

Solar Astronomy

Solar Maximum Analysis. P. A. SIMON, Ed. Published for the Committee on Space Research by Pergamon, New York, 1985. viii, 404 pp., illus. \$99.50. *Advances in Space Research*, vol. 4, no. 7. From a symposium, Graz, Austria, June 1984.

Solar-Space Observations and Stellar Prospects. J. W. HARVEY, H. S. HUDSON, and R. W. NOYES, Eds. Published for the Committee on Space Research by Pergamon, New York, 1985. vi, 175 pp., illus. \$49.50. *Advances in Space Research*, vol. 4, no. 8. From a meeting, Graz, Austria, June 1984.

The Committee on Space Research (COSPAR), an organ of the International Council of Scientific Unions, sponsors regular topical symposiums in space physics. These two volumes, which are issues of *Advances in Space Research*, the journal of COSPAR, contain the proceedings of meetings concerned with recent progress in solar astronomy.

Solar Maximum Analysis presents short contributions on three major topics in solar flare physics: flare buildup, flare energy release, and interplanetary traveling phenomena. These topics were the subjects of international cooperative research efforts during the recent peak of solar activity, August 1979 to February 1981. Observations were made from such satellites as the Solar Maximum Mission, Hinotori, and Solwind, as well as with ground-based radio and optical telescopes.

The reports contain many new and important results on magnetic energy storage, charged particle acceleration, and energy conversion to radiation. For example, M. Hagyard *et al.* have demonstrated convincingly, for the first time, the role magnetic field shear plays in pre-flare energy storage.

The proceedings reflect the unsettled state of the subject, which still lacks a consensus on even the most basic physical mechanisms. Is flare energy carried primarily by electron beams or by thermal conduction? Is emerging magnetic flux crucial to the onset of a flare? A reader will find opposing views on these and other topics, and it makes for stimulating reading. However, the proceedings would have been more valuable to the nonexpert if they had included summary papers that integrated the individual contributions and sharpened the outstanding issues.

Solar-Space Observations and Stellar Prospects reports recent progress in two active fields in space solar astronomy (observations of surface magnetic fine

structure and of the solar interior) and in a related field in stellar astronomy (stellar oscillations). Like the other volume, these proceedings consist primarily of short papers on space observations. The short reports here are introduced by one or more major reviews on each topic, which add considerably to the coherence and intelligibility of the whole. In my view, the excellent reviews by J. O. Stenflo ("Fine scale structure of solar magnetic fields"), B. Roberts ("The creation of fine structure by magnetic fields"), and D. O. Gough ("Immediate and long-term prospects for helioseismology") are required reading for astronomers of any stripe. The shorter papers, unfortunately, give only a glimpse of the rich data that observations from space yield. I was especially intrigued by a report by C. Fröhlich and J. A. Eddy of a possible secular increase of the total solar irradiance from 1967 to 1983 amounting to 0.025 percent per year and a corresponding increase of the solar diameter of about 0.033 arc seconds per year.

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Books Received

Algorithmically Specialized Parallel Computers. Lawrence Snyder *et al.*, Eds. Academic Press, Orlando, Fla., 1985. xiv, 252 pp., illus. \$26.50.

American Insects. A Handbook of the Insects North of Mexico. Ross H. Arnett, Jr. Van Nostrand Reinhold, New York, 1985. xiv, 850 pp., illus. \$79.50.

Aphasia and Brain Organization. Ivar Reinvang. Plenum, New York, 1985. xii, 195 pp. \$29.50. *Applied Psycholinguistics and Communication Disorders*.

Application and Biology. E. S. E. Southcombe, Ed. BCPC Publications, Croydon, England, 1985 (U.S. distributor, International Specialized Book Services, Beaverton, Ore.). xiv, 312 pp., illus. Paper, \$38. Monograph no. 28. From a symposium, Reading, England, Jan. 1985.

Applied Differential Geometry. William L. Burke. Cambridge University Press, New York, 1985. xviii, 414 pp., illus. \$54.50; paper, \$19.95.

Applied Plant Virology. D. G. A. Walkey. Wiley-Interscience, New York, 1985. xiv, 329 pp., illus. Paper, \$22.95.

Arctic Ocean Engineering for the 21st Century. Ben C. Gerwick, Ed. Marine Technology Society, Washington, D.C., 1985. viii, 234 pp., illus. Paper, \$30. From a symposium, Williamsburg, Va., Oct. 1984.

An Atlas of Immunofluorescence in Cultured Cells. Mark C. Willingham and Ira Pastan. Academic Press, Orlando, Fla., 1985. xiv, 186 pp., illus. \$35.

Atmospheric Ozone. C. S. Zerefos and A. Ghazi, Eds. Published for the European Communities by Reidel, Boston, 1985. xxxii, 842 pp., illus. \$99. From a symposium, Halkidiki, Greece, Sept. 1984.

Avian Biology. Vol. 8. Donald S. Farner, James R. King, and Kenneth C. Parkes, Eds. Academic Press, Orlando, Fla., 1985. xxiv, 256 pp., illus. \$49.50.

Bacterial Endotoxins. Structure, Biomedical Significance, and Detection with the Limulus Amebocyte Lysate Test. Jan W. ten Cate *et al.*, Eds. Liss, New York, 1985. xx, 466 pp., illus. \$68. *Progress in Clinical and Biological Research*, vol. 189. From a conference, Amsterdam, May 1984.

The Banach-Tarski Paradox. Stan Wagon. Cambridge University Press, New York, 1985. xvi, 253

pp. \$37.50. *Encyclopedia of Mathematics and Its Applications*.

Basic Organometallic Chemistry. Containing Comprehensive Bibliography. Ionel Haiduc and J. J. Zuckerman. Walter de Gruyter, Hawthorne, N.Y., 1985. xvi, 488 pp., illus., + index. \$64.90; paper, \$29.90.

Boophilus microplus. The Common Tick. Jorge Luis Nuñez, Mario Enrique Muñoz-Cobeñas, and Horacio Luis Moltedo. Springer-Verlag, New York, 1985. xiv, 206 pp., illus. \$69. Translated from the Spanish edition (1982) by Harry Bailie, Constanza Michelsohn, and Cecilia Paris.

Contributions to the Archaeology and Ethnohistory of Greater Mesoamerica. William J. Folan, Ed. Southern Illinois University Press, Carbondale, 1985. xxxvi, 334 pp., illus. \$28.95.

Cool Stars with Excesses of Heavy Elements. Mercedes Jaschek and Philip C. Keenan, Eds. Reidel, Boston, 1985 (distributor, Kluwer, Hingham, Mass.). xvi, 398 pp., illus. \$54. *Astrophysics and Space Science Library*, vol. 114. From a colloquium, Strasbourg, France, July 1984.

Crop Protection Handbook. Grass and Clover Swards. R. D. Williams. BCPC Publications, Croydon, England, 1984 (U.S. distributor, International Scholarly Book Services, Beaverton, Ore.). xii, 105 pp., illus. \$39.

Databases. How to Manage Information on Your Micro. Peter Laurie. Chapman and Hall/Methuen, New York, 1985. 139 pp., illus. Paper, \$16.95.

The Development of Social Cognition. John B. Pryor and Jeanne D. Day, Eds. Springer-Verlag, New York, 1985. xiv, 239 pp. \$32.

An Ecological Characterization of the Caloosahatchee River/Big Cypress Watershed. Richard D. Drew and N. Scott Schomer. U.S. Fish and Wildlife Service, Washington, D.C., 1984. xvi, 226 pp., illus. Paper. FWS/OBS-82/58.2.

Ecological Considerations in Wetlands Treatment of Municipal Wastewaters. Paul J. Godfrey *et al.*, Eds. Van Nostrand Reinhold, New York, 1985. xxii, 473 pp., illus. \$37.50. From a workshop, Amherst, Mass., June 1982.

Economic Theory and the Cities. J. Vernon Henderson. 2nd ed. Academic Press, Orlando, Fla., 1985. xiv, 274 pp., illus. \$45. *Studies in Urban Economics*.

Ecosystem Theory for Biological Oceanography. Robert E. Ulanowicz and Trevor Platt, Eds. Department of Fisheries and Oceans, Ottawa, 1985 (available from Canadian Government Publishing Centre, Ottawa). xiv, 260 pp., illus. Paper, C\$17.95. *Canadian Bulletin of Fisheries and Aquatic Sciences* 213. From a symposium, Ste. Foy, Quebec, March 1984.

The Effects of Noise on Man. Karl D. Kryter. 2nd ed. Academic Press, Orlando, Fla., 1985. xii, 688 pp., illus. \$34.50.

Electrical Machines and Drives. Worked Examples. John Hindmarsh. 2nd ed. Pergamon, New York, 1985. xviii, 350 pp., illus. \$29.50; paper, \$17.50. *Applied Electricity and Electronics*.

Electronic Properties of Polymers and Related Compounds. H. Kuzmany, M. Mehring, and S. Roth, Eds. Springer-Verlag, New York, 1985. xii, 356 pp., illus. \$34.50. *Springer Series in Solid-State Sciences*, 63. From a school, Kirchberg, Austria. Feb. 1985.

Elements of Digital Satellite Communication. Vol. 2, Channel Coding and Integrated Services Digital Satellite Networks. William W. Wu. Computer Science Press, Rockville, Md., 1985. xiv, 642 pp., illus. \$49.95. *Electrical Engineering Communications and Signal Processing*.

Elements of Psychophysical Theory. Jean-Claude Falmagne. Clarendon (Oxford University Press), New York, 1985. xii, 385 pp., illus. \$59. *Oxford Psychology Series* no. 6.

Energy Balances and Electricity Profiles 1982. United Nations, New York, 1985. xvi, 484 pp., illus. Paper, \$41.

Free Radicals in Biology and Medicine. Barry Halliwell and John M. C. Gutteridge. Clarendon (Oxford University Press), New York, 1985. xii, 346 pp., illus. \$35.

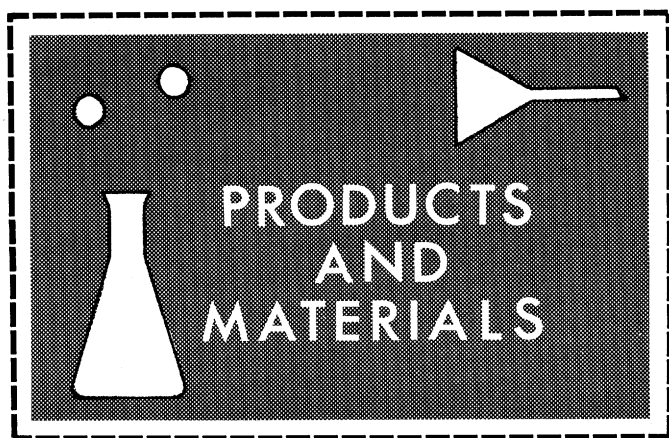
Free Rings and Their Relations. P. M. Cohn, 2nd ed. Academic Press, Orlando, Fla., 1985. xxii, 588 pp., illus. \$80. *L.M.S. Monographs*, 19.

Freedom in Machinery. Vol. 1, Introducing Screw Theory. Jack Phillips. Cambridge University Press, New York, 1985. viii, 200 pp., illus. \$59.50.

Frontiers in Materials Technologies. Marc A. Meyers and Osman T. Inal, Eds. Elsevier, New York, 1985. xvi, 558 pp., illus. \$109.25. *Materials Science Monographs*, 26.

Fundamental and Technological Aspects of Organof-Element Chemistry. Tobin J. Marks and Ignazio L. Fragala, Eds. Reidel, Boston, 1985 (distributor, Kluwer, Hingham, Mass.). xiv, 414 pp., illus. \$56. *NATO ASI Series C*, vol. 155. From an institute, Acquafredda di Maratea, Italy, Sept. 1985.

(Continued on page 687)



Cell Culture Labware

Labware coated with extracellular matrix (ECM) offers improved proliferation and differentiation of epithelial cells and other mesoderm-derived cell lines. The ECM consists of material including basement membrane and basal lamina secreted from endothelial cells and attached to plastic labware. Subsequent removal of endothelial cells leaves the substratum behind. The remaining substrate greatly enhances cellular attachment, migration, proliferation and, for many cell types, differentiation. ECM-coated culture dishes enhance growth of amniotic cells, vascular endothelial cells, ovarian carcinoma cells, bovine adrenal cortex and granulosa cells, chondrocytes, and others. ECM-cultured cells reduce the need for serum supplements and cellular mitogens, too. In Vitro International. Circle 578.

Immunoassay

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recombine. An assay determines the amount of enzyme activity that is proportional to the substance concentration in the patient's sample. In these CEDIA assays, the hydrolysis of O-nitrophenyl- β -D-galactopyranoside by recombined β -galactosidase is monitored at 420 nm within 700 to 900 seconds after initial mixing at 37°C. Microgenics. Circle 576.

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Data Recorder

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communications interface permits data to be transferred to display or storage or for more extensive manipulation. Esterline Angus. Circle 574.

Research Immunoassays

Assay kits are available for the detection and measurement of human transforming growth-factor alpha (hTGF-alpha) and human epidermal growth factor (hEGF) in urine. The hTGF-alpha is produced by many cancer cells and secreted in the urine; hEGF is a closely related hormone found in the urine of healthy individuals. Analyzing the presence and amount of the two hormones has applications in cancer research, diagnosis, and monitoring. The kits utilize a proprietary microassay called BioMAT. BioTope. Circle 590.

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Literature

Microfluidization describes the production of fine emulsions, dispersions, and liposomes. Microfluidics. Circle 593.

Microbalances is devoted to the Series 30 automatic electrobalances for analytical, biomedical, and research applications. Cahn Instruments. Circle 594.

1986 Celestial Observation Handbook & Ephemeris is a reference work for surveyors and others who must determine field locations precisely. Lietz. Circle 595.


HPLC Instruments features a full line of products for automated liquid chromatography. Spectra-Physics. Circle 596.

Fisher Chemical Index 86 specifies thousands of reagents for research. Fisher Scientific. Circle 597.

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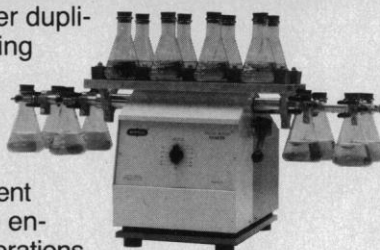


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LETTERS

(Continued from page 610)

tional motor action. It dramatizes also the fact that the evolutionary theory has not generated interesting new hypotheses about emotional expression or about the emotions, and in over one century has not led to much interesting research. In contrast, the vascular theory has generated a host of new interesting and testable hypotheses. Even if the basic theory is wrong in some respects, the hypotheses that can be derived from it are in themselves quite worthwhile.

The challenge of vascular theory of emotional efferece to the evolutionary theory of emotional expression does not imply that the two are mutually contradictory. On the contrary, together they can form a richer explanatory basis for expressive behavior. The vascular theory of emotional efferece supplies the evolutionary theory of emotional expression with an explanation of why and how certain emotional gestures came to be parts of the human communication system and why they are universal across cultures and often across species. How and to what extent emotional efferents serve a restorative vascular function is a problem for empirical research.

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9. J. Cartwright-Smith, paper presented at the meetings of the Eastern Psychological Association, Philadelphia, Pa., April 1979.

Erratum: The "turrigid gastropod" referred to on page 713 (column 2, line 22) of the article "Hydrothermal vent animals: Distribution and biology" by J. Frederick Grassle (23 Aug.) should have been a "turrigid gastropod." The first reference 26 on page 716 (column 2, line 14) should have been to R. A. Lutz and D. C. Rhoads, *Eos* 64, 1017 (1983). The statement at the end of page 716 that vent animals have metabolic rates that are orders of magnitude higher than relatives in other parts of the deep sea cannot be substantiated because, although many deep-sea organisms have low metabolic rates, benthic decapod crustacea and echinoderms from areas away from hydrothermal vents in the deep sea have metabolic rates similar to those of vent species when measured at the same temperature. This is further discussed in a forthcoming issue of the *Bulletin of the Biological Society of Washington*.

BOOKS RECEIVED

(Continued from page 660)

Handbook of Tritium NMR Spectroscopy and Applications. E. A. Evans et al. Wiley-Interscience, New York, 1985. xiv, 249 pp., illus. \$39.95.

Hereditary and Visual Development. Joel B. Shefield and S. Robert Hilfer, Eds. Springer-Verlag, New York, 1985. xii, 214 pp., illus. \$49.50. Cell and Developmental Biology of the Eye. From a symposium, Philadelphia, Oct. 1983.

High-Energy Ion-Atom Collisions. Invited Lectures and Contributed Papers. D. Berényi and G. Hock, Eds. Akadémiai Kiadó, Budapest, 1985. 307 pp., illus. \$36. From a workshop, Debrecen, Hungary, Aug. 1984.

Iron Fortification of Foods. Fergus M. Clydesdale and Kathryn L. Wiemer, Eds. Academic Press, Orlando, Fla., 1985. xvi, 178pp., illus. \$36.50. Food Science and Technology.

Macroscopic Modelling of Turbulent Flows. U. Frisch et al., Eds. Springer-Verlag, New York, 1985. x, 362 pp., illus. Paper, \$23.70. Lecture Notes in Physics, vol. 230. From a workshop, Sophia-Antipolis, France, Dec. 1984.

Normal and Abnormal Bone Growth. Basic and Clinical Research. Andrew D. Dixon and Bernard G. Sarnat, Eds. Liss, New York, 1985. xxii, 524 pp., illus. \$76. Progress in Clinical and Biological Research, vol. 187. From a conference, Los Angeles, Jan. 1985.

Planetary Ecology. Douglas E. Caldwell, James A. Brierley, and Corale L. Brierley, Eds. Van Nostrand Reinhold, New York, 1985. xvi, 591 pp., illus. \$57.50. From a symposium, Santa Fe, N.M., Oct. 1983.

Roberts' Birds of Southern Africa. Gordon Lindsay Maclean. Illustrated by Kenneth Newman and Geoff Lockwood. 5th ed. Trustees of the John Voelcker Bird Book Fund, Cape Town, South Africa, 1985. xlviii, 848 pp. + plates. S. A. Rand \$24.50.

The Role of Chemicals and Radiation in the Etiology of Cancer. Eliezer Huberman and Susan H. Barr Eds. Raven, New York, 1985. xxii, 538 pp., illus. \$69. Carcinogenesis, vol. 10. From a symposium, Oakbrook, Ill., Aug. 1984.

The Sasquatch and Other Unknown Hominoids. Vladimir Markotić and Grover Krantz, Eds. Western Publishers, Calgary, Canada, 1985. viii, 335 pp., illus. Paper, \$12.

Scientific and Technological Information for Development. United Nations, New York, 1985. vi, 179 pp., illus. Paper, \$17.50. From a meeting, Rome, Jan. 1985.

Trauma of the Central Nervous System. Ralph G. Dacey, Jr., et al., Eds. Raven, New York, 1985. xviii, 341 pp., illus. \$69.50. Seminars in Neurological Surgery Series. From a conference, Charlottesville, Va., Sept. 1982.

Tropical Root Crops. Postharvest Physiology and Processing. I. Uritani and E. D. Reyes, Eds. Japan Scientific Societies Press, Tokyo, 1984 (U.S. distributor, International Specialized Book Services, Beaverton, Ore.). xxii, 328 pp., illus. Paper, \$26. From meetings, 1981-1983.

Victorian Science and Victorian Values. Literary Perspectives. James Paradis and Thomas Postlewait, Eds. Rutgers University Press, New Brunswick, N.J., 1985. xiv, 362 pp., illus. \$30; paper, \$14. Reprint, 1981 edition.

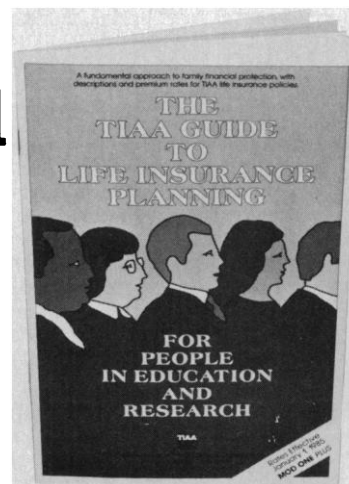
The Woods Hole Cantata. Essays on Science and Society. Gerald Weissmann. Dodd, Mead, New York, 1985. xxii, 230 pp., illus. \$14.95.

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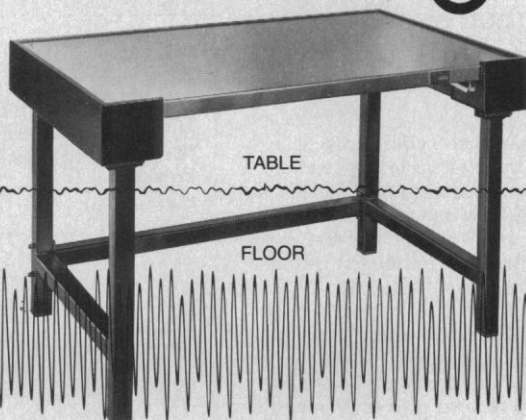
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POSITIONS WANTED

Anatomist/M.D. Seeks anatomy position in which teaching rather than research is emphasized. Clinical correlation stressed. Author of recent anatomy text. Box 229, SCIENCE. 11/8, 15

Recent Ph.D. Biochemist. Seeking entry-level position in cancer research. Experience in protein purification, SDS gel electrophoresis, Western blotting, autoradiography, enzymology, and HPLC. Courses taken in basic DNA recombinant techniques. Box 242, SCIENCE. 11/8, 15, 22, 29

Experienced Biological Photographer wishes to volunteer technical services to any scientific expedition traveling anywhere in the world. William Ormerod, Nature Photography, 78 South Huntington Avenue, Jamaica Plain, Mass. 02130. Telephone: 617-566-6559. 11/8, 15, 22

Biomaterials Research Scientist (faculty, U.S. dental school); seeks position in academia, industry, or government. Extensive electron microscopy experience. Research has centered, but not restricted, to biocompatibility of implanted biomaterials. Also involved in numerous biological research protocols including epithelial differentiation. Coordinates multi-institutional research. Numerous research presentations and publications. Box 243, SCIENCE. 11/8, 15

Immunologist. Ph.D. Experienced researcher in industrial hybridoma/monoclonal antibody development to tumor cell antigens and enzymes of therapeutic interest. Significant work on lymphocyte cytotoxicity and lymphokines. Superior publications and references. Seeking senior staff position in industry or academe. Box 234, SCIENCE. 11/8, 15

Technician, Biochemistry, 8 years of research experience; presently employed: residing in New York City; seeks stimulating position; university setting preferred, would consider other. Box 221, SCIENCE. X

POSITIONS WANTED

Ecologist/Botanist seeks postdoctoral research or teaching position in United States. Four-plus years of university teaching experience and publications in nutrient cycling/productivity/pollution studies in temperate and tropical grasslands and tropical agricultural systems (Britain and Kenya). Available immediately. Dr. N. M. Dickinson, Beach Cottage, Barton Road, Hoylake, Merseyside, England. X

Plant/Microbial Physiologist. Ph.D. 1976. Extensive graduate/postdoctoral training in plant physiology at whole-plant, organelle, and enzyme levels. Current academic position involves study of physiology and molecular genetics of *Rhizobium*/legume symbiosis. Eleven publications. Recently trained in bacterial genetics at Cold Spring Harbor Laboratories. Self-trained in digital electronics/microprocessors. Seeking government, industry, or private sector position. Box 241, SCIENCE. 11/8, 15

Risk Analyst/Environmental Analyst. Broad experience in risk, environmental quality, policy studies. Widely published—100 articles and reviews, four sole-author books. Lectured in 13 countries on risk analysis. Former senior position in national laboratory. Has worked on interface between science and its public understanding. Box 235, SCIENCE. 11/8, 15, 22

Technical Services. Standard operating procedures: analytical procedures; aseptic techniques; cell culture; clinical chemistry; immunoassays; media preparation; production of monoclonal and polyclonal antibodies; purification procedures; quality control: radioisotope safety; RNA and DNA methodology; subcellular fractionation procedures. Instruction of technical and professional personnel. Data evaluation and document preparation for EPA and FDA. Expert translation of technical material. Qualifications: Ph.D., biochemistry; physiology; M.S., pharmacy, clinical chemistry. Extensive international experience in protein biochemistry, molecular biology, general and tumor immunology, and biological response modifiers. Many publications. Box 228, SCIENCE, or telephone: 301-229-4489. X

POSITIONS OPEN

The Department of Psychiatry at the University of California, Irvine, is seeking an **ACADEMICALLY ORIENTED RESEARCHER**, at the assistant adjunct professor level, to develop and supervise a research program involving positron-emitting radiopharmaceuticals for positron emission tomography studies of regional cerebral metabolism and physiology. A Ph.D. in radiochemistry or nuclear chemistry and supervisory/administrative experience of radioisotope production devices is essential. A minimum of 3 years of experience in the synthesis and development of compounds radiolabeled with fluorine-18, carbon-11, and oxygen-15 is also required. Send curriculum vitae and three references to:

William E. Bunney, M.D.
Professor and Chair
Department of Psychiatry and Human Behavior
Room 309, Building 53, Route 81
101 City Drive South
Orange, California 92668

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

ASSISTANT PROFESSOR OF BIOLOGY for 15 August 1986. Ph.D. required. Seeking a broadly trained plant physiologist. EM capabilities desirable but not essential. Responsibilities include involvement in general biology, cell biology, and plant physiology. Research expected. Within 3 weeks after ad appears send copies of undergraduate and graduate transcripts, statement on teaching and research interests, equipment needs, curriculum vitae, and names of three references to: **Dr. James Watrous, Chairman, Biology Department, St. Joseph's University, 5600 City Avenue, Philadelphia, Pa. 19131.** *Equal Opportunity/Affirmative Action Employer.*

The Department of Chemistry at New York University (NYU) invites applications for an anticipated opening for an **ASSISTANT PROFESSOR** (tenure-track) with a research program in biochemistry. Applicants should send a résumé and research plans and arrange to have three letters of reference sent to: **Professor Robert Shapiro, Chairman, Search Committee, Department of Chemistry, New York University, 4 Washington Place, Room 514, New York, N.Y. 10003,** prior to 20 December 1985. *NYU is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

AQUATIC ECOLOGIST

The Department of Zoology and the Graduate Program in Ecology of the University of Tennessee at Knoxville (UTK) seek an aquatic ecologist for a tenure-track appointment at the assistant professor level. Applicants should be able to teach an undergraduate course in aquatic ecology and have research interests which include the behavioral, evolutionary, or population processes of aquatic organisms, or the communities or ecosystems to which these organisms belong. Applicants should send curriculum vitae, copies of recent publications, and the names of three references to: **Dr. Stuart L. Pimm, Chairman, Aquatic Ecology Search Committee, Department of Zoology, The University of Tennessee, Knoxville, Tenn. 37996.** Deadline for receipt of applications is 15 January 1986. *UTK is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT OR ASSOCIATE AGRONOMIST/ SOIL SCIENTIST—NONTENURE TRACK

The Department of Agronomy and Soils seeks an individual to conduct research on soil fertility and crop-management/agricultural production systems in international agriculture. Candidates must have a Ph.D. in agronomy, soils, or closely related field, emphasizing soil fertility and/or crop management. Salary open; application review begins 31 December 1985. Submit résumé, statement of career interests, academic transcripts, and names of five personal/program evaluators to:

Dr. J. C. Engibous, Chairman
Department of Agronomy and Soils
Washington State University (WSU)
Pullman, Wash. 99164-6420

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ASSISTANT PROFESSOR. The Department of Obstetrics and Gynecology at the University of Kentucky has an opening for a research faculty position (nontenure) in reproductive endocrinology (Ph.D.). The applicant will be expected to conduct independent research and develop research interests related to human endocrinology, in vitro fertilization, or other clinical subjects. Position includes laboratory, technician, and start-up funds. Interested individuals should send curriculum vitae and a statement of research interests to: **Emery A. Wilson, M.D., Department of Obstetrics-Gynecology, University of Kentucky Medical Center, Lexington, Ky. 40536.**

ASSISTANT PROFESSOR OF BIOCHEMISTRY (tenure track) to begin January 1986 or as soon thereafter as appropriate. Participate in undergraduate and graduate teaching and initiate a high-quality research program. Applicants should have research experience and interests in the biochemistry of development or differentiation. The successful candidate will have a joint appointment with the New Hampshire Agricultural Experiment Station. Qualifications: Ph.D. and postdoctoral experience. Send résumé, statement of research interests, and the names of three references by 2 December 1985 to: **Donald M. Green, Biochemistry, Spaulding Hall, University of New Hampshire (UNH), Durham N.H. 03824.** *UNH is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR OF BIOCHEMISTRY UNIVERSITY OF ILLINOIS AT CHICAGO COLLEGE OF MEDICINE

The Department of Biological Chemistry is seeking applications for a tenure-track assistant/associate professor position, effective academic year 1986. Applicants should have a Ph.D. and at least 2 years of postdoctoral experience. We are seeking candidates with a strong commitment to developing an independent research program using contemporary approaches to fundamental problems in biochemistry. The department is well equipped and well funded, having 22 full-time faculty members. The department is particularly strong in nucleic acid structure-function and gene regulation, membrane and cellular biochemistry, and lipid metabolism. Applicants should provide curriculum vitae, at least three letters of reference, and a brief statement of research interests and plans by 1 January 1986. Send applications to: **Secretary, Biochemistry Search Committee, Department of Biological Chemistry, University of Illinois at Chicago, College of Medicine, 1853 West Polk Street, Chicago, Ill. 60612.**

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

POSITIONS OPEN

AQUATIC MICROBIAL ECOLOGY/ LIMNOLOGY

The Department of Biology, University of Alabama, invites applications for a position at the **ASSOCIATE/FULL PROFESSOR** level to begin August 1986. Primary consideration will be given to individuals in freshwater microbial ecology, but individuals in related areas of limnology, such as biogeochemical cycling, are encouraged to apply. We are primarily seeking an individual with an outstanding record of scholarship and extramural funding success who will complement the research interests in our Aquatic Biology Program. Currently, there are 14 aquatic biology faculty with the major strength in freshwater ecology. The individual would be expected to build a strong sponsored research program, supervise graduate students, and teach senior/graduate level course(s) in their specialty. Salary is negotiable.

Applicants should submit curriculum vitae, a statement of professional goals, a record of research support, and names, addresses, and telephone numbers of at least three references by 31 January 1986 to: **Dr. Arthur C. Benke, Chairman, Aquatic Ecology Search Committee, Department of Biology, P.O. Box 1927, University of Alabama, Tuscaloosa, Ala. 35486.**

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

ASSISTANT PROFESSOR. Full-time, tenure-track position in the Department of Physical Education. The successful applicant will be willing to develop an independent basic research program as part of a steroid research unit with emphasis on mechanisms of hormone action in cardiac and skeletal muscle. Ph.D. and/or M.D. and postdoctoral experience required with training in molecular biology, protein, purification separation, and cell culture technology. Send curriculum vitae, bibliography, reprints, a summary of current and future specific interests, and three letters of recommendation to: **Dr. Robert C. Hickson, Ph.D., Department of Physical Education, University of Illinois at Chicago, Box 4348, Chicago, Illinois 60680. Telephone: 312-996-2774.** *The University of Illinois at Chicago is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR IN MOLECULAR IMMUNOLOGY.

The Biology Department, California State University, Fresno, invites applications and nominations for a tenure-track position in **MOLECULAR IMMUNOLOGY**. Candidates are expected to have academic experience in the cellular, molecular, and genetic aspects of immunology. Specifically, we are interested in candidates whose research is in an area of molecular genetics of the immune system such as gene structure, gene expression, or gene regulation. The successful candidate will be competent in current molecular biological methods such as recombinant DNA or hybridoma technologies. An earned doctorate is required and postdoctoral research experience in an appropriate area is preferred.

The primary teaching responsibility will be an upper division major course in immunology each semester with additional course assignments depending on the successful candidate's interests and qualifications and on the needs of the department.

The person selected will be expected to establish an independent and/or cooperative research program and to pursue external support for the research. Individuals applying at the associate professor level should have a substantial record of success in the above areas.

For full consideration, application materials including curriculum vitae, statement of research interests, other supportive materials, and a list of four references, must be received by 1 February 1986. Send applications to: **Dr. William K. Collin, Chair, Biology Department, California State University, Fresno, Fresno, California 93740.**

ASSISTANT PROFESSOR—PLANT MOLECULAR BIOLOGY/GENETICS. Tenure-track position, research and teaching, available 18 August 1986. The successful candidate will be expected to establish a vigorous research program and direct graduate students in a developing interdisciplinary biotechnology program involving the use of recombinant DNA technology or somatic cell genetics as applied to plant-plant or plant-microbial genome interaction. Postdoctoral training is required. Teaching will include molecular biology/plant genetics. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. J. M. Aronson, Department of Botany and Microbiology, Arizona State University, Tempe, Ariz. 85287,** by 31 December 1985. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

Department of Laboratory Medicine and Pathology, University of Minnesota Medical School, **ASSISTANT PROFESSOR** (probationary tenure track), Ph.D., biochemistry, with minimum of 2 years of experience, to participate in teaching program in molecular biology, eventually as relates to T lymphocytes, perform research as relates to T lymphocyte differentiation and will develop research projects in this area or others in which independent funding can be obtained. Salary: \$28,000 to \$31,000. Send résumé by 30 November 1985 to: **Dr. John Kersey, Box 609 Mayo, 420 Delaware Street, SE, Minneapolis, Minn. 55455.**

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

ASSISTANT PROFESSOR OF BIOCHEMISTRY UNIVERSITY OF WASHINGTON

Applicants for this tenure-track position should have demonstrated the ability to develop a strong and creative research program in any area of biochemistry ranging from physical biochemistry to molecular aspects of cell and developmental biology. Candidates should be interested in and capable of teaching biochemistry at the undergraduate and graduate levels. To apply, send curriculum vitae and a succinct statement of research interests, and have four letters of recommendation sent to: **Dr. Stephen Hauschka, Chairman, Search Committee, Department of Biochemistry, University of Washington, Seattle, Wash. 98195.** Applications should be received by 15 January 1986. *The University of Washington is committed to Equal Opportunity through Affirmative Action in employment, and we are especially eager to identify women and minority persons with appropriate qualifications.*

ASSISTANT PROFESSOR, PEDIATRICS, with joint faculty appointment in pharmacological sciences or biochemistry to develop independent research in development toxicology research beginning July 1986. We seek an individual with a Ph.D. and at least 2 years of postdoctoral achievement as innovative investigator in a basic science discipline relevant to developmental toxicology of the renal, respiratory, or neuroendocrine systems. Must have strong publication record and experience in extramural funding. Excellent facilities, equipment, and maximal opportunity for scientific growth. Send curriculum vitae to: **Carol R. Angle, M.D., Professor of Pediatrics and Director, UNMC Toxicology Program, C.O.P. 4037, University of Nebraska Medical Center (UNMC), 42nd and Dewey Avenue, Omaha, Neb. 68105.** *The University of Nebraska is an Equal Opportunity Employer.*

ASSISTANT PROFESSORS, DEPARTMENT OF PHARMACOLOGY, UNIVERSITY OF OTTAWA

Our Department of Pharmacology is expanding its staff and research facilities under a new chairman. Two tenure-track assistant professor positions will be available to candidates with Ph.D. and/or M.D. degrees who have postdoctoral experience and are strongly committed to research and teaching of medical pharmacology. For one of the positions, preference will be given to individuals with training in cardiovascular pharmacology. Knowledge of French is an asset.

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. Deadline for application is 31 January 1986. Starting date of appointment is negotiable.

Curriculum vitae, bibliography, a brief description of experience in teaching and research, a statement of career objectives, proposed research program, and three letters of recommendation should be sent to: **Pharmacology Search Committee, Department of Pharmacology, School of Medicine, University of Ottawa, 451 Smyth Road, Ottawa, Ontario, Canada K1H 8M5.**

Associate Vice President for Research and Dean of the Graduate College Bowling Green State University (BGSU)

Applicants sought for leadership in graduate education and research. Position available July 1986. Submit letter of application, current résumé, and the names, addresses, and telephone numbers of three current professional references by 6 December 1985. Address to: **Norma J. Stickler, Secretary, Graduate Dean Search Committee, Office of Academic Affairs, Bowling Green State University, Bowling Green, Ohio 43403.** *BGSU is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR—PHARMACOLOGY. The School of Pharmacy, University of Wisconsin—Madison, invites applications for a faculty position at the rank of assistant professor. This is a full-time, tenure-track appointment. The successful applicant must be strongly committed to the development of a vigorous research program. Postdoctoral experience and a record of research accomplishment are prerequisites. Candidates with a strong background and research interests in immunology/immunopharmacology, cellular pharmacology, or molecular pharmacology are especially encouraged to apply; however, outstanding candidates in other areas will receive full consideration. The selected applicant is also expected to participate in our graduate teaching program and in undergraduate instruction. Submit curriculum vitae, a statement of research plans, and names and addresses of at least three references to: **Professor Thomas A. Rudy, Chair, Search Committee, School of Pharmacy, University of Wisconsin, Madison, Wisconsin 53706.** Application deadline: 15 January 1986. *The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.*

Tulane University School of Medicine—Seeking **ASSOCIATE PROFESSOR OR PROFESSOR OF MEDICINE** in the Endocrine Section of the Department of Medicine to fill the newly established Tullis-Tulane Alumni Chair of Diabetes. The individual selected must be internal medicine Board-certified and endocrine/metabolic Board-certified/eligible. Academic experience preferred. The position involves teaching, patient care, and research responsibilities. Apply to: **C. Y. Bowers, M.D., Tulane School of Medicine, 1430 Tulane Avenue, New Orleans, La. 70112.** Include updated curriculum vitae. Deadline is 6 December 1985. *Tulane University is an Affirmative Action/Equal Opportunity Employer.*

ASSOCIATE RESEARCH SCIENTIST: Immediate opening for recent Ph.D. in molecular biology or biochemistry with experience or background in gene cloning or carcinogenesis to study the molecular biology of chemical carcinogenesis. Cell culture experience helpful.

ASSISTANT RESEARCH SCIENTIST: Immediate opening for Ph.D. in pharmacology/biochemistry interested in neurobiology and peptide hormone effects. Experience in radiolabeling techniques, protein purification, HPLC, and membrane receptor biochemistry necessary. Research involves human and animal studies related to stress, pain, and temperature regulation during anesthesia.

Send résumés and three references, indicating position of interest, to: **Joan Harmon, Personnel Department, New York University Medical Center, 317 East 34th Street, 7th Floor, New York, N.Y. 10016.** *An Affirmative Action/Equal Opportunity Employer, M/F.*

BIOLOGY FACULTY POSITIONS (TWO) MOLECULAR NEUROBIOLOGY MOLECULAR BIOLOGY OF DIFFERENTIATION

The Department of Biological Sciences at the State University of New York at Albany (SUNYA) has two tenure-track positions to fill in September 1986 with a third position available in the near future. The positions are intended to complement our research groups in molecular, cellular, and neurobiology, and to strengthen our emphasis on the control of developmental processes. The successful candidates must have postdoctoral experience and will be expected to establish an extramurally supported research program. **MOLECULAR NEUROBIOLOGY:** Candidates using molecular/genetic techniques to examine neuronal interactions are sought. The successful candidate will be chosen to complement a strong group of developmental neurobiologists. **MOLECULAR BIOLOGY OF DIFFERENTIATION:** Candidates using molecular techniques to study the control of developmental processes in higher eukaryotic animals are sought. The successful candidate will complement a strong group of cell biologists studying the cell surface and differentiation.

Candidates should send a brief letter describing their research interests, curriculum vitae, and names, addresses, and telephone numbers of three referees before 26 January 1986 to: **Dr. Rod K. Murphey, Chair of the Search Committee, Department of Biological Sciences, State University of New York at Albany, 1400 Washington Avenue, Albany, New York 12222.**

SUNYA is an Affirmative Action/Equal Opportunity Employer. Applications from minority persons, women, handicapped persons, and Vietnam-era veterans are especially welcomed.

**DEPARTMENT HEAD
DEPARTMENT OF RANGE SCIENCE
UTAH STATE UNIVERSITY**

We are searching for a person with commitment to, and an understanding of, quality in academic institutions; a person with a vision of program development that reflects the collective goals of the faculty; a person with a vision of the role of rangelands in contributing to society's future needs and the ability and imagination to lead teaching, research and extension programs to bring this vision to reality; a person with an understanding of the tripartite mission of a range science department in a land grant university. Specific qualifications include: Earned doctorate in range science or related field; experience as a faculty member in an academic institution; awareness of natural resource issues and dedication to solving range management problems; demonstrated scholarship resulting from an active research program; university teaching experience, and an understanding of, and commitment to, teaching excellence in both undergraduate and graduate programs; Extension experience and an understanding of, and commitment to, excellence in the mission and function of extension programs; administrative ability demonstrated by successful experience dealing with people and fiscal affairs. The Head administers the Department faculty which is involved in undergraduate and graduate education, research, extension, and international programs. There is also opportunity for the Head to be involved in teaching and/or research. Interested persons should submit a letter of application, personal vitae, and names of four references to the **Search Committee, Range Science Department, Utah State University, Logan, Utah 84322-5230**. Deadline for applications is December 16, 1985, or until position is filled.



UTAH STATE UNIVERSITY

AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER

RESPIRATORY PHARMACOLOGY

BURROUGHS WELLCOME CO., an innovative pharmaceutical company located in the Research Triangle Park, NC, and having a top reputation for research has an immediate opening for a postdoctoral fellow in Respiratory Pharmacology to conduct independent research to study the effects of reference and experimental anti-asthmatic agents or arachidonic acid metabolism in the lung *in vivo*.

Requirements are a Ph.D. in Pharmacology, Physiology, or Biochemical Pharmacology with experience in respiratory physiological procedures *in vivo*. A good knowledge of analytical techniques (e.g. HPLC/RIA) appropriate for eicosanoid determination is needed.

BURROUGHS WELLCOME CO., offers a comprehensive company-paid benefit package, a competitive salary and an excellent environment in which to apply your professional capabilities. Qualified minority, female, veteran and handicapped individuals are encouraged to apply. Individuals should forward a curriculum vitae with transcripts to: **Employment Supervisor, Position #1226, BURROUGHS WELLCOME CO., 3030 Cornwallis Road, Research Triangle Park, NC 27709.**



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SR. CYTOGENETICIST Mobil

Mobil Oil Corporation currently seeks a qualified research cytogeneticist to work in its environmental affairs and toxicology department located near Princeton, New Jersey.

Responsibilities include overseeing and performing of IN VIVO and IN VITRO cytogenetic studies and micronucleus assays; development of sister chromatid exchange assays IN VITRO/IN VIVO; development of unscheduled DNA synthesis assays; and the monitoring and quality assurance of contract studies in cytogenetics, mammalian genetics, and drosophila. The work will also require the undertaking of research projects designed to refine technology in genetic test systems for petroleum based materials, as well as supervising, training and working with a small staff.

The successful candidate will possess a Ph.D. in genetics, molecular biology, or related discipline and must have 3 to 5 years experience in cytogenetics.

Interested applicants should send resume in confidence to: Manager, Recruiting and Employment, Dept. SCM-S, Mobil Research and Development, P.O. Box 1031, Princeton, NJ 08540.

MOBIL RESEARCH & DEVELOPMENT

an equal opportunity employer

Senior Central Nervous System Pharmacologist (Behavioral Pharmacology)

THE LILLY RESEARCH LABORATORIES, a division of Eli Lilly and Company, is seeking highly qualified candidates for a Senior Scientist position in Behavioral Pharmacology within its Central Nervous System Research Division.

Applicants must have a doctoral degree in Pharmacology with postdoctoral training. Experience in the evaluation of the behavioral effects of drugs is essential. Preference will be given to those candidates with expertise in the behavioral testing (nonoperant) of anti-convulsant, antidepressant, and antipsychotic drugs. The Senior Scientist will be expected to establish an independent behavioral pharmacology laboratory in our research facility located at our Corporate Center. The Senior Scientist will join a group of innovative scientists developing drugs for the treatment of a wide range of psychiatric and neurological disorders.

Qualified applicants should send their curriculum vitae to:



John W. Crooks, Manager
College Relations (CNS)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285

EQUAL OPPORTUNITY EMPLOYER M/F

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR OF PHARMACOLOGY. Applications are invited for a tenure-track faculty position in a research-oriented Department of Pharmacology. Minimal qualifications include a Ph.D. or M.D. degree with strong postdoctoral experience. Candidates must be capable of mounting a vigorous research program and participating in the teaching of medical, dental, and graduate students. The department has active research programs in cardiovascular, biochemical, and neuropharmacology. Applicants with a background in vascular endothelium or smooth muscle are especially encouraged. Available February 1986. Send curriculum vitae to: **E. G. Anderson, Department of Pharmacology, College of Medicine, University of Illinois at Chicago, 835 South Wolcott, Chicago, Ill. 60612.** To assure full consideration, apply by 15 December 1985. *The University of Illinois is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.*

ASSISTANT/ASSOCIATE PROFESSOR OF PHARMACOLOGY. The Department of Pharmacology, Southern Illinois University (SIU) School of Medicine in Springfield, Illinois, invites applications for a full-time, tenure-track position. Applicant must have a Ph.D. or M.D./Ph.D. degree with training in pharmacology and have at least 2 to 3 years of postdoctoral experience. Assistant professor candidates should be capable of developing a strong, independent, fundable research program and effectively participate in the teaching programs of the department for graduate and medical students. Associate professor candidates should have a successful record of independent research, extramural funding, publications, and teaching experience. Preference will be given to applicants whose research emphasizes cellular and/or molecular aspects of cardiovascular pharmacology, including vascular smooth muscle electrophysiology. Applications should include curriculum vitae, representative publications, and the names and addresses of at least three references. Send to: **Dr. Ezio Giacobini, Professor and Chairman, Department of Pharmacology, SIU School of Medicine, P.O. Box 3926, Springfield, Ill. 62708.** Deadline for submission of application: **15 December 1985.** *Equal Opportunity/Affirmative Action Employer.*

BIostatistician—Ph.D. or M.S. in statistics, for small research group. Require experience in experimental design (small numbers of human subjects)—data analysis with particular emphasis on repeated measures design, interpretation, and presentation. Salary commensurate with experience. Send curriculum vitae to **J. R. Puleo, The Bionetics Corporation, Mail Code: BIO-1, Kennedy Space Center, Fla. 32899.** *An Equal Opportunity Employer.*

CELL BIOLOGIST, ELECTRON MICROSCOPIST. Department of Cell Biology. Assistant/associate professor position available immediately; 75 percent effort for individual research, 25 percent to direct institutional supported Electron Microscopy Core facilities. Candidates with interests in micro-skeleton, plasma membrane receptors, or reproductive biology will be given preference but other areas of interest will be considered. Well-equipped laboratories. Send curriculum vitae, bibliography, statement of research interests, and names of three references by 31 December 1985 to: **R. J. Ryan, M.D., Department of Cell Biology, Mayo Medical School, Rochester, Minn. 55905.** Telephone: 507-284-2310. *An Equal Opportunity/Affirmative Action Institution.*

CHAIRMAN, DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS LOUISIANA STATE UNIVERSITY MEDICAL CENTER, SHREVEPORT

The School of Medicine invites nominations and applications for the chairmanship of an expanding Department of Physiology and Biophysics. Candidates must have an outstanding record of research, strong commitment to medical and graduate education, and the vision and experience to establish and lead a department of excellence. All résumés will be reviewed by: **Dr. Dennis J. O'Callaghan, Chairman, Physiology Search Committee.** Applicants must provide curriculum vitae, names of three references, and statement of research interests to:

**Martha Lennard
Department of Human Resources
Louisiana State University Medical Center
1501 Kings Highway
Shreveport, La. 71130**

Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

BOTANY: A tenure-track position at assistant professor level will be available beginning September 1986. Area of specialization in botany is open. The successful applicant must demonstrate commitment and ability to interact closely with students in teaching, research, and advising. Ph.D. required; research and publication expected. Send curriculum vitae, three letters of reference, transcripts, and a statement of teaching and research goals by 10 January 1986 to: **Dr. Glen G. Wurst, Biology Department, Allegheny College, Meadville, Pa. 16335.** *Equal Opportunity Employer.*

TENURE-TRACK CELL BIOLOGIST Immunochimistry—Molecular Biology

The Department of Biological Sciences, California State University, Hayward, is seeking applicants for a tenure-track position at the assistant professor level beginning September 1986. The successful candidate will be expected to develop a graduate immunochimistry course and to share responsibility for courses in recombinant DNA methodology and cell biology. This person must have a strong commitment to teaching undergraduate students at all levels as well as master's degree candidates and to developing an active research program involving our graduate students. The candidate must have a Ph.D., and postdoctoral experience is highly recommended. Submit résumé, statement of professional interests, and the names of three or more references to: **Dr. John Belton, Chair, Department of Biological Sciences, California State University, Hayward, Calif. 94542,** by 1 February 1986. *Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

CELL/MOLECULAR BIOLOGIST

The Department of Anatomy and Cell Biology at Georgetown University, Washington, D.C., is seeking a cell/molecular biologist to fill a tenure-track position at the assistant or associate professor level, beginning 1 July 1986. Applicants should have completed postdoctoral training and be capable of establishing an independent research program supported with extramural funds. While the specific area of research is not as important as excellence, individuals who utilize molecular approaches in the study of the male reproductive system are encouraged to apply. Willingness to teach in one of the anatomical sciences (gross anatomy, histology/cell biology, embryology, neuroanatomy) is required. Curriculum vitae, representative publications, and the names of three referees should be sent to:

**Dr. Martin Dym, Chairman
Department of Anatomy and Cell Biology
School of Medicine—School of Dentistry
Georgetown University
3900 Reservoir Road, NW
Washington, D.C. 20007**

Deadline for application receipt is 15 January 1986. *Georgetown University is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION for D.V.M., Ph.D. in environmental toxicology is available in the College of Veterinary Medicine, Kansas State University. Closing date: 1 December 1985 or until filled. Contact: **F. W. Oehme, D.V.M., Ph.D., Comparative Toxicology Laboratories, Kansas State University, Manhattan, Kans. 66506;** telephone: 913-532-5679. *Kansas State University is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION BIOCHEMISTRY

The Department of Biochemistry at The University of Texas Health Science Center at San Antonio invites applications for a tenure-track faculty position. This position is available immediately and the rank will depend upon qualifications. Candidates demonstrating exceptional research abilities in important areas of biochemistry or molecular biology will be considered. A successful candidate will participate in teaching graduate and health professional students. Interested applicants should send curriculum vitae, a statement of research interests, and the names of three references to:

**Faculty Search Committee
Department of Biochemistry
The University of Texas Health Science Center
at San Antonio
7703 Floyd Curl Drive
San Antonio, Tex. 78284-7760**

The deadline for applications is 15 December 1985. *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CHAIR DEPARTMENT OF ENTOMOLOGY BISHOP MUSEUM

Applications are invited from entomologists with demonstrated capabilities in administration and research for the position of **CHAIR** of the Bishop Museum's Department of Entomology. The position will be filled by 1 July 1986. The department's collections are outstanding for Hawaii and the Pacific Region and total more than 13 million specimens. The chair is administratively responsible for the department and reports to the director. Earned doctorate in entomology or related field required. Please send letter of application with curriculum vitae and names of three referees by 15 January 1986 to: **S. H. Sohmer, Chair, Entomology Search Committee, Bernice P. Bishop Museum, P.O. Box 19000-A, Honolulu, Hawaii 96817.** Telephone: 808-847-3511 for information.

CHAIRPERSON DEPARTMENT OF BOTANY UNIVERSITY OF FLORIDA

We invite nominations of, or applications from, established scientists to lead this department of 14 members. Criteria for selection will include an outstanding record of scholarly research in some area of plant science, a strong commitment to education, and the vision and academic experience to lead a faculty with heterogeneous interests and abilities. Applications must be received by 9 December 1985, and should include curriculum vitae, a statement of administrative philosophy, and names and addresses of five referees. Send to: **Chair of the Search Committee, Department of Botany, University of Florida, Gainesville, Fla. 32611.**

An Affirmative Action/Equal Opportunity Employer

CHAIRMAN DEPARTMENT OF MICROBIOLOGY/ IMMUNOLOGY EASTERN VIRGINIA MEDICAL SCHOOL NORFOLK, VIRGINIA

The Eastern Virginia Medical School (EVMS) is seeking an individual nationally recognized in research and with demonstrated administrative and teaching experience in medical/graduate education to fill the position of chairman of the Department of Microbiology/Immunology, available 1 July 1986. Present research efforts of the department include tumor immunology, virology, and infectious diseases with department members making significant contributions to various clinical services. EVMS is a community-based medical school which seeks to continue to interact with area hospitals and community physicians to enhance medical education and clinical-basic research programs. Interested individuals should submit, by 1 January 1986, curriculum vitae and names of three references to:

**Dr. Gerald J. Pepe
Microbiology Chairman Search Committee
Eastern Virginia Medical School
P.O. Box 1980
Norfolk, Virginia, 23501-1980**

An Equal Opportunity/Affirmative Action Employer

FACULTY POSITION IN MOLECULAR GENETICS

The Department of Molecular Biology and Microbiology of Tufts University (Health Sciences Campus) seeks a molecular geneticist working with yeast. This is a tenure-track position at the assistant professor level. Candidates should have a minimum of 2 years of postdoctoral research training in the yeast system and are expected to develop independent research programs. The department emphasizes problems of gene regulation and DNA replication chiefly in viral and prokaryotic systems. The new member of the faculty may also attack such problems but need not do so. The successful candidate will be expected to participate in teaching of professional students and in an excellent graduate program. To apply, send curriculum vitae, a brief statement of future research plans, one copy each of recent publications, and three letters of recommendation to:

**Dr. A. L. Sonenshein
Search Committee Chairman
Department of Molecular Biology and Microbiology
Tufts University
136 Harrison Avenue
Boston, Mass. 02111**

Tufts University is an Affirmative Action/Equal Opportunity Employer.

Postdoctoral Fellowships at the Woods Hole Oceanographic Institution

Ocean Science and Engineering

Applications are invited from new or recent doctorates in science or engineering with interests in physical oceanography, marine chemistry, marine geology and geophysics, biological oceanography, or oceanographic engineering. Recipients of awards are selected on a competitive basis, with primary emphasis placed on research promise.

Marine Policy and Ocean Management

Fellowships are offered to individuals in social sciences, law, or natural sciences to apply their training to problems that involve the use of the oceans. Present themes in the program include marine policy problems and opportunities in developing countries; policy and management issues concerning fisheries, marine minerals, and coastal zone use; implications of the Law of the Sea Treaty for ocean activities, development and governance issues in the Polar region; use of scientific information in decision making and policy planning, and other research topics. Applicants must have completed a doctoral level degree or possess equivalent professional qualifications through career experience.

Fellowships are awarded for one year with a stipend of \$23,100 plus group health insurance and a modest research budget. Recipients are encouraged to pursue their own research interests independently or in association with resident staff. Completed applications must be received by 15 January 1986 for 1986 - 87 awards. Awards will be announced by 1 March. Write for application forms to:

Dean of Graduate Studies

P.O. Box S

**Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543**

Equal Opportunity/Affirmative Action Institution

NORTHEASTERN UNIVERSITY DEPARTMENT OF BIOLOGY THREE ASSISTANT PROFESSOR OPENINGS

The Department of Biology at Northeastern University invites applications for three tenure-track positions at the Assistant Professor level to begin in September 1986.

One opening in **Plant Physiology** or **Plant Molecular Biology**. Candidates must have a Ph.D. and postdoctoral experience in plant physiology or plant molecular biology; must develop a research program in one of those areas; teaching responsibilities include courses in general plant biology, plant physiology, and area of specialization.

One opening in **Molecular Biology**. Candidates must have a Ph.D. and postdoctoral experience in molecular biology; candidates who utilize marine organisms in research are especially encouraged to apply since the successful applicant should be able to bridge the gap between marine biology and molecular biology and to participate in the program of the Marine Science and Maritime Studies Center.

One opening in **Marine Invertebrate Zoology**. Candidate must have a Ph.D. in marine invertebrate zoology or a related area. Research facilities for this position are located at Northeastern's Marine Science and Maritime Studies center in Nahant, MA.

Candidates for all positions must be committed to excellence in research and teaching and must have demonstrated potential to develop an externally funded research program. Send curriculum vitae, a description of research plans, and names of three references by December 16, 1985 to: Search Committee, Department of Biology, Northeastern University, 360 Huntington Avenue, Boston, MA 02115. Northeastern is an Equal Opportunity/Affirmative Action, Title IX University.

Scientist/Engineer

Cyclotron Positron Tomography Research Program

Brookhaven National Laboratory

A position is open in the Cyclotron-PET Project in the Department of Chemistry for a scientific coordinator and manager for the PET (Positron Emission Tomography) facility. Candidates for this position should have an undergraduate engineering, physics, or computer sciences degree, and an advanced degree in computer sciences, electronics or nuclear chemistry. The focus of the research program is the acquisition of high quality brain function quantitative PET images of human and lower primate subjects. The scope of responsibilities of the successful candidate will range from regular professional interactions with researchers (including medical and basic scientific investigators) and subjects, to the coordination of a variety of efforts to refine the existing hardware, software,

and general operations of this high-technology research facility. We seek candidates who possess careful experimental technique, and proven organization abilities. Opportunities for research are possible in this position.

This is a staff position with prospects. Brookhaven National Laboratory is a national research center located on Long Island sixty miles from New York City. Research is conducted in the biological, physical and applied sciences.

Candidates should apply by sending curriculum vitae to: Dr. Alfred P. Wolf, Chairman, Department of Chemistry, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, NY 11973. Equal Opportunity Employer m/f.

**BROOKHAVEN
NATIONAL LABORATORY**
ASSOCIATED UNIVERSITIES INC.

POSITIONS OPEN

CHAIRMAN, DEPARTMENT OF PATHOLOGY

The University of Louisville is seeking a physician to lead an academic Department of Pathology as professor and chairman. Candidates should have demonstrated abilities in research and teaching, as well as the capability to administer the academic and service missions of the department. Candidates should be Board-certified in pathology and eligible for medical licensure in the state of Kentucky.

Interested individuals should send a letter of application and curriculum vitae, with or without supporting letters of recommendation to: **Peter Hasselbacher, M.D., Chairman, Pathology Search Committee, Department of Medicine, University of Louisville, Louisville, Ky. 40292. An Affirmative Action/Equal Opportunity Employer.**

DEVELOPMENTAL GENETICS CASE WESTERN RESERVE UNIVERSITY

The Department of Developmental Genetics and Anatomy and the Developmental Biology Center invites applications for a faculty position in the area of developmental genetics. We seek to recruit an outstanding individual who maintains a research program using genetic, recombinant DNA, biochemical, immunological, and/or cell biological tools to explore mechanisms of pattern specification and determination in a vertebrate or invertebrate system. *Women and members of minority groups are especially urged to apply.* Send curriculum vitae, summary of previous and proposed research, and names of three references to: **Dr. Anthony P. Mahowald, The Department of Developmental Genetics and Anatomy, Case Western Reserve University, 2119 Abington Road, Cleveland, Ohio 44106.**

EXPERIMENTAL DEVELOPMENTAL BOTANIST

The Biology Department has reopened its search to fill a tenure-track ASSISTANT PROFESSOR position to begin September 1986. We are seeking candidates with strong backgrounds in morphology, anatomy, and physiology of the vascular plants and with research interests in the experimental aspects of developmental botany (cellular, molecular, or physiological). Teaching responsibilities include team-taught introductory botany for majors and nonmajors, anatomy/morphology of the vascular plants, and alternate year offerings of developmental botany and a course to be agreed upon. We are interested in applicants with an understanding of the directions in which developmental botany is moving and an interest in progressing with the field.

The primary aim of Carleton College is teaching excellence. Active scholarship by the faculty is considered to be an essential element in meeting this aim. The candidate is expected to maintain an active research program with the potential for viable participation by undergraduates and for external funding. Postdoctoral experience is desirable but not required. *Women and minority candidates are particularly encouraged to apply.* Carleton is a liberal arts college located 40 miles south of Minneapolis/St. Paul, Minnesota, with an enrollment of 1700 highly selected students and 150 faculty. The Biology Department has 8.3 FTE faculty and from 70 to 100 majors.

Applicants should send curriculum vitae, undergraduate and graduate transcripts, and three letters of reference to: **G. J. C. Hill, Chairman, Biology Department, Carleton College, Northfield, Minn. 55057. Telephone: 507-663-4392.** Closing date for completed applications: 3 January 1986. *Carleton College is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION IN MICROBIOLOGY. We invite applications for a tenure-track position at the assistant professor level teaching undergraduate courses beginning in late August 1986. The Ph.D. is required and preference will be given to individuals with some teaching experience. The successful applicant will teach microbiology (bacteriology) and share responsibilities for introductory botany and cell biology courses. Although Albion has a strong health science program, a commitment to liberal arts education is expected and research is encouraged. Facilities include a new building with well-equipped laboratories including TEM and SEM. Salary is negotiable. Send informative letter of application, current curriculum vitae, transcripts from all schools, three letters of reference, and any other supporting documents to: **Dr. Dean Dillery, Chairman, Department of Biology, Albion College, Albion, Michigan 49224.** Deadline for application is 1 December 1985. *Albion College is an Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITION, OPTICS AND VISUAL OPTICS

The School of Optometry of the University of California, Berkeley, invites applications for an associate or full professor position (tenured), effective academic year 1986. We seek an individual who has an outstanding research record in some phase of optics, optometry, visual optics, or physiological optics. Optometric qualifications are desirable, but not required. Physicists or engineers would be eligible, and academic or industrial experience in electro-optical, or ophthalmic instrument design would be suitable. A strong commitment to excellence in teaching is required, and previous experience desired. This person would be expected to carry out an active research program and be responsible for organizing and coordinating the optics courses in the optometric instructional program.

Curriculum vitae, statement of research plans, reprints of published works, and names and addresses of at least three references should be sent to:

**Chairman, Search Committee (Optics and Visual Optics)
School of Optometry
University of California
Berkeley, California 94720**

Applications will be accepted until 31 December 1985.

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

FACULTY POSITION in Biological Chemistry. Applications or nominations are invited for an opening in the Department of Chemistry at Massachusetts Institute of Technology (MIT). Applicants should have demonstrated ability to do outstanding independent research in biological chemistry and show promise of excellence in teaching. Appointment will be at the assistant professor level. Candidates should submit curriculum vitae, a publications list, a description of research interests or proposals, and have three letters of recommendation sent not later than 1 December 1985 to: **Professor C. T. Walsh, Room 18-390, MIT, Cambridge, Mass. 02139.** *MIT is an Equal Opportunity/Affirmative Action Employer.*

FIELD ECOLOGIST

The Biology Department is seeking to fill a tenure-track ASSISTANT PROFESSOR position to begin September 1986. We are seeking candidates with substantial training in field ecology, population genetics, and strong backgrounds in both plant and animal ecology. Research interests in aspects of field ecology are required. Teaching responsibilities include a course in field biology for majors and nonmajors, a course in general evolution, and a course in ecology. We are interested in applicants with an appreciation of the role of field studies and natural history in an undergraduate biology curriculum.

The primary aim of Carleton College is teaching excellence. Active scholarship by the faculty is considered to be an essential element in meeting this aim. The candidate is expected to maintain an active research program with the potential for viable participation by undergraduates and for external funding. Postdoctoral experience is desirable but not required. *Women and minority candidates are particularly encouraged to apply.* Carleton is a liberal arts college located 40 miles south of Minneapolis/St. Paul, Minnesota, with an enrollment of 1700 highly selected students and 150 faculty. The College maintains a 400-acre arboretum adjacent to the campus and a 40-acre native prairie within 7 miles of campus. A river runs adjacent to campus (tributary of the Mississippi), and there are several lakes in the immediate vicinity. The Biology Department has 8.3 FTE faculty and from 70 to 100 majors.

Applicants should send curriculum vitae, undergraduate and graduate transcripts, and three letters of reference to: **G. J. C. Hill, Chairman, Biology Department, Carleton College, Northfield, Minn. 55057. Telephone: 507-663-4392.** Closing date for completed applications: 3 January 1986. *Carleton College is an Affirmative Action/Equal Opportunity Employer.*

ATTENTION: New Northwest company seeking individual with Ph.D. majoring in FOOD SCIENCES and 2 years of training in research and development in food science industry regarding formulations, flavoring, and expertise in product development. Duties include formulations, flavor enhancements, and research and development of new products. Position to last 1 year; \$3,000 per month, 40-hour week. Send résumé to: **Employment Security Department, ES Division, Attention: AEC Number 45618, Olympia, Wash. 98504.**

POSITIONS OPEN

FACULTY POSITIONS IN IMMUNOLOGY AND VIROLOGY

The Department of Microbiology and Immunology of the University of Oklahoma Health Sciences Center invites applications for **two tenure-track faculty positions** in the areas of immunology and virology. These may include, but need not be restricted to, molecular and cellular immunology and molecular and medical virology. Rank for each position will depend upon qualifications. Candidates with limited postdoctoral experience, as well as more senior scientists, will be considered. The applicants should have documented excellence in conducting independent research, and be able to compete for extramural research support.

The positions will provide excellent opportunities for conducting basic biomedical research in a department of 10 faculty members with a strong emphasis on the molecular biology of infectious agents. In addition, ample opportunities exist for interaction with 20 adjunct faculty within a large medical complex. Responsibilities will also include instruction of medical, dental, and graduate students but this initially will be at a minimum.

Résumé and inquiries may be directed to:

**Dr. Don Graves
Department of Microbiology and Immunology
University of Oklahoma Health Sciences Center
P.O. Box 26901
Oklahoma City, Okla. 73190**

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

Applications submitted by 1 January 1986 will receive full consideration.

Candidates are invited to apply for a tenure-track **FACULTY POSITION** in the Department of Pharmacology, Duke University. Applicants with background in all areas of research related to pharmacology will be considered. Please send your curriculum vitae and names of three references to: **Dr. N. Kirshner, Department of Pharmacology, Duke University Medical Center, Durham, N.C. 27710.** *Duke University is an Affirmative Action/Equal Opportunity Employer.*

MSU-DOE PLANT RESEARCH LABORATORY Michigan State University

The Michigan State University-Department of Energy (MSU-DOE) Plant Research Laboratory has **THREE TENURE-TRACK FACULTY POSITIONS** available, one of which can be filled at the senior level. Applications are being sought from researchers who will be working toward the mechanistic understanding of fundamental questions in plant biology using modern experimental approaches of biochemistry, genetics, or cell and molecular biology. We encourage applications from scientists who would be moving into plant biology from other areas of biology or chemistry.

The Plant Research Laboratory is operated under a contract from the U.S. Department of Energy and provides a stimulating atmosphere and excellent facilities for research in the plant sciences. Faculty members are jointly appointed in an appropriate academic department. Research space is available in a newly completed wing of the building, and generous setup support as well as continuing research funding will be provided.

Applicants should have postdoctoral research experience with demonstrated productivity and evidence of potential for independent research; senior applicants should have an established independent research program. In order to assure consideration, applications should be received preferably by 15 February 1986. Applicants should send curriculum vitae, description of research accomplishments and future interests, and the names of references to: **Dr. Hans Kende, Director, MSU-DOE Plant Research Laboratory, Michigan State University, East Lansing, Mich. 48824.** *Michigan State University is an Equal Opportunity/Affirmative Action Employer.*

The University of Pittsburgh School of Medicine invites applications for positions in **GERIATRICS AND NUTRITION AND ONCOLOGY AND NUTRITION.** Applicants should have a proven record of scientific achievement in nutrition research. Responsibilities will include research, clinical teaching, and patient care. Position and salary are negotiable. Address inquiries and curriculum vitae to: **Ronald T. Stanko, M.D., Department of Medicine, Montefiore Hospital, 3459 Fifth Avenue, Pittsburgh, Pa. 15213; telephone: 412-648-6365.** *The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer.*



**MCMASTER UNIVERSITY
INSTITUTE OF
MOLECULAR BIOLOGY
AND BIOTECHNOLOGY**

McMaster University is seeking an outstanding scientist to direct a new Institute of Molecular Biology and Biotechnology. The Director must have a strong research record in molecular biology and be capable of developing the Institute. The mandate of the Institute is to carry out basic research with possible applications to targeted research in areas such as: the molecular basis of development or the genetic manipulation of structure and function of biologically important molecules.

McMaster University is located in Hamilton, Ontario. It has a strong tradition of research in health, physical and applied sciences, and engineering.

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. Applications should be sent to: **Dr. R.F. Childs, Dean of Science, McMaster University, Hamilton, Ontario, Canada L8S 4K1.**

**TWO POSITIONS OPEN
MOLECULAR NEUROBIOLOGY
NEUROPHYSIOLOGY/NEUROPHARMACOLOGY
INSTITUTE FOR ADVANCED BIOMEDICAL RESEARCH
THE OREGON HEALTH SCIENCES UNIVERSITY**

Applications are invited for two intermediate to senior level scientists, one in neurophysiology/neuropharmacology, the other in molecular neurobiology. These positions will be on the tenure track and may carry affiliate appointments as associate or full professor in an appropriate basic science department of the university.

The research of the institute will focus on investigations related to the molecular basis of nervous system function. Of particular interest are applications from molecular biologists working on the regulation of gene expression in the nervous system or the neuroendocrine system and scientists working in the general fields of molecular and cellular neurophysiology and/or neuropharmacology.

Generous start-up packages will be available to successful candidates. Laboratory space will be assigned in the institute's 80,000 square foot facility now under construction on the OHSU campus.

Scientists will have no formal teaching obligation. They will be encouraged, through affiliate faculty appointments, to participate in the graduate education program in the School of Medicine. Included will be the opportunity to participate in the early stages of development of interdisciplinary research programs in molecular and cellular neurobiology, immunology and endocrinology, and in setting up graduate and post-doctoral training programs jointly with the basic science and clinical departments of the university.

Applicants should have an established research program and a promise of further scientific accomplishment of the highest caliber. Applications should include a curriculum vitae, names of at least three references, selected reprints, and a description of current research and future goals. Applications should be addressed as is appropriate to:

**Dr. Edward Herbert, Molecular Neurobiology Search Committee,
or Dr. Eckard Weber, Neurophysiology/Neuropharmacology
Search Committee**

**Institute for Advanced Biomedical Research—L474
The Oregon Health Sciences University
3181 SW Sam Jackson Park Road
Portland, Oregon 97201**

The OHSU is an equal opportunity/affirmative action employer.

Molecular Immunobiologist

Becton Dickinson's Corporate Research Center at Research Triangle Park, North Carolina, a significant source of new medical technologies, seeks a productive and dedicated specialist in molecular immunobiology.

You will assume a major technical role supervising basic research in the development of diagnostic tests directed toward metabolic autoimmune disorders. You will also devise application techniques of important research results.

You should be able to demonstrate substantial experience in immune response regulation, with particular emphasis on B&T cell interaction. Experience in expression library preparation or gene cloning would be beneficial. Academic credentials should include 3 or more years post-doctoral training or its equivalent, and a published record of accomplishments in related areas.

Becton Dickinson offers excellent salaries, comprehensive benefits and the opportunity to become a major contributor to a dynamic Fortune 500 organization. Please send your resume and salary history in confidence to: **Mr. F. Richard Wilson, Manager, Human Resources, Becton Dickinson Research Center, P.O. Box 12016, Research Triangle Park, NC 27709.** An equal opportunity/affirmative action employer. No agencies please.

Caring for people is our business

**BECTON
DICKINSON**

PHARMACOLOGISTS

Drug Discovery

Growth at Stuart Pharmaceuticals, the U.S. subsidiary of a world leader in pharmaceutical Research and Development, has created the following opportunities at our modern laboratories located 25 miles south of Philadelphia.

CNS

PhD in Neuropharmacology and/or Neuroscience to supervise work in our Central Nervous System (CNS) program on the discovery of drugs to treat cognitive disorders. Must possess a particular strength in behavioral pharmacology. 2-5 years' experience in cognitive performance research is highly desirable.

RENAL

PhD in Renal Biochemistry or Pharmacology with knowledge of the mechanisms of electrolyte and solute transport in blood cells and renal tissues. Work in the discovery of novel diuretic/anti-hypertensive agents. A demonstrated competence in enzymatic and radio-isotope assay techniques would be a decided plus.

PULMONARY

PhD Receptor Pharmacologist to evaluate the interaction of novel chemical agents with peptide leukotriene receptors. Training should include experience in analysis of ligand-receptor interactions. Scientific achievement evidenced by exceptional publication record. Supervisory experience advantageous. Effective teamwork essential.

We also have openings at the BS/MS support level in the renal/antihypertensive and neurochemical areas. *In vivo* methodology advantageous. In addition to a competitive salary and comprehensive benefits package, you'll participate in our unique investment plan. Please submit your CV in confidence. Principals only.

Charles T. Brodigan, Associate Employment Manager



STUART PHARMACEUTICALS
Division of ICI Americas Inc.
Wilmington, DE 19897

POSITIONS OPEN

FACULTY POSITIONS MOLECULAR ASPECTS OF VERTEBRATE DEVELOPMENT

The Department of Molecular Genetics and Cell Biology at The University of Chicago is initiating a search for new faculty interested in molecular aspects of vertebrate development. Recruitment is directed toward candidates working in the areas of gene expression, in transgenic mice, organ development, and tissue-specific gene expression. We invite applicants for tenure-track positions at all academic levels. Interested individuals should submit curriculum vitae, a summary of research plans, and the names of three references to: **Search Committee (Vertebrate Development), Department of Molecular Genetics and Cell Biology, The University of Chicago, 920 East 58 Street, Chicago, Illinois 60637.** In keeping with its long-standing tradition and policies, The University of Chicago considers all applications for employment on the basis of individual merit and without regard to race, color, religion, sex, sexual orientation, age, national or ethnic origin, handicap, or other factors irrelevant to employment.

HEAD, DIVISION OF SCIENCE

Search committee seeks a division head for the Division of Science at Northeast Missouri State University (NMSU). NMSU is recognized nationally for its award-winning Value-Added Model of Assessment and has been designated as Missouri's premier liberal arts and sciences university.

The Sciences Division is one of 13 academic divisions and serves approximately 800 majors with 44 full-time faculty members representing the following disciplines: biology, chemistry, physics, agriculture, animal health technology and science education. Master's programs are offered in biology and science education.

Applicants must have an earned doctorate in a science field with an outstanding academic record and demonstrated scholarship. Candidates with skills in leadership, administration, curriculum development, research, and grantsmanship are desired. Salary is negotiable based on qualifications and experience.

Please forward letter of application, curriculum vitae, academic transcripts (undergraduate and graduate), and three letters of reference to: **Dr. Gary Sells, Search Committee, Division of Science, Northeast Missouri State University, Kirksville, Mo. 63501.**

Application deadline is 15 January 1986, or until position is filled. *NMSU is an Equal Opportunity Employer.*

**Northeast Missouri State University
Value Added to Your Future**

IMMUNOLOGIST

The Department of Biology of the University of Akron has a tenure-track assistant professor position open for September 1986. Applicants must have a Ph.D. in immunology or microbiology, and postdoctoral experience is desirable. Responsibilities include teaching immunology to undergraduate and graduate students, having an active research program, and possibly teaching a microbiology course. Send curriculum vitae, present and proposed research interests, and three letters of reference to: **Dr. Dale Jackson, Chairman, Department of Biology, The University of Akron, Akron, Ohio 44325, by 6 January 1986.**

The University of Akron is an Equal Education and Employment Institution.

PARASITOLOGY/INFECTIOUS DISEASE

The Division of Biology at Kansas State University (KSU) has a tenure-earning position available at the assistant professor level effective 1 September 1986. Applications are invited from outstanding candidates in parasitological research or other areas of infectious diseases. We particularly are interested in individuals who have had a postdoctoral experience and who approach their research at the immunological, developmental, molecular, and/or genetic levels. The successful candidate will be expected to establish a vigorous and creative research program and to participate in graduate and undergraduate teaching. Candidates should apply by 31 December 1985 by submitting curriculum vitae and a brief description of future research plans, and by having three letters of reference sent to:

**Terry C. Johnson, Director
Division of Biology, Ackert Hall
Kansas State University
Manhattan, Kans. 66506**

KSU is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

LABORATORY DIRECTOR

Intellectually challenging stable academic research position with both long-term career and leadership capacity potential. A typically qualified candidate should hold the Ph.D. degree (American or United Kingdom school), having had at least one (preferably more) postdoctoral experience. Background in cell biology and/or biochemistry needed with experience in applied immunochemistry and related protein characterization techniques. Work at present entails the above, plus protein-lipid interactions. Salary and fringe benefits competitive. *Equal Opportunity Employer.* Send curriculum vitae and references to:

**G. I. Research Unit
Cleveland Clinic Foundation
9500 Euclid Avenue
Cleveland, Ohio 44106**

Immediate opening for experienced **LABORATORY SUPERVISOR**, ASCP or equivalent, to direct laboratory for large multispecialty clinic. Must be innovative, aggressive, capable of supervising technicians and working closely with physicians. Competitive salary, good benefits. Send résumé to:

Box 240, SCIENCE

MANAGER, BIOPROCESS/PRODUCT DEVELOPMENT—Develops and coordinates activities concerned with research and development of new products. Manages bioprocess development and optimization, both at bench and pilot levels, for the production of amino acids and research enzymes using rDNA *Escherichia coli* and *Bacillus* species. Develops on-line computer control and optimization techniques to increase the productivity of amino acid fermentations. Designs and develops modular type computer-coupled fermentors and sensors.

Requirements include a doctorate in chemical engineering and at least 1 year of experience in development of bioprocesses for the microbial production of amino acids using recombinant application of advanced on-line computer control and optimization strategies in industrial fermentations; design, scale-up, and economic evaluation of fermentation processes; bioprocess development in fermentation, recovery, and purification of high-value, low-volume products; and application of genetic rearrangement vector technology in amino acid fermentations. Excellent communication skills are also required. Forty hours per week; \$3458 per month. Position located in Cambridge, Massachusetts.

Send résumé only to: **Job Order Number 6029, Massachusetts Division of Employment Security, C. F. Hurley Building, Boston, Mass. 02114.**

The Delta Regional Primate Research Center has a position available for a **MOLECULAR VIROLOGIST**. The research will be concerned with molecular studies of human and simian acquired immune deficiency syndrome (AIDS). Qualifications include a Ph.D., M.D. or D.V.M. degree with relevant postdoctoral training. In addition to familiarity with cell culture, immunochemistry, and DNA technology experience with Western, Southern, and Northern blot techniques, DNA sequencing and cloning in phage and/or plasmid vectors would be desirable. Applications, which should include curriculum vitae and the names of three references, should be sent to: **Dr. Kenneth F. Soike, Head, Department of Microbiology, Delta Regional Primate Research Center, Covington, La. 70433.** The Primate Center is affiliated with Tulane University and is an Equal Opportunity Employer.

PHYSIOLOGICAL PLANT ECOLOGIST

Assistant or associate professor. The Department of Plant Biology, University of Illinois, at Urbana-Champaign, invites applications for a tenure-track position beginning 21 August 1986. Responsibilities include contributing to undergraduate and graduate teaching, supervising graduate students, and conducting a vigorous research program. A Ph.D. degree with emphasis in plant ecology is required. Extensive research experience with physiological approaches to understanding plant population or community dynamics is preferred. Salary negotiable. To ensure full consideration, applications should be received by 1 December 1985. Send curriculum vitae, summary of research interests, and three letters of reference to: **Dr. Paul G. Risser, Department of Plant Biology, University of Illinois, 505 South Goodwin, Urbana, Illinois 61801. Telephone: 217-333-6830.**

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

POSITIONS OPEN

OCEANOGRAPHER/CHEMIST—National Oceanic and Atmospheric Administration's (NOAA) Atlantic Oceanographic and Meteorological Laboratory in Miami, Florida, is engaged in various research programs involving the ocean and atmosphere which require the application of leading-edge analytical chemistry. Positions are open at the GS-12 level for chemists or oceanographers who have the capability to develop analytical methods in chemistry for application in these research programs. Currently the starting salary for these positions will be at about \$31,619. For further information on this position, contact: **Dr. Donald K. Atwood, NOAA/AOML, 4301 Rickenbacker Causeway, Miami, Fla. 33149; telephone: 305-361-4380.** Information as to how to apply for these positions may be obtained from: **The Personnel Division, U.S. Department of Commerce, Central Administrative Support Center, 601 East 12 Street, Kansas City, Mo. 64106; telephone: 816-374-5016.** An Equal Opportunity Employer.

PLANT CELL/MOLECULAR BIOLOGIST

The Biology Department of Pomona College seeks applications for a tenure-track assistant professorship for fall 1986. Applicants should have broad training in plant biology, including postdoctoral experience in plant cell/molecular biology. The appointee will participate in our team-taught introductory course sequence and develop upper-division courses in areas of specialization, preferably including plant physiology. The appointee will be expected to establish an active research program. Send curriculum vitae, a statement of research and teaching interests, and three letters of recommendation by 16 December 1985 to: **Chair, Search Committee, Department of Biology, Pomona College, Claremont, Calif. 91711.**

PLANT GENETICS

and

PLANT CELL or MOLECULAR BIOLOGY

The Department of Botany, Louisiana State University (LSU), invites applications for two tenure-track positions anticipated for August 1986, emphasizing basic research in (i) **plant genetics** (preference will be given to those with experience in molecular genetics) and (ii) **plant cell or molecular biology**. A Ph.D. before appointment, evidence of creative research, and quality and experience in teaching are required. Responsibilities include developing an active research program and teaching introductory and specialty courses. Review of applications will begin on 1 December 1985 and continue until the positions are filled.

Send curriculum vitae and a brief statement of research goals and arrange for three letters of reference to be mailed, to either: **Genetics or Cell/Molecular Committee, Department of Botany, LSU, Baton Rouge, La. 70803-1705.**

LSU is an Equal Opportunity Employer.

PLANT PHYSIOLOGY

The Department of Biology at the University of Utah seeks candidates for a regular, tenure-track appointment in plant physiology. The successful candidate will be expected to establish an active research program and participate in undergraduate and graduate teaching. The area of specialization within plant physiology is less important than overall evidence of excellence and outstanding potential, but we do hope to appoint a colleague who can establish productive interactions with existing programs.

Address applications or nominations to:

**SEARCH COMMITTEE
Department of Biology
University of Utah
Salt Lake City, Utah 84112**

Please send résumé and three letters of reference by 1 December 1985.

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

POSTDOCTORAL FELLOWSHIP IN PHARMACOLOGY

Available now to study the biochemical pharmacology of airway smooth muscle during aging. The emphasis of the project is to better understand the events involved in agonist-induced airway contraction/relaxation. Candidate must have a Ph.D. Experience with smooth muscle preparations and/or calcium flux measurements, ion transport, and PI turnover desirable. Send curriculum vitae and brief résumé of interests to: **Dr. James S. Douglas, c/o The John B. Pierce Foundation Laboratory, 290 Congress Avenue, New Haven, Conn. 06519.** The Laboratory is an Equal Opportunity Employer.



SENIOR POSITIONS MOLECULAR BIOLOGY SYRACUSE UNIVERSITY

Syracuse University is committed to the continued development and growth of a strong Molecular Biology Unit within the Biology Department. Several stages of recruitment are planned. This year the Department invites applications for two permanent senior faculty positions (Associate and Full Professors).

Syracuse University is a large private institution with an enrollment in excess of 20,000 students. The Biology Department faculty of 28 conduct research and supervise Ph.D. candidates in diverse areas, including ongoing research programs in Biochemistry, Population Biology, Genetics, Cell and Molecular Biology. Interactions with faculty located on the adjacent campuses of the State University of New York, Upstate Medical Center and the College of Environmental Science and Forestry contribute additional strength in these areas.

Applicants must have a vigorous research program supported by extramural funding and characterized by a record of significant accomplishments. Areas of specialization within molecular biology are unrestricted, but it is hoped that one position will be filled by an individual with research interests in the molecular biology of the immune system.

The successful applicants will have the majority of their time available for research; however, participation in undergraduate and graduate teaching is expected.

Curriculum vitae including a statement of research goals, information on current research programs and names of three individuals who can be contacted for references, should be addressed to:

Dr. Judith Ann Foster, Chairperson
Biology Department
Syracuse University
130 College Place
Syracuse, NY 13244-1220

An Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE LABORATORY OF IMMUNOLOGY NATIONAL INSTITUTES OF ALLERGY & INFECTIOUS DISEASES NATIONAL INSTITUTES OF HEALTH

Description of Duties

Position available immediately for qualified scientist to assist in transgenic mouse facility in the Laboratory of Immunology. Studies are currently in progress to study the expression and regulation of a number of normal and mutant genes that play critical roles in the immune response.

Qualification

Ph.D. or M.D. applicants with experience in embryo injection and transplantation are preferred, but others with similar qualifications will be considered.

The Lab. of Immunology offers a unique environment where modern cellular and molecular methods are being applied to a variety of fundamental problems in immunology.

Qualified and interested candidates should send curriculum vitae and names and addresses of three (3) references to:

William E. Paul, M.D.
Chief, Lab. of Immunology
NIAID, NIH
Bldg. 10, Rm. 11N311
Bethesda, MD. 20892

NIH is an Equal Opportunity Employer



The Howard Hughes Medical Institute and The National Institutes of Health again announce The Program for Research Opportunities for Medical Students 1986-87

HHMI-NIH Research Scholars can spend 9-12 months in one of the 1,000 research laboratories located at the NATIONAL INSTITUTES OF HEALTH, Bethesda, MD.

Salary, fringe benefits and travel will be provided.

Further information and application forms may be obtained by writing to the Howard Hughes Medical Institute, P.O. Box 330837, Coconut Grove, FL 33133

Your request for the application information should be received by December 2nd, 1985.

Final deadline for return of all application materials is January 15th, 1986.



Yale UNIVERSITY

DEPARTMENT OF BIOLOGY

Requests applications for tenured positions in:

CELL BIOLOGY EVOLUTIONARY GENETICS & ECOLOGY EVOLUTION OF ANGIOSPERMS

We seek enthusiastic and able teachers with distinguished records in research.

Please send Curriculum Vitae, description of research interests and names of references by December 15, 1985 to:

CHAIRMAN
Department of Biology
Yale University
Box 6666
New Haven, CT 06511

Yale University is an affirmative action equal opportunity employer, m/f.



**Agricultural
Research
Service**

**United States
Department of
Agriculture**

RESEARCH BIOCHEMIST FOOD BIOCHEMISTRY RESEARCH WYNDMOOR, PA

ARS is seeking a Research Biochemist to conduct biochemical and physiological research on mechanisms and factors affecting lipid deposition in poultry. Special emphasis is directed toward the identification of mechanisms controlling abdominal and carcass fat deposition, and to the roles of tissue and cellular receptor sites, serum lipoproteins, and of regulatory enzymes such as lipoprotein lipase. Candidate must have knowledge of biochemistry and biochemical techniques, including enzymology; animal cell and tissue anatomy and physiology and skill in receptor site and histochemical analysis. Ph.D. is required. Must be a U.S. citizen. This is a Postdoctoral Research Associate position and the appointment will be for up to 2 years. Salary is commensurate with experience GS-11 (\$26,381) or GS-12 (\$31,619). For information on the research program/positions, contact Dr. John H. Woychik, 215-233-6608. For information on applications procedures/forms contact Dolores Kauffman, 301-344-3950. Applications in response to this advertisement should be marked 5E024. Applications should be sent to: **Dr. John H. Woychik, USDA, ARS, NAA, Eastern Regional Research Center, 600 East Mermaid Lane, Philadelphia, PA 19118.** Applications must be received by **December 13, 1985.**

ARS IS AN EQUAL OPPORTUNITY EMPLOYER. WOMEN AND MINORITIES ARE ENCOURAGED TO APPLY.

POSITIONS OPEN

POSTDOCTORAL ASSOCIATES. We invite applications for three postdoctoral positions in the Departments of Plant Pathology and Medicinal Chemistry. The appointments are initially for 1 year but can be extended to 3 years, subject to the continuation of grant support. The appointees will conduct team research on isolation, evaluation, and characterization of microbial metabolites with pesticidal activities. We are looking for persons with Ph.D. degree in microbiology, organic chemistry, plant pathology, fermentation chemistry, or pesticide chemistry. Experience in isolation and culturing of microorganisms and assays for pesticidal compounds, or isolation and characterization of novel chemical compounds will be highly desirable. Experience in the latest assay and/or chemical separation techniques is essential. Salary commensurate with background and experience. Send curriculum vitae, list of publications, and three recent letters of reference by 22 November 1985 to: **Dr. R. Charudattan, Department of Plant Pathology, 1453 Fifield Hall, University of Florida, Gainesville, Fla. 32611.** Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL ASSOCIATE, PHOTOSYNTHETIC MEMBRANES, available immediately for studies of water oxidation and properties of membrane surfaces. Approaches include structural, biochemical, biophysical, and genetic. The position is for 1 year with the possibility of extension. Salary is highly competitive. Send curriculum vitae, short statement of research interests, and names of three professional references to: **Dr. Michael Seibert, Solar Energy Research Institute (SERI), 1617 Cole Boulevard, Golden, Colo. 80401.** SERI is an Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIPS IN IMMUNOLOGY, newly available through late NIH funding, for M.D.'s or Ph.D.'s, starting 1 July 1986, in a combined Immunology/Allergy/Rheumatology Unit. Research training emphasizes human immunology including IgG receptor structure and function, cellular and genetic regulation of autoantibodies and cryoglobulins, and complement biology, plus opportunities for broad clinical experience in areas of choice. Contact: **Dr. John P. Leddy, University of Rochester Medical Center, Box 695, Rochester, N.Y. 14642.** Telephone: 716-275-2891.

**CANCER RESEARCH LABORATORY
UNIVERSITY OF WESTERN ONTARIO
LONDON, ONTARIO,
CANADA N6A 5B7**

POSTDOCTORAL AND GRADUATE STUDENT POSITIONS AVAILABLE. Strong background in molecular biology, genetics, or biochemistry required. The staff include: **Dr. David Denhardt** (DNA replication, cell cycle regulation), **Dr. Kaney Ebisuzaki** (DNA repair, differentiation), and **Dr. Donald Fujita** (viral and cellular oncogenes, retroviruses). Applications to any of the above should include curriculum vitae, description of interests, and names of three references.

POSTDOCTORAL POSITION. Research study in biomembrane function in trichomonads. Responsible for sexually transmitted disease. Ph.D. in biological sciences. Position available immediately. Salary: \$16,000 to \$17,000 per year. Send curriculum vitae with names, addresses, and telephone numbers of three references by 22 November 1985 to: **Dr. Donald G. Lindmark, Chairman, Department of Biology, CLEVELAND STATE UNIVERSITY, 1983 East 24 Street, Cleveland, Ohio 44115.** An Equal Opportunity Employer, M/F/H.

POSTDOCTORAL POSITION. Molecular biologist or biochemist to study cell ploidy and molecular mechanisms of growth control and mutagenesis in vascular cells. Experience working with vascular tissue preferred. Send curriculum vitae and three letters of recommendation to: **Dr. Eliot Rosen, Joint Center for Radiation Therapy, Harvard Medical School, 50 Binney Street, Boston, Mass. 02115.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately to study the mechanisms by which insulin and other polypeptides regulate cellular protein phosphorylation. Studies include the regulation of lipogenesis and glucose transport and the role of protein kinase C in hormone action. Experience in protein chemistry and phosphorylation desirable. Send curriculum vitae and names of three references to: **Dr. Lee A. Witters, Endocrine-Metabolism Division, Dartmouth Medical School, Rensselaer 417, Hanover, N.H. 03756.** Telephone: 603-646-7909. Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION

Postdoctoral position available immediately for study of arachidonic acid metabolism in atherosclerosis. Specific areas of research are biochemistry of platelets and monocytes during early atherosclerotic lesion formation. Send curriculum vitae and names of three references to: **Dr. Victor A. Skrinska, Cardiovascular Research Center, 2351 East 22, Cleveland, Ohio 44115.**

POSTDOCTORAL POSITION IN THEORETICAL NEUROBIOLOGY

A postdoctoral position is available in the areas of computer-aided functional reconstruction of neuronal systems and in statistical processing and analysis of nerve-impulse sequences. Candidates must have completed the doctoral degree in neuroscience, with a strong background in membrane biophysics, mathematics and statistics, including differential equations, and computer programming. The position is for 1 year, with the possibility of renewal.

The research includes development of simulation and analysis programs, including interactive graphics, as well as application to specific neuronal systems, such as dendritic spines, sensory and motor circuits, and cortical systems, with special emphasis on cellular mechanisms of plasticity. Research is carried out on the Irvine campus of the University of California, midway between Los Angeles and San Diego. The campus has a number of strong and active research groups in the neurosciences.

Applicants should submit complete curriculum vitae, including bibliography and reprints, as well as names and addresses of references. Address correspondence to:

**Professor Donald H. Perkel
Theoretical Neurobiology Facility
Department of Psychobiology
University of California
Irvine, California 92717**

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

POSTDOCTORAL POSITION—Applications are invited for a Ph.D. graduate with experience in using molecular biological techniques to study fundamental problems in plants. The Halophyte Biology Laboratory at the University of Delaware focuses on studies of physiology, genetics, and ecology of salt-tolerant angiosperms from marine and estuarine environments. Special attention is given to resource allocation, salt tolerance, productivity, and somaclonal/gametoclonal variation in cell culture. Available 1 February 1986. Applications including curriculum vitae, a brief statement of research interests, and the names and addresses of three references should be sent to: **John J. Gallagher, Halophytes Biology Laboratory, College of Marine Studies, UNIVERSITY OF DELAWARE, 700 Pilottown Road, Lewes, Del. 19958,** before 15 December 1985. *The University of Delaware is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION IN MOLECULAR NEUROBIOLOGY available to study the molecular biology of mutants in *Drosophila* affecting the voltage-sensitive sodium channel. Candidates should have experience in recombinant DNA technology. Send curriculum vitae, description of research experience, and three letters of reference to: **Dr. Linda M. Hall, Department of Genetics, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, New York 10461.** Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately for 3 years, to study physiological properties of olfactory circuits, using HRP and 2DG mapping, microelectrode and voltage-sensitive dye recording, computerized image processing, and neural modeling. Send curriculum vitae and three letters of recommendation to: **Dr. John Kauer, Neurosurgery, Tufts-New England Medical Center, 171 Harrison Avenue, Boston, Mass. 02111.** Telephone: 617-956-5858.

POSTDOCTORAL POSITION IN DEVELOPMENT BIOLOGY/ENDOCRINOLOGY available immediately to study mechanism of mesenchymal-epithelial interaction in the regulation of hormonal response in the reproductive tract.

Solid background in cell biology with expertise in monoclonal antibody, protein chemistry, or rDNA desirable. Salary depends on experience. Apply to: **Dr. Gerald R. Cunha, Department of Anatomy, University of California, San Francisco, Calif. 94143.**

POSITIONS OPEN

POSTDOCTORAL POSITION available to study gene expression in the fruiting bacterium *Myxococcus xanthus*. Background in molecular biology and biochemistry is desired. Position title to be research assistant at a rate of \$19,824 annually. Send curriculum vitae and names of references to: **Dr. David R. Zusman, Department of Microbiology and Immunology, University of California, Berkeley, Calif. 94720.** *The University of California is an Equal Opportunity/Affirmative Action Employer.* Deadline for application is 9 December 1985; position begins June 1986.

TWO POSTDOCTORAL POSITIONS are available immediately for Ph.D.'s in biochemistry/cell biology to study (i) biosynthesis and (ii) processing of myelin precursors. Applicants should have strong background in one or more of the following: enzymology, protein purification, immunological and gene expression studies. Send curriculum vitae and names and telephone numbers of three references to:

Dr. Inderjit Singh
Associate Professor
Department of Pediatrics
Medical University of South Carolina
Charleston, S.C. 29425

POSTDOCTORAL POSITIONS. Available immediately to study human sperm fertility and its regulation by cAMP and calcium in a collaborative program between the laboratories of Dr. J. Tash and Dr. D. Wolf. Individuals interested in cell biology and biochemistry of fertilization are encouraged to apply. Send curriculum vitae and names of references to: **Dr. Joe Tash, Department of Cell Biology, Baylor College of Medicine, Houston, Tex. 77030.** *An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSTDOCTORAL POSITION: MECHANISMS OF CYTOTOXICITY OF A NUCLEOSIDE ANTICANCER AGENT. Project involves study of the conversion of the agent to nucleotides and the effect of these on several enzymes involved in DNA synthesis. Work involves purification and radioisotopic assay of enzymes, cell culture and selection of resistant mutants, and measurement of nucleotide pools by HPLC. Applicants should have a strong background in protein purification and/or enzymology. Starting salary: \$20,000. Position renewable after 1 year for up to 3 years. Starting date: January 1986. Send curriculum vitae and three letters of recommendation to: **Dr. Raymond L. Blakley, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, Tenn. 38101.** *Equal Opportunity Employer*

POSTDOCTORAL POSITION

Immediate position available for Ph.D. to participate in studies involving the biochemistry and immunology of skin basement membrane and the functional interactions of normal and diseased cells within a physiologic biomatrix. Salary—\$25,000 to \$30,000, dependent upon the applicant's qualifications. Send curriculum vitae and letters of reference to: **Jo-David Fine, M.D., Department of Dermatology, University of Alabama at Birmingham, University Station, P.O. Box 76, Birmingham, Ala. 35294.**

POSTDOCTORAL POSITION in development, characterization, and mechanism of action of new N- or O-linked endoglycosidases (for example, Endo F, PNGase F) and their use in structural determination of glycoproteins. Experience or interest in glycoprotein and/or enzyme purification, as well as techniques of organic synthesis desired. Position is available immediately on a federally funded grant administered through Health Research, Inc. Salary is \$22,000, plus fringe benefits. Potential candidates should send a copy of their curriculum vitae and three letters of recommendation to: **Dr. T. H. Plummer, Jr., Wadsworth Center for Laboratories and Research, New York State Health Department, Empire State Plaza, Albany, N.Y. 12201.**

POSTDOCTORAL (M.D./Ph.D.) POSITION in biochemical and molecular parasitology. Participate in ongoing studies of myocardial pathology and neurochemistry of trypanosomiasis. Knowledge of receptor biology/biochemistry desirable. Begin 1 December 1985 or 1 January 1986. Send curriculum vitae and three letters of reference to: **Dr. Murray Wittner, Department of Pathology, ALBERT EINSTEIN COLLEGE OF MEDICINE, 1300 Morris Park Avenue, Bronx, New York 10461.** *An Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to develop methods for monitoring humans for exposure to environmental carcinogens. Projects include development of monoclonal antibodies to carcinogen DNA adducts, ELISA, and immunofluorescence. In addition, chemical techniques to quantitate carcinogen DNA or protein adducts will be developed. Send curriculum vitae and names of three references to: **Dr. R. M. Santella, Institute of Cancer Research, Columbia University, 701 West 168 Street, New York, N.Y. 10032.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION IN NEUROBIOLOGY—Available after 1 January 1986 in the Department of Zoology, **ARIZONA STATE UNIVERSITY, Tempe.** Physiology and development of neuromuscular junctions and motor control systems in insects. Ph.D. and experience with intracellular recording required. Apply to: **Dr. Ann E. Kammer, Ackert Hall, Kansas State University (KSU), Manhattan, Kansas 66506.** Deadline for applications is 1 December 1985. *Arizona State University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately to study bioenergetics and oxygen radical reactions in mitochondria. Emphasis on modification of mitochondrial electron transport enzymes by oxygen radicals, and on proteolytic systems responsible for degrading modified proteins. Experience in mitochondrial energetics and/or protein modification/degradation desirable. Salary commensurate with experience for Ph.D. in biochemistry or related area. Contact: **Dr. Kelvin J. A. Davies, Institute of Toxicology and Department of Biochemistry, University of Southern California, 1985 Zonal Avenue, Los Angeles, Calif. 90033; telephone: 213-224-7542/7895.**

POSTDOCTORAL POSITION available immediately for genetic improvement of industrial microorganisms using recombinant DNA technology. Experience with recombinant DNA techniques, microbial genetics, and protein purification highly desirable. Salary: \$17,040 to \$18,000. Send curriculum vitae and three letters to: **Dr. Donald H. Dean, Department of Microbiology, The Ohio State University, Columbus, Ohio 43210.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION AVAILABLE

A funded postdoctoral position is currently available to study the molecular events leading to the malignant transformation of T-lymphocytes in the C57BL/Ka mouse after exposure to fractionated radiation or RadLV retroviruses. The research will require previous experience in the standard methods of DNA gene manipulation and expression. The appointment will be for a period of 2 years. The principal scientists on the project: **Dr. Miriam Lieberman, Dr. Kirk Fry, and Dr. Irving Weissman.** All interested applicants please send résumés to: **Dr. Miriam Lieberman, Department of Radiology, Cancer Biology Research Laboratory, Stanford Medical Center, Stanford, Calif. 94305.** *Stanford is an Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE—VIROLOGY

Postdoctoral research associate position available immediately for individual interested in studying gene regulation and growth control in mammalian cells. Previous experience with protein and nucleic acid biochemistry and/or DNA cloning is desirable. Send curriculum vitae and three letters of recommendation to: **Dr. James R. Smith, Department of Virology and Epidemiology, Baylor College of Medicine, One Baylor Plaza, Houston, Texas 77030.**

POSTDOCTORAL RESEARCH ASSOCIATE POSITION available immediately in parasitology for schistosomiasis and cysticercosis research. Salary: \$16,000 to \$20,000. Send curriculum vitae and names of three references to: **Dr. Betty Ruth Jones, Department of Biology, Morehouse College, Atlanta, Ga. 30314.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE. One or two positions for recent Ph.D. to work on the molecular biology of cytochrome P-450 and biochemistry of carcinogen metabolism. Available now. Send curriculum vitae to: **Dr. C. S. Yang, Department of Biochemistry, University of Medicine and Dentistry of New Jersey—New Jersey Medical School, 100 Bergen Street, Newark, N.J. 07103.** *An Equal Opportunity/Affirmative Action Employer.*

CHAIR, DEPARTMENT OF VITICULTURE AND ENOLOGY

UNIVERSITY OF CALIFORNIA, DAVIS

Nominations and applications are invited for a tenured position at the associate professor or professor level to serve as chair of the Department of Viticulture and Enology. The chair will have some teaching and student advising responsibilities and will be expected to initiate a research program pertinent to the California grape and wine industry. The usual appointment as chair is for 5 to 7 years, subject to renewal on review. Upon completion of service as chair of the department, the faculty member may return to full-time teaching and research. The position is available 1 July 1986.

Qualifications include a Ph.D. or equivalent and research experience in a discipline relevant to viticulture or enology, proven leadership and management qualities, and a record of a scholarly and academic achievement. Disciplines encompassed by the department include plant and microbial biochemistry and genetics, plant physiology, microbiology, natural products chemistry, sensory science, and chemical and biochemical engineering.

Applicants should submit curriculum vitae with a bibliography and reprints of pertinent publications, statement of research, teaching, and administrative interests and background in each, and the names and addresses of at least three references to: **Dr. C. O. Qualset, Associate Dean and Search Committee Chair, College of Agricultural and Environmental Sciences, Dean's Office, 228 Mrak Hall, University of California, Davis, Calif., 95616.** Applications must be received by 15 February 1986. Applicants received later may not be considered unless the position is reopened for recruitment.

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

RESEARCH ASSOCIATE

Center for the Study of Drug Development Tufts University Boston, Massachusetts

The Center for the Study of Drug Development is a nonlaboratory research unit at Tufts University, that has gained an international reputation for its studies on drug development, regulation, and related public policies. Applications are invited for research associates interested in participating in this interdisciplinary field. Basic laboratory work and clinical studies are not part of this program. Primary responsibilities include: (i) independent and collaborative work on study design, data collection, and analyses of research projects, and (ii) write-ups of study proposals and project results, including publishable manuscripts. Preference will be given to candidates who hold the M.D. or Pharm.D. degrees or a Ph.D. in pharmacology or a related biomedical science and who have a demonstrated command of written English. An understanding of social science survey techniques, by experience or training, is a plus. Teaching commitments are minimal, involving only occasional supervision of graduate or undergraduate students and postdoctoral fellows on projects related to center activities. Appointments to the center are appointments to the staff of the University, but they are not faculty or academic appointments and are not tenured. Initial appointment, at a flexible starting date, is for 1 year, renewable, with the opportunity for extension. Minimum salary for the first year is competitive, with consideration made for prior relevant experience. A letter of application, including a brief statement of research objectives, curriculum vitae, and names and addresses of three references should be forwarded to: **Kristine Niven, Center for the Study of Drug Development, Tufts University, 136 Harrison Avenue, Boston, Massachusetts 02111.** *Tufts University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION

Available to study (i) ion transport in membranes (patch clamping, lipid bilayers, electrophysiology of epithelia and cardiac muscle), or (ii) effect of atrial natriuretic factor on renal function. Send curriculum vitae and three letters of reference to: **Dr. Erich E. Windhager, Chairman, Department of Physiology, Cornell University Medical College, 1300 York Avenue, New York, N.Y. 10021. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS in cell/molecular biology to study steroid hormone action on gene transcription. The goals are to isolate DNA sequences which bind the steroid receptors and structural genes, whose transcriptions are regulated by steroids. Techniques in cloning, DNA sequencing, blotting, preparation of libraries, and so forth, will be taught and used. Some experience preferred but not mandatory. Well-equipped laboratories with ample funding and NIH stipend levels are available. Send curriculum vitae and three letters of recommendation to: **Dr. T. C. Spelsberg, Department of Biochemistry and Molecular Biology, Mayo Graduate School of Medicine, Mayo Clinic, Rochester, Minn. 55905. An Equal Opportunity/Affirmative Action Institution.**

POSTDOCTORAL POSITIONS to study the biology and virulence of *Trichomonas vaginalis*. Emphasis is on modern approaches to examine at a molecular level the properties of phenotypic variation and cytoadherence. Background in membrane biology and recombinant DNA techniques desired. Salary negotiable. Submit letter of interest, curriculum vitae, and at least three letters of reference to: **John F. Alderete, Ph.D., Department of Microbiology, The University of Texas Health Science Center (UTHSCSA), San Antonio, Texas 78284. UTHSCSA is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS to examine at a molecular level cytoadherence of *Treponema pallidum* (syphilis spirochete) to extracellular matrix. Gene cloning of the adhesin proteins along with site mutagenesis and peptide synthesis studies will also be performed. Background in protein chemistry and recombinant DNA techniques desired. Submit letter of interest, curriculum vitae, and three letters of reference. Jointly supervised by: **Dr. Joel B. Baseman and Dr. John F. Alderete, Department of Microbiology, University of Texas Health Science Center, (UTHSCSA), San Antonio, Texas 78284. UTHSCSA is an Equal Opportunity/Affirmative Action Employer.**



University of Manitoba
Department of Biochemistry
**POSTDOCTORAL
RESEARCH ASSOCIATE**

Ph.D. in biochemistry, neurochemistry, or equivalent; 2 to 3 years of experience in phospholipid and acetylcholine metabolism; experience in isolation and purification of membrane-bound enzymes. The orientation of this laboratory is the effect of modification of the polar portions of membrane phospholipids by endogenous enzymes on membrane function. Familiarity with the scientific literature pertaining to this research is useful.

Salary negotiable. Starting date is 1 January 1986. *The university encourages both women and men to apply for positions. In accordance with Canadian immigration requirements, priority is given to Canadian citizens and permanent residents.*

Contact: **Dr. J. N. Kanfer, Department of Biochemistry, University of Manitoba, 770 Bannatyne Avenue, Winnipeg, Manitoba, Canada R3E 0W3.**

POSTDOCTORAL RESEARCH ASSOCIATE position available to study the structure, function, and differentiation of presynaptic membranes at the neuromuscular junction. Background in neurobiology or cell biology needed. Experience in intracellular recording, freeze-fracture electron microscopy, and/or immunocytochemistry desirable. Please send curriculum vitae and names of two references to: **Dr. Chien-Ping Ko, Department of Biological Sciences, University of Southern California, Los Angeles, Calif. 90089-0371.**

POSITIONS OPEN

POSTDOCTORAL POSITION

Opening in the research laboratories of the Division of Hematology and Oncology, Children's Hospital, Harvard Medical School, for a recent Ph.D. to study the biochemistry, molecular biology, and cellular biology of red blood cell differentiation. Current areas of research include the structural and functional analysis of hormone-receptor interaction, molecular biology and biochemistry of erythropoietin, and the regulation of erythropoiesis. Send résumé and three references to: **Dr. Arthur J. Sytkowski, Children's Hospital, 300 Longwood Avenue, Boston, Mass. 02115.**

POSTDOCTORAL POSITION available immediately to study the regulation of microtubule assembly in cilia and flagella. Current work is focused on the isolation and characterization of capping structures and the generation of monoclonal antibodies. A background in biochemistry and cell biology is preferred. Send curriculum vitae and three letters of reference to: **William Dentler, Department of Physiology and Cell Biology, University of Kansas, Lawrence, Kans. 66045.**

POSTDOCTORAL RESEARCH ASSOCIATE position available to study the chemistry and function of calmodulin in the eukaryotic microorganism *Dicystostelium discoideum*. The project involves biochemical and immunochemical analysis of the protein and its roles in the regulation of motility, and cloning and modification of the gene. Recent Ph.D. in biochemistry preferred. Send curriculum vitae and names of three references to: **Dr. Margaret Clarke, Department of Molecular Biology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, New York 10461.**

PROTEIN/PEPTIDE CHEMIST

Applications and nominations are invited for a protein/peptide chemist to run a core facility containing the following state-of-the-art equipment: Waters Amino Acid "Picotag" Analyzer and an Applied Biosystems Sequenator and Peptide Synthesizer. Previous experience in the general area of protein chemistry is desirable. A Ph.D. degree is desirable, but not essential. Please submit curriculum vitae to: **Dr. Peter L. Pedersen, Department of Biological Chemistry, Johns Hopkins University, School of Medicine, 725 North Wolfe Street, Baltimore, Maryland 21205.**

RADIOLOGICAL SCIENCE

Tenure-track appointment as assistant professor (3 years) in the Whitaker College and Department of Nuclear Engineering of the Massachusetts Institute of Technology (MIT). Candidate should preferably hold an M.D./Ph.D., with experience in magnetic resonance imaging and spectroscopy. Duties will include teaching one course per semester in MR imaging and other areas of radiological science. Will develop research program in similar areas in collaboration with other groups at MIT and other institutions. Send curriculum vitae and the names of three references to: **G. L. Brownell, Ph.D., Chairman, Search Committee, E25-406A, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, Mass. 02139. MIT is an Affirmative Action/Equal Opportunity Employer. Qualified minorities and women are encouraged to apply.**

RESEARCH ASSISTANT PROFESSOR

The Department of Biochemistry and Biophysics at the University of Pennsylvania School of Medicine is seeking a research assistant professor to work in the area of bacterial photosynthesis. The candidate should have experience in EPR and rapid optical techniques applied to the study of electron and proton transfers in biological redox systems. Experience in the isolation and reconstitution of membrane protein complexes and in the selection and characterization of bacterial mutants is also desirable. Interested candidates should send curriculum vitae and three letters of recommendation to:

**Dr. Franz Matschinsky, Chairman
Department of Biochemistry and Biophysics
University of Pennsylvania
School of Medicine
Philadelphia, Pa. 19104**

Deadline for applications is 15 December 1985. *The University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

The Department of Pathology at the Wayne State University School of Medicine is seeking an academically oriented individual to participate in a program of research in enzymology and metabolic regulation in cardiac diseases. A Ph.D. in biochemistry or cell biology is necessary. Experience or interest in membrane biochemistry and recombinant DNA is desirable. Send curriculum vitae and the names of three references to: **Joseph Wiener, M.D., Professor and Chairman, Department of Pathology, Wayne State University School of Medicine, 540 East Canfield, Detroit, Michigan 48201.**

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

POSTDOCTORAL RESEARCH ASSOCIATE. Seek recent doctorate to do research in biogeochemistry, specifically the study of the anaerobic microbial transformations of toxic metals and organic compounds in energy wastes disposed of in subsurface environments. Candidates should have background in anaerobic microbiology, biochemistry, and trace metal geochemistry. Field experience in subsurface microbiology and water chemistry is desirable. The position is available now for a period of 1 year, renewable. Apply by sending résumé that includes the names of three references to: **Dr. A. J. Francis, Department of Applied Science, Building 318, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, N.Y. 11973. Equal Opportunity Employer, M/F.**

POSTDOCTORAL RESEARCH FELLOW. The Neurochemistry-Neuromuscular Research Group within the privately endowed Scott-Ritchey Research Program, located in the College of Veterinary Medicine at Auburn University, Alabama, is seeking a qualified candidate to conduct biochemical studies of neuromuscular diseases in animals. The candidate should have a background in one or more of the following areas: gel electrophoresis, enzyme kinetics, HPLC or GC technology. This position will be funded for at least a 3-year period. For further information, contact: **Dr. Kyle Braund at telephone: 205-826-5951, or write to:**

**Scott-Ritchey Research Program
College of Veterinary Medicine
Auburn University, Ala. 36849**

Auburn University is an Equal Opportunity Employer.

**PROJECT MANAGER
Space Sciences Laboratory
University of California
Berkeley, California**

**NASA Extreme Ultraviolet Explorer Science
Payload Program**

We are seeking a project manager to be responsible for the development of the Science Payload on NASA's Extreme Ultraviolet Explorer (EUVE) Satellite Program; and the development and testing of the Science Operations Center. The project manager will be responsible for managing the EUVE Development Team, overseeing contract administration, developing and enforcing schedules, controlling a 70-member staff and a budget of approximately \$20 million. Manager will also provide systems support and documentation to our funding agency.

Position requires a minimum of a B.S. in aerospace engineering or a related field, plus 10 years of engineering and management experience in an aerospace setting. Experience with project management and demonstrated ability to complete a project on schedule and budget required. Salary level: \$38,500 to \$59,400, depending on experience.

Apply by 1 December 1985 to:

**Dr. Roger Malina
Space Sciences Laboratory
University of California
Berkeley, California 94720**

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

RESEARCH ASSOCIATE. Immunologist (Ph.D.) with at least 3 years of postdoctoral experience in hybridoma technology and biochemistry, for immunoassay of cell surface antigens and development of immunodiagnostics. Salary commensurate with experience. Apply before 15 December 1985. Send curriculum vitae and three letters of recommendation to: **Director of Research, Center for Reproductive Biology, Spring Creek Ranch, 871 Ridgeway Loop Road, Memphis, Tenn. 38119.**

POSITIONS OPEN

RESEARCH ASSOCIATE IN PLANT MOLECULAR BIOLOGY available immediately to participate in research on chloroplast gene organization and expression. Ph.D. with previous nucleic acids experience preferred. Send curriculum vitae and names of references to: **Dr. R. B. Hallick, Biochemistry Department, Biosciences West Number 524, University of Arizona, Tucson, Ariz. 85721.** Application deadline: 22 November 1985.

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RESEARCH ASSOCIATE needed to study lymphokine biology. Requirements include a minimum of 5 years of postdoctoral training, including experience with the use of the fluorescence-activated cell sorter and in the generation of murine monoclonal antibodies. Applicants should be familiar with the techniques of Cr-release assays, immunohistochemistry, radioimmunoprecipitation, and Western blot analysis. Experience in immunobiology, immunopharmacology, and in the development of in vivo models to study lymphocyte interactions with transplantable tumors required. Salary: \$21,000 to \$25,000, based on experience. Send curriculum vitae and three references to: **Dr. James W. Mier, Division of Hematology/Oncology, New England Medical Center Hospital, 171 Harrison Avenue, Boston, Mass. 02111.**

RESEARCH BIOLOGIST

Applications are invited for the position of research biologist at the Surgical Oncology Laboratory, East Orange VA Medical Center, East Orange, New Jersey. Qualified candidate should possess Ph.D. with at least 3 years of postdoctoral experience in tumor biology and experimental cancer chemotherapy research. Tissue culture experience of tumor cells and in vivo drug screening models familiarity required. U.S. citizenship required. Send a statement of research goals, curriculum vitae, and names of three references to: **Dr. Karimullah A. Zirvi, G-507, University of Medicine and Dentistry of New Jersey-New Jersey Medical School, 100 Bergen Street, Newark, New Jersey 07103.**

POSITIONS OPEN

RESEARCH ASSOCIATE position available immediately to study molecular genetics of extracellular polysaccharide biosynthesis and virulence in a bacterial plant pathogen. Requires M.S. or Ph.D. degree and experience in recombinant DNA techniques. Send curriculum vitae and names of three references to: **Dr. David Coplin, Department of Plant Pathology, The Ohio State University (OSU), Wooster, Ohio 44691.** OSU is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE POSITION available immediately to study species differences in carcinogen metabolism. Ph.D. in organic chemistry, biochemistry, toxicology, or pharmacology and previous research experience in drug metabolism required. Appointment initially for 1 year, renewable. Send curriculum vitae and names of three references to: **Dr. Thomas J. Curphey, Department of Pathology, Dartmouth Medical School, Hanover, N.H. 03756.**

RESEARCH ASSOCIATE

A position is available 1 January 1986, for 3 years, to work on a field project in effects of elevated CO₂ on whole plants and ecosystem processes on Chesapeake Bay. Applicants should have field research experience, training and interests in plant physiological ecology, instrumentation, and computer-based data acquisition. Salary: \$21,804 plus, depending on experience and qualifications. Send résumé and names of three referees to: **Dr. Bert G. Drake, Smithsonian Environmental Research Center, 12441 Parklawn Drive, Rockville, Maryland 20852-1773.** Smithsonian is an Equal Opportunity Employer.

RESEARCH POSITION in ATLANTA available in a university-affiliated research institution. M.S./Ph.D. chemist or biochemist with research experience to study the role of steroid receptors in neurotransmitter and peptide systems. Experience with HPLC/GC and interest in instrumentation is desirable. Starting salary: \$19,000 per annum, fringe benefits, permanent position. *An Equal Opportunity/Affirmative Action Employer.*

Box 239, SCIENCE

POSITIONS OPEN

RESEARCH SCIENTIST, CELLULAR BIOPHYSICS

Massachusetts Institute of Technology (MIT), Laboratory for Electromagnetic and Electronic Systems position responsible for setting up of instruments of single cell electrical recording and real-time video microfluorimetry. Will perform and direct experiments related to use of these techniques in sterile cell culture preparations. Will assist in direction of research related to the study of electrical fields on living cells. Ph.D. or equivalent degree in quantitative physiology or biophysical science with experience in cell culture and intracellular electrical recording required. Refer to position **Number R85-796.** Submit résumé and two letters of reference to: **Ken Chin, MIT Personnel Office, E19-239, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, Mass. 02139.** MIT is an Equal Opportunity/Affirmative Action Employer.

SENIOR SCIENTIST AND POSTDOCTORAL FELLOW Hybridoma Production and Protein Chemistry

Unogen, Inc., an innovative research and development company, develops and produces research and diagnostic reagents in the area of cancer, reproductive biology, and veterinary medicine. Unogen seeks a senior scientist with expertise in hybridoma production and protein chemistry to staff a new facility located in Charlottesville, Virginia. Candidates should have a Ph.D. in biochemistry, immunology, or related fields. Candidates must have two or more years of postdoctoral experience and publications which document this expertise.

Unogen also offers a 2-year postdoctoral fellowship in immunochemistry. Unogen, Inc. provides salary commensurate with qualifications and experience and a liberal benefits package. Please forward a current résumé with names of three references to:

UNOGEN, INCORPORATED
1500 Avon Street Extended
Charlottesville, Va. 22901

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HOFFMANN-LA ROCHE

Cell Biologist Dermatology

Hoffmann-LaRoche, an established leader in the pharmaceutical and health care industry, has an excellent career opportunity for a PhD cell biologist/biochemist in the exploratory research area. The Department of Dermatology is seeking a creative senior scientist who will be responsible for initiating a basic and applied research program utilizing *in vitro* models to identify and study potential dermatological therapeutics.

The successful candidates will have demonstrated a strong desire to participate in the development of therapeutics and will join an active department conducting research related to acne, psoriasis, skin aging, and cutaneous drug metabolism. Qualifications include a PhD in cell

biology, biochemistry, or pharmacology, and 2-4 years postdoctoral training with relevant experience. Demonstrated expertise with cell and organ culture technology is essential, and a working knowledge of biochemistry and physiology of skin is desirable.

The Roche Research Center is located in a suburban setting 10 miles from New York City. Roche offers a very competitive compensation package and a research environment that encourages scientific growth. Interested individuals should send a *curriculum vitae*, indicating past, current and future research interests, to: **Position SS, c/o Mrs. Eleanor Malone, Professional Employment and Staffing Specialist**



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POSITIONS OPEN

The Department of Therapeutic Radiology, University of Minnesota, has a tenure-track **TEACHING/RESEARCH POSITION** available at the assistant professor level.

The candidate with an M.D. or Ph.D. degree should have experience in experimental bone marrow transplantation, radiobiology, hybridoma technology, stem cell assays, long-term marrow culture techniques, clonogenic assays, and especially cloning of fresh leukemic cells from common B-lineage ALL patients. Experience in the synthesis and application of immunotoxins is also required. The candidate will be expected to participate in ongoing research in total body irradiation within the department and also will be capable of establishing his/her own research program.

Send curriculum vitae and names of three professional references before 22 November 1985 to:

Dr. C. W. Song
Department of Therapeutic Radiology
University of Minnesota Medical School
420 Delaware Street, SE
Box 494, Mayo
Minneapolis, Minn. 55455

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

TOXICOLOGIST required for growing research and consulting firm active in occupational and environmental health. Ph.D. or equivalent required. We prefer candidates with strong communication skills (verbal and written) and the ability to critically review literature and produce summaries and opinions on a wide variety of topics. Send résumés to:

Environmental Health Associates
520 Third Street
Oakland, Calif. 94607
Attention: Ginger Devereaux

ZOOLOGY/ENVIRONMENTAL SCIENCE. Tenure-track position at assistant professor level will be available in September 1986. The position involves the teaching of courses in zoology and environmental science within the Biology and Environmental Science Departments. A commitment to interdisciplinary education, imaginative teaching, advising, and active research and publication are expected. Ph.D. required. Three letters of reference, curriculum vitae, official transcripts from all colleges attended, and a statement of teaching and research goals are required by 10 January 1986. Apply to: **Dr. Gerald S. Reisner, Chairperson, Biology Department, Allegheny College, Meadville, Pa. 16335.**

SYMPOSIUM

INTERNATIONAL SYMPOSIUM REGULATION OF GROWTH AND LACTATION IN ANIMALS

Sponsored by the University of Wisconsin (UW) Biotechnology Center, 16 and 17 December 1985, Madison, Wisconsin.

Monograph to be published. For further information, contact: **Dedee Wardle, UW Biotechnology Center, 1710 University Avenue, Madison, Wis. 53705. Telephone: 608-262-8606.**

COURSE

COURSE ON TISSUE CULTURE IN THE STUDY OF CANCER 12 to 17 May 1986

**University of Saskatchewan, Saskatoon,
Saskatchewan, Canada**

Directors: Dr. N. Auersperg and Dr. S. Fedoroff

It is the aim of this course to expose participants to a variety of current approaches to the study of cancer cells in culture, with emphasis on specific advantages and limitations of culture systems. The faculty will include experts in the field from the United States and Canada.

Registration Fee: \$250

Deadline for applications: 1 February 1986

Inquiries and applications should be directed to:

**Department of Anatomy
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan, Canada S7N 0W0
Telephone: 306-966-4074**

PROGRAM

CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with an earned doctorate in the sciences the opportunity to obtain a doctor of optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education, and research. Contact: **Ph.D.-O.D. Program Director, Admissions Office, The New England College of Optometry, Room 14, 424 Beacon Street, Boston, Mass. 02115.**

TRAINING PROGRAM

GRADUATE AND POSTDOCTORAL TRAINING PROGRAMS ON THE MOLECULAR MECHANISMS OF ONCOGENESIS WITH SPECIAL EMPHASIS ON HUMAN PAPOVAVIRUSES

The successful applicants will work on NCI- and MRC-funded programs to apply recombinant DNA techniques in studying molecular aspects of oncogenesis by human polyoma and papillomaviruses. Teaching opportunities available. Interested Canadian citizens and residents are especially encouraged to apply. For applications and further information, write to: **Drs. Mary and Alan Pater, Division of Basic Medical Sciences, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3V6.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS

The Atherosclerosis Research Unit of the University of Alabama at Birmingham has postdoctoral fellowships available 1986 to 1988 in biochemistry, immunology, and cell biology for studies on lipoproteins, macrophages, and the extracellular matrix of the arterial wall.

Salaries are negotiable.

Faculty includes **G. M. Anantharamaiah, John R. Baker, James Christner, John Couchman, Jeff Esko, Frank Griffin, Magnus Höök, and Jere P. Segrest.** For further information, contact:

Magnus Höök
The University of Alabama at Birmingham
Diabetes Hospital, Room 733
Birmingham, Alabama 35294
Telephone: 205-934-3722

AQUACULTURE POSTDOCTORAL FELLOWSHIP. Applications are invited for the J. Seward Johnson Fellowship in aquaculture science at the Indian River Marine Science Research Center, Florida Institute of Technology. Position will interact closely with Center for Marine Biotechnology, Harbor Branch Foundation. Proposals in any area of marine aquaculture will be considered. Available immediately. Send curriculum vitae, a brief statement of proposed research, and names of three references to: **Dr. Walter Nelson, Department of Oceanography and Ocean Engineering, Florida Institute of Technology, 150 West University Boulevard, Melbourne, Florida 32901.**

POSTDOCTORAL FELLOWSHIP—An innovative project area with a research group dealing with isolation and characterization of unique human secretory proteins having a variety of important biological functions, among which are included protein-lipid interactions. Candidates should have appropriate biochemistry, cell biology, and applied immunology experience at the Ph.D. level. Submit résumé and names of three references to: **G. I. Research Unit, Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, Ohio 44106. An Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIPS IN MOLECULAR AND CELLULAR BIOLOGY available to individuals with a strong background in either biochemistry, enzymology, cellular biology, or molecular biology. This NIH-sponsored training will be in the areas of gene regulation and expression, and protein structure-function analysis using molecular genetics with emphasis on genes expressed in hepatocytes and endothelial cells. Previous experience with HPLC, cloning, or oligonucleotide mutagenesis would be a plus, but is not required. Send curriculum vitae and names and addresses of three references to: **Maria Leon, Brinkhous-Bullitt 228H, School of Medicine, University of North Carolina, Chapel Hill, N.C. 27514, telephone: 919-966-4318. An Equal Opportunity Employer.**

FELLOWSHIPS

UNIVERSITY PREDOCTORAL FELLOWSHIPS

Established for outstanding students in the biological sciences. Department emphasizes evolutionary and environmental biology, from molecular to community levels of organization. Stipend is \$12,000 for 12 months, renewable, includes tuition and fee waiver, plus no teaching or other duties. For prompt consideration, applications should be completed by 15 February 1986. *Black students are especially encouraged to apply.* Contact: **Graduate Coordinator, Department of Biology, University of Southwestern Louisiana, Lafayette, La. 70504. Telephone: 318-231-6748.**

POSTDOCTORAL FELLOWSHIPS—You'll be involved in vivo and vitro work on growth factors, bone, and molecular genetics. Interested applicants with experience in physiology of somatomedins, receptor interactions, working with small animals, osteoporosis, or recombinant DNA are encouraged to apply. Salary will be paid according to NIH scale. Please send curriculum vitae, brief description of research interests, and three letters of recommendation to: **E. Martin Spencer, M.D., Ph.D., Director, Laboratory of Growth and Development, Children's Hospital of San Francisco, 3700 California Street, San Francisco, Calif. 94118. We are an Equal Opportunity Employer.**

UNITED STATES-ISRAEL FELLOWSHIP PROGRAM—BARD—The United States-Israel Agricultural Research and Development Fund announces the initiation of a binational postdoctoral fellowship program promoting cooperative agricultural research between postdoctorates from the United States and scientists from Israel and vice versa. Grant applicants should be citizens of either the United States or Israel, should have fulfilled the requirements for a Ph.D. within the last 3 years (postdoctorates) and should have no other sources of support. The deadline for applications is 31 December of each year. For information on application procedures, contact: **Yair Guron, Executive Director, at either: BARD, P.O. Box 6, Bet Dagan 50250, Israel, or BARD, U.S. Department of Agriculture, Building 005, BARC-West, Beltsville, Md. 20705.**

POSTDOCTORAL FELLOWSHIP IN PLANT MOLECULAR BIOLOGY

A postdoctoral fellowship is available immediately to use recombinant DNA and gene transfer technology to study the regulation of starch metabolism in higher plants. Applicants must have a Ph.D. in biochemistry or a related discipline and experience with recombinant DNA techniques. The position will be for 2 to 3 years and the salary will be commensurate with experience. Please send curriculum vitae and three letters of reference to: **Dr. William D. Park, Department of Biochemistry and Biophysics, Texas A&M University, College Station, Texas 77843. Texas A&M is an Equal Opportunity/Affirmative Action Employer.**

NIH POSTDOCTORAL FELLOWSHIP available immediately for 2 years for a qualified Ph.D. in cell biology, biochemistry, or molecular biology. The individual will participate with a multidisciplinary team studying the molecular responses of heterogeneous murine carcinoma cells to ionizing radiation. Studies include cell survival, flow cytometric analysis, DNA damage induction and repair, analyses of chromatin structure and function, thiol metabolism, and poly(ADP-ribosylation). Stipend dependent on experience. U.S. citizenship or permanent visa required. Send curriculum vitae and names of three references by 5 December 1985 to: **Dr. Lyle A. Dethlefsen, Department of Radiology, University of Utah Health Sciences Center, Salt Lake City, Utah 84132. Applications received after this date will be considered if no qualified applicant can be found. Equal Opportunity/Affirmative Action Employer.**

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FACULTY POSITIONS

TWO ASSISTANT PROFESSORSHIPS: Our goal is to hire two persons whose research programs are in the forefront of their field and who can interact with each other as well as other members of our faculty. Effective September 1986 two tenure track Assistant Professorships will become available. Serious candidates will be expected to be utilizing modern genetic and molecular approaches to the study of one of the following areas: (a) the **immune system** at the cellular level, (b) the development of an organism which provides a model system for studies in **development**, or (c) regulation in an organism to provide a model for studies of regulation at the level of **gene transcription**.

Successful candidates will be expected to have completed at least two to three years of post-doctoral experience, demonstrate experience in a productive research program, be able to describe in detail plans for future research activities, and show promise for establishing a fundable independent research program.

All successful candidates will be expected to demonstrate above average teaching ability for both undergraduate and graduate teaching. **Salaries will be nationally competitive; excellent laboratory space and equipment are available.**

To apply, candidates must submit a curriculum vitae, including a statement of research background, and teaching experience, and at least *three letters of reference* to: **Dr. Darrell Doyle, Chairman, Department of Biological Sciences, 109 Cooke Hall, State University at Buffalo, Buffalo, NY 14260.** Application deadline is December 20, 1985.

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OUR POSITIONS:

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Your responsibilities:

The ideal candidate would coordinate the clinical research efforts involving surface electrophysiology, audiologic testing, speech perception testing and hearing aid evaluation. In addition, coordinating research activities and independent projects are encouraged.

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Ph.D. in the hearing sciences—neurophysiology or related area. We prefer 5 years of experience in experimental design, statistics and human testing.

SPEECH ACOUSTICS

A Ph.D. in the speech sciences and previous research in speech acoustics may qualify you to design experiments in the area of speech acoustics and speech perception with an emphasis on the former. You will participate in data collection scoring and analysis and write the summary and module reports.

SPEECH PERCEPTION

A Ph.D. in the speech sciences, electrical engineering, psychology or associated areas plus your research background in the above may qualify you for the following: designing experiments in speech perception, participating in data collection, scoring and analysis as well as providing the written summaries of the experiment and module reports. Will interact with other project scientists.

The community of Madison, Wisconsin offers excellence in quality of life, recreation, and education. You will find affordable housing prices and a reasonable cost of living.

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NICOLET BIOMEDICAL DIVISION

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RESEARCH SCIENTISTS
Biology/Cell Biology/Immunology

Amgen, an established biotechnology company with a broad technological base, is seeking several research scientists. Qualified candidates will have a Ph.D. degree and at least three years postdoctoral experience including **in vivo** and **in vitro** **hematopoietic** and **immunological assays**. Amgen currently has several major programs addressing the biological roles of **lymphokines** and **cytokines**. Our recent advances with **IL-2**, **erythropoietin** and **osf** have made us a leader in the field of **biological response modifiers**.

Amgen offers a stimulating research environment and maintains close association with academic institutions through its Scientific Advisory Board. Research programs at Amgen will lead to significant health care and specialty chemical products based on recombinant DNA and hybridoma technologies.

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Recruitment/LS

AMGEN

1900 Oak Terrace Lane
Thousand Oaks, CA 91320



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DIRECTOR

Environment & Policy Institute

Applications and nominations are being sought for a Director of the Environment and Policy Institute of the East-West Center. The Center is a public, nonprofit educational institution with an international board of governors. Some 2,000 research fellows, graduate students, and professionals in business and government each year work with the Center's international staff in cooperative study, training, and research. They examine major issues related to population, resources and development, the environment, culture, and communication in Asia, the Pacific, and the United States. The Center was established in 1960 by the United States Congress, which provides principal funding. Support also comes from more than 20 Asian and Pacific governments, as well as private agencies and corporations.

The Environment and Policy Institute, one of the four at the Center, focuses on the management of renewable resources and environmental quality in the Asia-Pacific Region. Emphasis is on the interaction of these natural resources and human society. The purpose of the Institute's program is to contribute to the long-term sustainable productivity of these resources and to high levels of environmental quality. The Director, in collaboration with Institute staff and Asian and Pacific island colleagues, will be expected to develop new programs building on present areas of Institute work which include:

- methodologies and techniques for environmental assessment and economic analysis for the management of natural resource systems,
- analysis of human interactions with the environment, including cultural and institutional aspects of management,
- forest land management, including social forestry, and
- water resources management, including watersheds.

Requirement Guidelines: (1) Ph.D. in one of the natural or social sciences; (2) minimum of eight years' full-time relevant professional experience; (3) demonstration of a clear understanding of the interaction of renewable resources, the environment, and society; (4) a strong record of high quality research and publication; (5) demonstration of strong leadership abilities in both research and administration; (6) past success record in program development including obtaining outside funding; (7) demonstration of a clear sense of vision and direction for the Institute; (8) ability to interact successfully with leaders in the region and to develop and implement programs; and (9) (preferred qualification) at least five years' relevant research in collaboration with Asian and Pacific island colleagues and institutions outside the applicant's home country.

The Director reports to the President and provides intellectual and administrative leadership to a multidisciplinary academic staff of about fifteen, a supporting staff of about fifteen, and the several hundred research fellows, graduate students, and professionals from throughout the United States and the Asia-Pacific region who participate annually in the Institute's program.

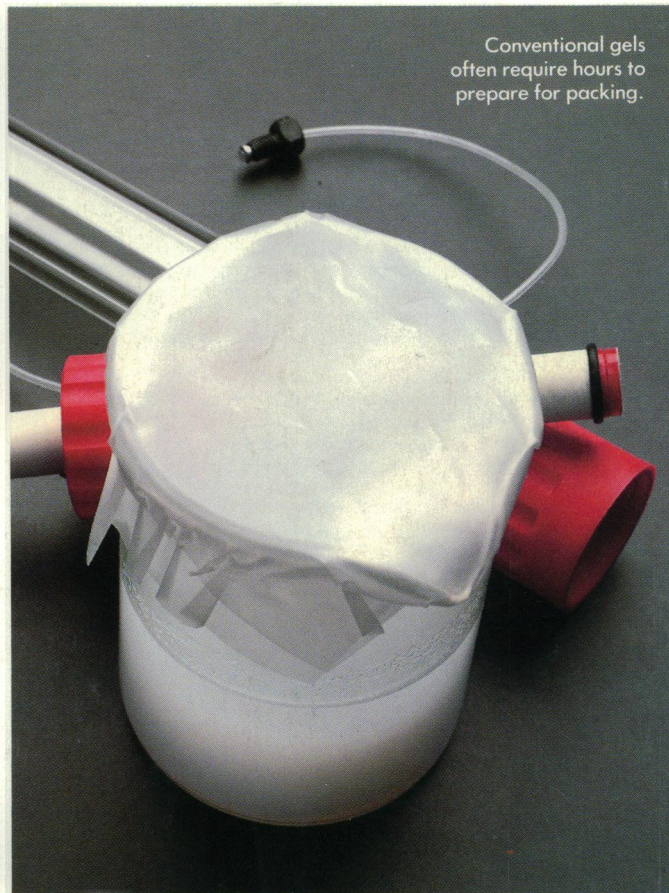
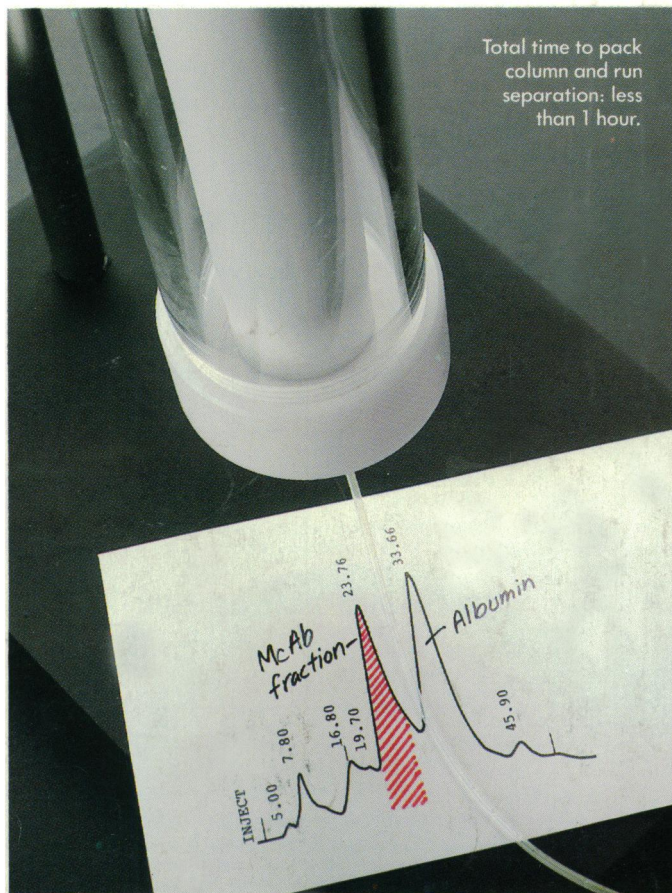
Salary: \$61,296 per year, depending on qualifications, plus a current cost-of-living allowance of 22.5% (subject to change).

Submit resume with cover letter which includes title of position you are applying for, a narrative description detailing relevance of your qualifications and background to the responsibilities of the position, and names, addresses, and telephone numbers of three professional references. If a nomination, include name, current address, and telephone number of nominee. Applications must be received by **December 31, 1985**. Send to: **Rebecca Dixon, Personnel Office, Dept. 19, East-West Center, 1777 East-West Road, Honolulu, Hawaii 96848.**

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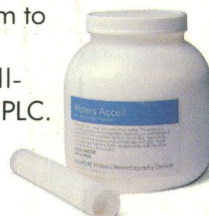
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