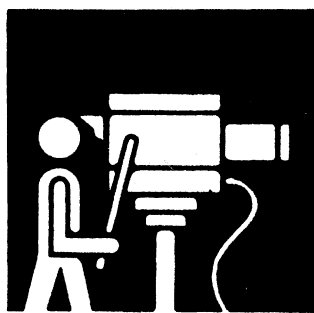
Candidates who meet the mandatory qualifications will be further evaluated by the Search Committee on the degree to which they exceed the mandatory managerial/executive qualifications, and on the following desirable qualifications: scientific reputation/peer recognition, training and education, leadership of a basic or clinical research or research administration program, and honors and awards.

APPLICATIONS (PERSONAL QUALIFICATIONS STATEMENT SF-171) should be sent to Mr. Clifford Moss, Executive Secretary, Search Committee for Director, KUHD, Building 31, Room 9A34, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, Bethesda, Maryland 20205, telephone (301) 496-4231. All applications must be postmarked before September 30, 1983.

A current curriculum vitae and bibliography must accompany all applications. Applications from women and/or minority group members are especially solicited. Department of Health and Human Services Public Health Service. National Institutes of Health National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases

AN EQUAL OPPORTUNITY EMPLOYER

1983 AAAS Westinghouse Science Journalism Awards



Television
Radio
Print

Rules

The aim of this competition is to encourage and recognize outstanding reporting on the sciences and their engineering and technological applications in newspapers, general circulation magazines, radio, and television. The following categories are not eligible: items on the field of medicine, items published originally in AAAS publications or produced by AAAS; reports by employees of the AAAS or Westinghouse Electric Corporation.

Print

- An entry for a newspaper competition may be any of the following: a single story; a series of articles; or a group of three unrelated stories, articles, editorials, or columns published during the contest year. A magazine entry may be a single story or series published during the contest year.
- A completed entry blank must be submitted together with seven copies of each entry in the form of tear sheets, clippings, reprints, or syndicate copy (not over 8½" x 11"), showing name and date of the publication. **ENTRIES MUST NOT BE ELABORATE!**

Broadcast

- An entry for the radio or television competition may be an individual news story, feature, or a series, regardless of length, broadcast during the contest year on either public or commercial stations. Entries must be comprised of scripted material. Interviews are not eligible.
- A completed entry blank must be submitted together with a cassette in the case of radio and copy of the script or a ¾" videocassette in the case of television and copy of the script.

- Each entrant may submit three entries for any one category.
- Each entry must have been published or produced and broadcast within the United States during the contest year—**1 January 1983 through 31 December 1983**. (In case of a series, more than half of the items comprising it must have been published or broadcast during the contest year.) The date on the issue in which an article appears will be considered as the date of publication. All entries must be postmarked on or before midnight, 15 January 1984.
- Persons other than the author may submit entries in accordance with these rules. Entries will not be returned.
- Winners of the 1982 awards are not eligible for the 1983 awards. Persons winning three times are no longer eligible.
- The Judging Committees, whose decisions are final, will choose the winners. There are five awards of \$1,000: for the winning entry in the over 100,000 daily circulation newspapers competition; for the winning entry in the under 100,000 circulation newspapers competition; for the winning entry in the general circulation magazine competition; for the winning entry in the radio competition; and for the winning entry in the television competition. For award purposes, newspaper circulation will be sworn ABC daily circulation as of 30 September 1982. The Judging Committees may cite other entries for honorable mention.
- The awards will be presented at the dinner meeting of the National Association of Science Writers during the Annual Meeting of the American Association for the Advancement of Science in New York City in May 1984. Travel and hotel expenses of the award winners will be paid. **Entrants agree that, if they win, they will be present to receive their awards, unless prevented by circumstances beyond their control.**

Grayce A. Finger

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

1515 Massachusetts Avenue, N.W. Washington, D.C. 20005