

perimental analysis of possible coevolution in ant-plant-homopteran associations, taking advantage of the range of breeding systems in both plants and Homoptera and particularly of the existence of clones and biotypes. (iv) Mite-plant interactions and analogies with ant-plant interactions.

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Phosphorus Deposits

Geology of Sedimentary Phosphates. MAURICE SLANSKY. Elsevier, New York, 1986. 210 pp., illus. \$45. Translated, with revisions, from the French edition (Orleans, 1986) by Peter Cooper.

Phosphorus is an essential component of every living cell. Its value as a fertilizer was recognized almost 200 years ago, and its consumption, mainly for that purpose, has been increasing steadily—from 3.5 million tons in 1900, for example, to nearly 140 million tons in 1981. It heads the list of the nonrenewable resources for which there is no known or conceivable substitute. The search for new phosphate deposits has justifiably accelerated during the last 30 years, fortunately with considerable success, thanks to expanding knowledge of their occurrence and origin.

In his *Geology of Sedimentary Phosphates* Maurice Slansky of the French Bureau de Recherches Géologiques et Minières succeeds well in his objective of providing a state-of-the-art review of knowledge of sedimentary phosphate deposits, which are the source of most phosphate production.

The coverage of the subject is comprehensive, extending from the mineralogy, petrography, chemistry, and origin of the deposits to prospecting, mining, beneficiation, and manufacturing methods and production and resource statistics. Considerable attention is given to the role of organic matter in the formation of phosphorite deposits. The book is well illustrated and has a 24-page bibliography.

Slansky devotes several pages to the petrographic classification of sedimentary phosphates. He observes that "phosphates" is not a good term for rocks with a predominant phosphate content because "it belongs strictly to the chemical field" and concludes that "it should not be used," proposing instead the previously little-used term "phosphatite." One is reminded of Brigham Young's confession that "as Latter Day

Saints we are opposed to the use of tobacco but as Mormons we use quite a bit," for not only is "phosphate" used as a noun in the title and numerous other places but the index lists 14 uses as an adjective modifying terms ranging from "deposits," "grain," and "particle" to "supply."

Slansky's book is a fine summary of a growing literature, but two others are worth noting also. One is G. N. Baturin's *Phosphorites on the Sea Floor* published in 1983 by Elsevier and the other is the compilation *World Phosphate Rock Resources* being published by the Cambridge University Press under the editorship of A. J. G. Notholt, R. P. Sheldon, and D. F. Davidson.

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Some Other Books of Interest

The Political Economy of Science and Technology. NORMAN CLARK. Blackwell, New York, 1985. xii, 257 pp., illus. \$39.95; paper, \$14.95.

This volume, stemming from lectures given to students at the Science Policy Research Unit at the University of Sussex, is intended as a broad introduction to economic analysis as an approach to science and technology policy. It was prompted, the author writes, by "a growing feeling that while economic analysis has a lot to offer in this context, the discipline itself has become ever more remote from the public gaze [as it pursues] a narrow goal of mathematical rigour . . . to the exclusion of reality and understanding" and that "some redress was therefore called for." The volume consists of nine "relatively self-contained" chapters, on science and technology policy as a field of study; economic organization and technological change; the macroeconomy (including the "science system" or "science infrastructure"); the microeconomy; economic theory and technological change (describing classical, neoclassical, Keynesian, and Schumpeterian views); modern developments in economic thought about technological innovation; the nature of underdevelopment; the relation of science and technology to development; and contemporary issues of science and technology policy. Each chapter is accompanied by a bibliographic note identifying relevant general works and by a section of references and other notes. In addition the volume as a whole has a select bibliography of some 175 items. An index is also included.—K.L.

"For the Welfare of Mankind." The Commonwealth Fund and American Medicine. A. MCGEE HARVEY and SUSAN L. ABRAMS. Johns Hopkins University Press, Baltimore, 1986. xiv, 697 pp., illus. \$32.50.

The Commonwealth Fund was established in 1918 by the family of Stephen V. Harkness, one of the founders of the Standard Oil Company. Charged with doing "something for the welfare of mankind," the Fund has focused its efforts on matters relating to health, supporting enterprises in child guidance, child health, psychiatry, and medical education and research and also rural and community health services. This history of the Fund, based on archival material and interviews with participants as well as published sources, describes its activities from its founding up to the present. The account is structured around the tenures of the Fund's chief staff officers and presidents and includes much detail about the inner workings of the Fund and about the enterprises supported, with attention also to other institutions and organizations involved and to the broader milieu. Brief final sections discuss the Fund's programs for the 1980's and relate the history of its book publishing program. The volume concludes with 12 appendices giving particulars of awards made by the Fund, a section of notes and references, and name and subject indexes.—K.L.

Books Received

American Professors. A National Resource Imperiled. Howard R. Bowen and Jack H. Schuster. Oxford University Press, New York, 1986. xiv, 322 pp., illus. \$24.95.

Analysis and Integration of Behavioral Units. Travis Thompson and Michael D. Zeiler, Eds. Erlbaum, Hillsdale, NJ, 1986. xxx, 367 pp., illus. \$32.50. From a conference, Minneapolis, MN, 1984.

The Analysis of Extraterrestrial Materials. Isidore Adler. Wiley-Interscience, New York, 1986. xxii, 346 pp., illus. \$55. Chemical Analysis, vol. 81.

Anasazi. Ancient People of the Rock. Donald G. Pike. Photographs by David Muench. Harmony (Crown), New York, 1986. 191 pp. Paper, \$12.95. Reprint, 1974 ed.

An Annotated Checklist of Marine Invertebrates in the Cold Temperate Northeast Pacific. W. C. Austin. Khoyatan Marine Laboratory, Cowichan Bay, British Columbia, 1985. 3 vols. xiv, 682 pp. Spiral bound, C\$42.

Antianxiety Agents. Joel E. Berger, Ed. Wiley-Interscience, New York, 1986. xii, 164 pp., illus. \$65. Chemistry and Pharmacology of Drugs, vol. 6.

Aquatic Microbiology. G. Rheinheimer. 3rd ed. Wiley-Interscience, New York, 1986. 257 pp., illus. \$32.95. Translated from the German edition (Jena, DDR, 1985).

Arms Control Verification. The Technologies That Make It Possible. Kosta Tsipis, David W. Hafemeister, and Penny Janeway, Eds. Published in cooperation with the Program in Science and Technology for International Security, Massachusetts Institute of Technology by Pergamon-Brassey's, New York, 1986. xvi, 419 pp., illus. \$34.95. From a conference, Cambridge, MA, Feb. 1984.

Aromaticity. Peter J. Garrett. Wiley-Interscience,

(Continued on page 798)

Products & Materials

Benchtop Gas Chromatograph Mass Spectrometer

Incos 50 offers microprocessor control and Incos applications software. It offers 4- to 1000-unit mass range; foreground-background data processing and rapid library search. Menus assist even novice operators. It may be used with virtually any gas chromatograph and column type. Samples may be introduced via desorption or other solids probes, autosampler, or automatic liquid sampler. It may be set up for electron or chemical ionization. The user has access to all data processing, display, and library search programs during data acquisition. The electron multiplier has twin 5-kV conversion dynodes to enhance sensitivity at high mass. Incos 50 is particularly well suited to drug screening, toxicological analyses, environmental monitoring, and providing analytical support for chemical laboratories. Finnigan MAT. Circle 586.

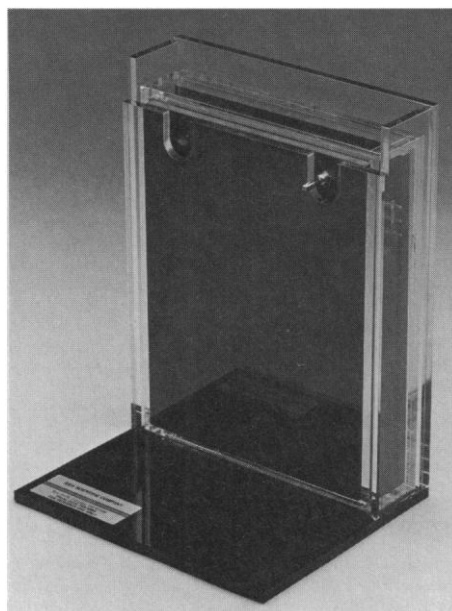
Mathematics Software for Personal Computer

SciMath is a command-driven scientific mathematics program for IBM PC (and compatible instruments) which allows the user to perform calculations without programming. One may evaluate complicated expressions and symbolically define and manipulate functions of up to 20 variables. New functions may be defined by giving a table of function values and allowing SciMath to perform higher order interpolation in that table. Commands may be used to solve transcendental equations, perform numerical differentiation and integration, sum series and evaluate repeated products, and do curve fitting and statistics. One may also solve systems of simultaneous linear equations and perform a variety of other vector and matrix operations including matrix inversion, computing determinants, and finding eigenvalues and eigenvectors. With SciMath, one can define and solve arbitrary systems of differential equations whose solu-

tions may be treated as defined functions subject to all SciMath operations. There are graphics features as well. There is an integral programming language that allows the user to create new applications. Spindrift Software. Circle 593.

Electrophoresis Blotting Apparatus

GENIE performs Western blots in 30 minutes. Plate electrodes assure field uniformity. These plates consist of a thin layer of platinum on a titanium base. The GENIE



uses less than 1 liter of buffer but it can blot gels up to 17 cm long. The device also features an insertable loading tray for submerged bubble-free loading. Idea Scientific. Circle 589.

Bibliographic Software

Editor is a menu-driven package designed to prepare and reformat bibliographic references. References may be listed in 15 styles supplied with the program. Included are styles required by the American Medical Association, the American Psychological Association, the Council of Biology Editors, and the editors of *Science* among others. Users may design their own styles, too. Bibliographic data may be entered via keyboard or from other software. The user designs page layout and chooses type specifications. There are five sort options including by author in chronological and reverse chronological order. It runs on IBM PC and compatible computers. Institute for Scientific Information. Circle 585.

Peptide Synthesizer

Model 9500/AT is an automated peptide synthesizer controlled by an IBM PC AT work station. Sequence-Driven software helps define the optimum coupling scheme for each individual amino acid addition. The work station may be connected via a modem to databases to retrieve peptide and protein sequences and to utilize software to evaluate tertiary peptide structure or to translate DNA sequences to their protein equivalents. Model 9500/AT is provided with *t-boc* and *Fmoc* synthesis protocols. It will accommodate user-defined protocols, too. Biosearch. Circle 588.

Programmable Viscometer

Rheoset is a rotational, continuous sensing instrument accurate to within 1 percent of range. It may be operated manually or in a programmed-command mode by users without programming experience. It is compatible with all standard Brookfield spindles and accessories. It indicates viscosity, percentage torque, absolute torque, spindle speed, shear rate, temperature, elapsed time, and more. It is programmable in BASIC with 32K bytes of RAM to permit the design of solutions to complex rheological problems. It may be interfaced to laboratory computers. Brookfield Engineering Laboratories. Circle 594.

Database for Chemists

DATALYST will accommodate vendor information and chemical formulas and will read and access chemical structure files. It requires an IBM PC or HP 150 with MS-DOS 2.0 higher and 256K of internal memory. DATALYST is a standard text-oriented database whose structure may be modified by the user. It is available on diskette Hawk Scientific Systems. Circle 584.

Literature

Plasticware includes a guide to the structure and properties of resins, a chart of the chemical resistance of plastic resins, and a guide to the uses and care of plasticware plus nearly 100 pages of laboratory products. Cole-Parmer Instrument. Circle 595.

Products for Research lists Teflon laboratory equipment from fluorocarbons such as PTFE, FEP, and PFA in the usual white and newly available translucent Teflon. Berghof/America. Circle 596.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.

New York, 1986. xiv, 313 pp., illus. \$47.50. A textbook aimed at final-year undergraduate and first-year graduate students.

Artefacts as Categories. A Study of Ceramic Variability in Central India. Daniel Miller. Cambridge University Press, New York, 1985. xiv, 253 pp., illus. \$39.50. New Studies in Archaeology.

Artificial Intelligence Applications in Chemistry. Thomas H. Pierce and Bruce A. Hohns, Eds. American Chemical Society, Washington, DC, 1986. xii, 395 pp., illus. \$59.95. ACS Symposium Series, 306. Based on a symposium, Chicago, Sept. 1985.

Astronomy with a Small Telescope. James Muirhead. Star Maps by Wil Tirion. Prentice-Hall, Englewood Cliffs, NJ, 1986. 224 pp., illus. \$18.95.

Automation for Mineral Resources Development. A. W. Norrie and D. R. Turner, Eds. Published for the International Federation of Automatic Control by Pergamon, New York, 1986. xviii, 347 pp., illus. \$81.50. IFAC Proceedings Series, 1986, no. 1. From a symposium, Brisbane, Australia, July 1985.

Environmental Engineering in Mines. V. S. Vutukuri and R. D. Lama. Cambridge University Press, New York, 1986. xiv, 504 pp., illus. \$110.

Epistemology and Cognition. Alvin I. Goldman. Harvard University Press, Cambridge, MA, 1986. x, 437 pp., illus. \$27.50.

Estuarine Cohesive Sediment Dynamics. Ashish J. Mehta, Ed. Springer-Verlag, New York, 1986. vi, 473 pp., illus. Paper, \$40. Lecture Notes on Coastal and Estuarine Studies, 14. From a workshop, Tampa, FL, Nov. 1984.

Ethnic Differences in Reactions to Drugs and Xenobiotics. Werner Kalow, H. Werner Goedde and Dharam P. Agarwal, Eds. Liss, New York, 1986. xvi, 583 pp., illus. \$90. Progress in Clinical and Biological Research, vol. 214. From a meeting, Titisee, FRG, Oct. 1985.

Event Knowledge. Structure and Function in Development. Katherine Nelson in collaboration with 11 others. Erlbaum, Hillsdale, NJ, 1986. xii, 277 pp. \$32.50.

Fourier Transform Infrared Spectrometry. Peter R. Griffiths and James A. de Haseth. Wiley-Interscience, New York, 1986. xvi, 656 pp., illus. \$75. Chemical Analysis, vol. 83.

Fourth IMA International Conference on Control Theory. (Cambridge, England, Sept. 1984.) P. Q. Cook, Ed. Academic Press, Orlando, FL, 1985. xvi, 447 pp., illus. \$69. Institute of Mathematics and its Applications Conference Series.

Friendship and Social Interaction. Valerian J. Derlega and Barbara A. Winstead, Eds. Springer-Verlag, New York, 1986. xvi, 290 pp., illus. \$41.50. Springer Series in Social Psychology.

Fundamentals of Sensory Physiology. Robert F. Schmidt, Ed. 3rd ed. Springer-Verlag, New York, 1986. xii, 300 pp., illus. Paper, \$19.95. Springer Study Edition. Translated from the German edition (Berlin, 1985) by Marguerite A. Biederman-Thorson.

Fungicide Chemistry. Advances and Practical Applications. Maurice B. Green and Douglas A. Spilker, Eds. American Chemical Society, Washington, DC, 1986. viii, 173 pp., illus. \$39.95. ACS Symposium Series, 304. From a symposium, Philadelphia, Aug. 1984.

Fur Seals. Maternal Strategies on Land and at Sea. Roger L. Gentry and Gerald L. Kooyman, Eds. Princeton University Press, Princeton, NJ, 1986. xviii, 292 pp., illus. \$40; paper, \$14.50.

Gavagali Or the Future History of the Animal Language Controversy. David Premack. MIT Press, Cambridge, MA, 1986. xii, 164 pp. \$12.50. A Bradford Book. MIT Press Series in Learning, Development, and Conceptual Change.

General Neurochemical Techniques. Alan A. Boulton and Glen B. Baker, Eds. Humana, Clifton, NJ, 1985. xx, 555 pp., illus. \$64.50. Neuromethods. Series 1: Neurochemistry, vol. 1.

Genetic Control of the Susceptibility to Bacterial Infection. David E. Bries, Ed. Springer-Verlag, New York, 1986. xii, 175 pp., illus. \$55. Current Topics in Microbiology and Immunology, 124.

Genetic Manipulation of Streptomyces. D. A. Hopwood *et al.*, Eds. John Innes Foundation, Norwich, England, 1985 (U.S. distributor, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY). xii, 314 pp., illus. Spiral bound, \$25.

Geography, Resources, and Environment. Robert W. Kates and Ian Burton, Eds. University of Chicago Press, Chicago, 1986. 2 vols. Vol. 1, Selected Writings of Gilbert F. White. xiv, 471 pp., illus. \$65; paper, \$25.

Vol. 2, Themes from the Work of Gilbert F. White. xvi, 376 pp., illus. \$45; paper, \$18.95.

The Giotto Mission. Its Scientific Investigations. R. Reinhard and B. Battrick. European Space Agency, Paris, 1986. xxvi, 193 pp., illus. Paper, F200. ESA SP-1077.

The History of Civil Engineering Since 1600. An Annotated Bibliography. Darwin H. Stapleton with the assistance of Roger L. Shumaker. Garland, New York, 1986. xxiv, 232 pp. \$40. Bibliographies of the History of Science and Technology, vol. 14. Garland Reference Library of the Humanities, vol. 519.

Hormones, Receptors and Cellular Interactions in Plants. C. M. Chadwick and D. R. Garrod, Eds. Cambridge University Press, New York, 1986. xii, 375 pp., illus. \$69.50. Intercellular and Intracellular Communication, 1.

The Hudson River Ecosystem. Karin E. Limburg, Mary Ann Moran, and William H. McDowell. Springer-Verlag, New York, 1986. xiv, 331 pp., illus. \$64. Springer Series on Environmental Management.

Medicinal Plants in Tropical West Africa. Bep Oliver-Bever. Cambridge University Press, New York, 1986. xii, 375 pp., illus. \$75.

Metamagical Themes. Questing for the Essence of Mind and Pattern. Douglas R. Hofstadter. Bantam, New York, 1986. xxviii, 852 pp., illus. Paper, \$14.95. A Bantam New Age Book.

Metatheory in Social Science. Pluralisms and Subjectivities. Donald W. Fiske and Richard A. Shweder, Eds. University of Chicago Press, Chicago, 1986. x, 390 pp., illus. \$35; paper, \$16.95. From a conference, Chicago, Sept. 1983.

Modelling of Oxidation Processes. Prototype: The Oxidation of Ethylbenzene. N. M. Emanuel and D. Gál. Akadémiai Kiadó, Budapest, 1986. 436 pp., illus. \$47. Revised translation.

Modulation of Central and Peripheral Transmitter Function. Giovanni Biggio *et al.*, Eds. Liviana Press, Padova, Italy, and Springer-Verlag, New York, 1986. xii, 624 pp., illus. \$69. FIDIA Research Series. Symposia in Neuroscience, vol. 3. From a conference, Villasilvius, Italy, June 1985.

Molecular Biology of Development. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1985. xxiv, 920 pp., illus. \$140; paper, \$70. Cold Spring Harbor Symposium on Quantitative Biology, vol. 50. From a symposium, Cold Spring Harbor, NY, 1985.

Molecular Developmental Biology. Lawrence Bogorad, Ed. Liss, New York, 1986. xiv, 164 pp., illus. \$38. From a symposium, New York, June 1984.

Monte Carlo Methods in Statistical Physics. K. Binder, Ed. 2nd ed. Springer-Verlag, New York, 1986. xviii, 411 pp., illus. Paper, \$29. Topics in Current Physics, 7.

Pesticide Resistance. Strategies and Tactics for Management. Committee on Strategies for the Management of Pesticide Resistant Pest Populations, National Research Council. National Academy Press, Washington, DC, 1986. xii, 471 pp., illus. Paper, \$28.50. From a symposium, Washington, DC, Nov. 1984.

Pesticides and Groundwater Quality. Issues and Problems in Four States. Patrick W. Holden. National Academy Press, Washington, DC, 1986. xii, 124 pp., illus. Paper, \$12.50.

Petrochemicals. P. Wiseman. Horwood, Chichester, England, and Halsted (Wiley), New York, 1986. 182 pp., illus. \$39.95. UMIST Series in Science and Technology.

Photochemistry of the Atmospheres of Mars and Venus. Vladimir A. Krasnopolsky. Ulf von Zahn, Technical Ed. Springer-Verlag, New York, 1986. x, 334 pp., illus. \$90. Physics and Chemistry in Space, vol. 13. Translated from the Russian edition (Moscow, 1982).

Photometric Determination of Traces of Metals. Part IIA. Individual Metals, Aluminum to Lithium. Hiroshi Onishi. 4th ed. xii, 885 pp., illus. \$139.95. Chemical Analysis, vol. 3.

Physics of Shock Waves in Gases and Plasmas. M. A. Liberman and A. L. Velikovich. Springer-Verlag, New York, 1986. xii, 385 pp., illus. \$49. Springer Series in Electrophysics, vol. 19. Revised Translation.

Risk Assessment for Hazardous Installations. J. C. Consultancy, Ltd. Published for the Commission of the European Communities by Pergamon, New York, 1986. viii, 279 pp., illus. \$45.

School-Age Pregnancy and Parenthood. Biosocial Dimensions. Jane B. Lancaster and Beatrix A. Hamburg, Eds. Aldine de Gruyter, New York, 1986. xviii, 403 pp., illus. \$39.95. Foundations of Human Behavior.

The Sky Observer's Guidebook. Charles E. Roth. Prentice Hall Press (Simon and Schuster), New York, 1986. x, 214 pp., illus. \$17.95; paper, \$10.95. Phalorope Books.

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Algal Cell/Molecular Biologist, Ph.D. 1960. Broad background in biology, physiology; 25 years of experience in teaching, research, and administration. Forty publications, numerous grants (currently NSF). Preference: small college teaching, research, or industrial research. Box 149, SCIENCE. X

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Gross Anatomist. Ph.D., 1973. Fourteen years of experience teaching medical, dental, graduate, and undergraduate anatomy. Special interests in physical anthropology and comparative anatomy. Seeks teaching/research position in Department of Anatomy, Anthropology, or Zoology. Box 148, SCIENCE. X

Laboratory Technician—B.S., plus 8 years of laboratory experience. Desires job in or near Colorado Springs. Experienced in muscle physiology, histochemistry, EM, enzyme assays, and animal surgery. Some work in exercise physiology. Box 140, SCIENCE. X

POSITIONS WANTED

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Research Biotechnology, M.S. with industrial experience. Desire challenging position in industry or academia. Laboratory experiences include molecular biology, recombinant DNA, strain development, fermentation, radioisotopes, and separations techniques: LC, HPLC, agarose/polyacrylamide electrophoresis, and ultrafiltration. Designed, built, and operated supercritical extraction system, Box 129, SCIENCE. X

Surgeon/Ph.D. Foreign M.D., experienced surgeon/microsurgeon. American Ph.D. Experienced biochemistry research in cardiac ischemic damage. Metabolism of nucleotides and substrates in heart and kidney. Organ preservation. Isolated perfused working rat heart. Myocyte isolation. Radioactive label. HPLC, enzymology. Animal surgery. Reliable microsurgical technique transplanting rat heart, kidney, and limb. Prefers research position in Canada/Australia. Write: 2044 Knapp Avenue, St. Paul, MN 55108. X

Synthetic Organic Chemist. Ph.D. (1963). Experienced in new compound synthesis and process development. Synthesized novel, biologically active compounds. Strong background in natural products. P.O. Box 5403, Somerset, NJ 08873. X

POSITIONS OPEN

APPLICATIONS PROGRAMMER: The University of Wisconsin Genetics Computer Group (UWCGC) is looking for a programmer with experience writing scientific applications. Experience with the VMS (or UNIX) operating system is necessary. Background in biology, especially molecular genetics, would be helpful, but is not required. Salary is negotiable. Please send résumé to: John Devereux, UW-Madison Biotechnology Center, 1710 University Avenue, Madison, WI 53705.

ASSISTANT DIVISION HEAD—INDUSTRIAL LIAISON

One of Lawrence Berkeley Laboratory's largest research divisions, Applied Science Division, is recruiting an assistant division head for industrial liaison who will represent Applied Science Division to various public and privately funded organizations. Efforts will include a major role in establishing and maintaining technology transfer and funding activities.

Applicants must present an established record of effective associations with scientific researchers, management and government representatives; leadership and management experience in industry and government supported research organizations; and liaison experience between industry and government. A Ph.D. in science or engineering and scientific research experience relevant to the activities of Applied Science Division is strongly preferred.

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LAWRENCE BERKELEY LABORATORY

ASSISTANT PROFESSOR—BIOCHEMISTRY

The Department of Biochemistry at the Albert Einstein College of Medicine invites applications and nominations for a tenure-track position at the level of assistant professor. Responsibilities include development of a strong, independent research program, participation in the teaching programs, and training graduate students. Applicants should submit curriculum vitae, with a summary of present and future research interests, and request three letters of recommendation be mailed directly to: Dr. J. Marmur, Department of Biochemistry, ALBERT EINSTEIN COLLEGE OF MEDICINE, 1300 Morris Park Avenue, Bronx, NY 10461. An Equal Opportunity Employer.

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AQUATIC BIOLOGIST to serve as MUSEUM SERVICES COORDINATOR

Responsibilities—maintain permanent exhibits. Direct new collaborative museum/school science program of national significance. Develop display media for this regional science museum. **Qualifications**—M.S. or Ph.D. in aquatic biology with concentration in limnology. Excellent communication skills. Energy and creativity. Field research and teaching experience. Prefer museum experience, artistic talent, and natural history or ecology background. **Application Information**—starting salary \$18,000 to 23,000, housing benefits. Send curriculum vitae, letter of interest, and references to: J. Holdsworth, Thames Science Center, Gallows Lane, New London, CT 06320. Interviews begin 2 September.

ASSISTANT PROFESSOR. The Department of Medicine at Brigham and Women's Hospital and Harvard Medical School, Boston, Massachusetts, is seeking applicants with a Ph.D. degree in biochemistry or physiology for an assistant professor in the Division of Vascular Medicine and Atherosclerosis, and Molecular and Cellular Vascular Research Laboratories. The position requires at least 6 years of postdoctoral experience in basic research in the biochemistry of the blood vessel wall. The individual selected will be expected to conduct independent research and supervise the biochemistry section of the laboratory. Recognized excellence in basic investigation and in teaching are deemed essential. Send curriculum vitae and references to: Dr. Victor J. Dzau, Chief, Division of Vascular Medicine and Atherosclerosis, and Molecular and Cellular Vascular Research Laboratories, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115. Women and members of minorities are encouraged to apply.

ASSISTANT PROFESSOR OF GENETICS TEMPORARY POSITION

The Department of Biology, University of Virginia, is seeking an experienced instructor to teach a one-semester course in genetics for undergraduate biology majors during the spring semester, 1987. The successful candidate will be expected to have a Ph.D. in genetics (or a closely related field) and prior experience teaching at this academic level. Opportunity for research collaboration with genetics faculty, as well as the availability of a teaching appointment for the full 1986 to 1987 academic year are possibilities within this opening. Applicants should submit curriculum vitae and three letters of recommendation by 29 August to: Genetics Teaching Committee, Department of Biology, Gilmer Hall, Charlottesville, VA 22901. Affirmative Action/Equal Opportunity Employer.

A 12-month, tenure-track **FACULTY POSITION** at the assistant or associate professor level at the College of Forest Resources, University of Washington, in forest soils is available immediately. Candidates should have a Ph.D. in soil science or forestry with specialization in soil/chemistry/plant nutrition. A strong background in soil chemistry and the ability to apply this discipline to forest soil problems, including nutrition of forest vegetation, is required.

Responsibilities include teaching undergraduate and graduate courses in forest soils, soil chemistry and mineral nutrition, and participating in continuing education programs. The successful applicant is expected to develop independent research programs in forest soils and to cooperate with ongoing research in the areas of nutrient circulation, forest fertilization, soil genesis, environmental chemistry, and forest health. Supervision of the College Soil and Plant Analysis Facility is also expected.

To apply, send a current curriculum vitae and three letters of reference to:

Professor David Manuwal
Search Committee Chairman
Division of Forest Resources Management
College of Forest Resources, AR-10
University of Washington
Seattle, WA 98195
Telephone: 206-543-1585

To ensure full consideration, applications should be received by 30 September 1986.

The University of Washington is an Equal Opportunity/Affirmative Action Employer. Female and minority candidates are encouraged to apply.

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR OF POSTHARVEST HORTICULTURE

Tenure-track (70 percent research; 30 percent teaching) in the Department of Horticulture, University of Illinois. Qualifications include a Ph.D. and significant knowledge of postharvest horticulture. The successful candidate will teach a postharvest course, advise students and develop a research program aimed at strengthening the ability of the horticulture industry to handle, store, and ship its products. Send curriculum vitae, list of publications and transcripts, and names of three references to: Dr. John S. Titus, University of Illinois, 125 Mumford Hall, 1301 West Gregory Drive, Urbana, Illinois 61801.

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

ASSISTANT RESEARCH ENDOCRINOLOGIST. Molecular biologists are invited to apply for a position to investigate the molecular and cellular biology of peptide hormone receptors. Ph.D. in the biological sciences is required and relevant postgraduate experience is highly desirable. Experience required in recombinant DNA technology and peptide hormone receptor biochemistry, molecular biology, and function. Salary related to established schedule of University of California, San Diego (UCSD) research series. Send curriculum vitae and names of two references within 3 weeks to: L. J. Deftos, M.D., Endocrine Section (V111C), Department of Medicine, University of California, San Diego, California 92093. The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT RESEARCH SCIENTIST position is available immediately for a recent Ph.D. in cell and molecular biology to study the structure, function, and mutagenesis of APRT gene in mammalian cell. Successful candidate must have a good background in cell genetic and peptide immunochemistry with some experience in recombinant DNA techniques. Salary will be \$21,000, plus fringe benefits. Send curriculum vitae, list of publications, a short statement of research interests, and the names of three references to: Georgia Department of Labor, 601 Green Street, Augusta, GA 30913. Control number GA 5161529. Equal Employment Opportunity/Affirmative Action Policy.

SLOVER CHAIR IN PHYSICAL OCEANOGRAPHY. The Department of Oceanography at Old Dominion University invites applications for the Slover chair in physical oceanography. This is the first of a series of new fully funded chairs which will be filled over the next 3 years as the result of an endowment to the Department of Oceanography. The appointment will be at the professor level. The successful candidate will be expected to have made significant contributions based on research and publications, as well as program funding in the area of physical oceanography. The specific research interest of the applicant is not specified at this time other than it should fit the overall broad goals of our growth plan.

The department has been selected by the university for special emphasis and physical oceanography in particular has been singled out for enhancement. During this period of growth, we anticipate hiring five physical oceanographers with interests ranging from descriptive to theoretical and including the areas of remote sensing and acoustics. At the end of the 5-year period, we would have ten fully funded positions in physical oceanography.

Interaction with colleagues in the Departments of Computer Science, Mathematics, Physics, and the College of Engineering and Technology and at local Navy, NOAA, and NASA establishments is encouraged. Local facilities include VAX and IBM computers and small vessels. Funds are available for equipment acquisition and space renovation.

Applicants must have an earned doctorate. Salary is negotiable, depending on qualifications. To apply, please send a résumé, names of three references, and a brief statement of research interests by 15 September 1986 to: Dr. Larry P. Atkinson, Physical Oceanography Search Committee, Department of Oceanography, Old Dominion University, Norfolk, VA 23508. For additional information, contact: Dr. Atkinson at 804-440-4926.

Old Dominion University is an Affirmative Action/Equal Opportunity Institution.



Biosensor Breakthrough

Molecular Devices Corporation patented revolutionary silicon sensor technology this May. Our proprietary approach allows on-site analyses of ions, enzymes, drugs, proteins, and bacteria on the same sensor within minutes. Grow with Molecular Devices in one of the following positions as we develop assay methods to take advantage of our technology:

Assay Development

Chemist with enzyme label experience, preferably paper or membrane based.

Microbiologist with experience in micro organism metabolism and physiology, preferably with knowledge of antibiotics and clinical microbiology.

All degree levels in Biochemistry, Immunology, Enzymology or Microbiology will be considered. At least 2 years' academic or industrial assay development experience is required, and the ideal candidate will have taken research through to development.

To apply, please send your résumé to Human Resources, Molecular Devices Corporation, 3180 Porter Drive, Palo Alto, CA 94304. An equal opportunity employer.



Molecular Devices

BIOCHEMISTS/ IMMUNOLOGISTS

Diagnostic Technical Product Development

Abbott Laboratories continues to strengthen its position in the health care products industry. Now \$3.5 billion strong, the success of our world leading Diagnostic Division has been tremendous, becoming our fastest growing market segment. Continuing development has led to the need for Scientists to support and enhance our efforts.

These positions will involve production scale-up and market support of functional benchtop immunoassays. Duties include reformulation and scale-up of new and existing assays, sourcing and purification of poly and monoclonal antibodies, conjugation of antibody with enzymes, and solid-phase immobilization of antibodies and antigens. We require a Ph.D. in Biochemistry or Immunology. The ability to troubleshoot manufacturing and customer problems, and work with diverse project teams also required. Some experience in the technical support of immuno-diagnostics preferred.

Abbott provides an exceptional scientific environment, and excellent salaries with full benefits including profit sharing and stock purchase plan. We are headquartered in an attractive suburban location just 30 miles north of Chicago on the Lake Michigan shoreline. For confidential consideration, please send your resume to: **Sue Hart-Wadley/Corporate Placement, Dept. S/8-15.** Abbott is an Affirmative Action Employer.

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ABBOTT PARK IL 60064

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Film (right-reading, emulsion face down) or full camera ready art and insertion order must reach: SCIENCE, Short Close Desk, 1515 Broadway, New York, NY 10036 by NOON Mondays (except for legal holidays when material must reach New York by Noon Fridays). Because space is limited, the four-day close page will be reserved on a first-come, first-served basis, at a 15% premium.

Now you don't have to wait to find the researchers you need immediately, nor must you advertise in a Sunday paper that pans a lot of sand, but not much gold. Scientific employers know that SCIENCE ads fill the job better. Now they fill it faster too.

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CURRENT DISTRIBUTION 160,000

Two Faculty Positions

The Marine Sciences Research Center seeks to fill two faculty positions; one at an assistant professor level, the other at the associate or full professor level. One appointment shall be made in physical oceanography, the other in marine geology. Both individuals should be coastal marine scientists; an expertise in estuaries is desired. The rank for the appointment in each field has not been pre-determined, but one appointment must be at the assistant professor level and the other at a more senior level.

The senior appointment shall be tenured and shall serve as the Center's Associate Director for Research. The initial term as Associate Director for Research is three years, and may be renewed. The incumbent will serve as the Center's Acting Director for the 1987-88 academic year during the Director's leave. Candidates for the Associate Directorship should hold a Ph.D., have an international reputation as a scholar in one of the area(s) of coastal/estuarine oceanography mentioned above, and have appropriate administrative experience. A broad perspective of the marine sciences is essential. The Associate Director for Research plays a leading role in the development of the Center's research programs and is expected to carry on an active research program of his/her own.

The assistant professor appointment shall be for three years on a tenure-track state line. Each appointment carries full support for the academic year, and may be supplemented by up to 28% of the academic year salary for summer salary, through the individual's own grants and contracts.

The senior line shall be filled first. Selection of this individual shall determine the field for the junior appointment. The senior position will be available as early as January 15, 1987 and no later than July 1, 1987; the assistant professor position will be available September 1, 1987.

The MSRC is the center for research, graduate education and public service in the marine sciences for the entire State University of New York system. The MSRC is a comprehensive coastal oceanographic institution.

Applications and nominations are invited. Applicants should send a complete resume and names of three references by September 30, 1986 to: D.W. Pritchard, Marine Sciences Research Center, SUNY Stony Brook, Stony Brook, NY 11794-5000.

SUNY Stony Brook is an affirmative action/equal opportunity educator and employer. AK# 153-A.



National Research
Council Canada

Conseil national
de recherches Canada

1987 RESEARCH ASSOCIATESHIPS

for research in science and engineering in the laboratories
of the NATIONAL RESEARCH COUNCIL OF CANADA

The National Research Council is Canada's leading federal research organization. NRC's laboratory projects cover most areas of the physical sciences, natural sciences and engineering.

Applicants for Research Associateships should have recently acquired a Ph.D. in the natural sciences or a Master degree in an engineering field or expect to obtain the degree before taking up the Associateship.

Associateships are open to nationals of all countries although preference will be given to Canadians.

Research Associates will be offered appointments to the staff of the National Research Council on a term basis and will be offered salaries and benefits currently available to members of the continuing staff. As a guide, the current Ph.D. recruiting rate is \$31,423 per annum.

The initial appointment will normally be for a two-year term and may be renewed, subject to the Associate's performance and subject to the requirements of the Division.

Special Application forms may be obtained from the Research Associates Office, National Research Council of Canada, Ottawa, Ontario, Canada, K1A 0R6.

Closing date: 30 November 1986

Canada



Natural Sciences and Engineering
Research Council of Canada

Conseil de recherches en sciences
naturelles et en génie du Canada

RESEARCH FELLOWSHIPS 1987

The Natural Sciences and Engineering Research Council of Canada (NSERC) offers research fellowships to expand career opportunities for a select number of very promising researchers in the natural sciences and engineering. These awards are tenable in universities or industries in Canada commencing in 1987.

Eligibility	Canadian citizens or permanent residents of Canada holding a doctorate in science or engineering, preferably with post-doctoral research experience of not more than five years.
Nature of Appointment	Fellows will be employees of the university or industrial firm for the duration of the award and will be engaged in research, development, or innovation activities.
Duration of Appointment	a) University Research Fellowships: Up to five years based on satisfactory performance; possibility of renewal for a second 5-year term. b) Industrial Research Fellowships: Up to three years based on satisfactory performance.
Remuneration	a) University Research Fellowships: Salary is determined by the university; NSERC will reimburse the university up to \$30,500 per annum towards the cost of each fellow's salary; fellows will receive a three-year research grant. b) Industrial Research Fellowships: Salary is determined by the industrial firm.
Application Procedures	Contact the Canadian university or industrial firm of your choice to carry out appropriate negotiations concerning research plans, terms and conditions of appointment, salary, etc. Nominations must be submitted to NSERC by universities or industrial firms, as the case may be. Applications submitted directly to NSERC by candidates cannot be accepted.
Date of Submission	a) 1 November 1986 for University Research Fellowships b) anytime for Industrial Research Fellowships

For more information, contact the:

Research Fellowships Officer
Natural Sciences and Engineering Research Council
200 Kent Street
Ottawa, Ontario
K1A 1H5
Telephone: (613) 996-2009

Canada

POSITIONS OPEN

BIOCHEMIST/CELLULAR- MOLECULAR BIOLOGIST

Opening for three grant-supported research positions at Oakland University. (i) cell biologist to work on a collaborative project with the General Motors Corp. involving toxic effects of hydrocarbons on the kidney. (ii) biochemist, and (iii) molecular biologist to work on NIH-supported projects on hormone and age-dependent regulation of hepatic gene expression. Requirements include Ph.D. with research experience in cytochemistry and electron microscopy (position number i), tissue culture, protein purification and receptor analysis (position number ii), nucleic acid biochemistry and molecular cloning (position number iii). Salary competitive. Send curriculum vitae and names of three references to:

Dr. Arun K. Roy
Professor of Biological Sciences
Oakland University
Rochester, Michigan 48063

Oakland is a state supported university and an Equal Opportunity/Affirmative Action Employer.

CELL BIOLOGIST/PATHOLOGIST/IMMUNOLOGIST MEDIATORS OF PATHOGENESIS

McMaster University, Faculty of Health Sciences, is seeking an assistant professor who will develop a strong research program in the biochemistry and cell biology of chemical mediators of inflammation. The faculty has a number of multidisciplinary research groups working in complementary areas such as: mucosal immunology; inflammation of the gastrointestinal and respiratory tracts; and mechanisms of thrombosis. Start-up funds are available.

Individuals with experience in the biochemistry and/or cell biology of products of the arachidonate cascade and with at least 2 years of postdoctoral experience should apply.

In keeping with Canadian employment and immigration regulations, this advertisement is directed especially to Canadians.

Applicants should send a complete curriculum vitae and the names of at least two references to: Dr. B. J. Underdown, Associate Dean (Research), McMaster University, 1200 Main Street West, HSC-3N7, Hamilton, Ontario, Canada L8N 3Z5.



CLINICAL RESEARCH EXPERIENCE?

Do you have at least 5 years of experience in pharmaceutical clinical research, with expertise in all phases of clinical investigation, protocol, IND and NDA preparation, and clinical monitoring, and a thorough background in research and development within the pharmaceutical industry? Are you self-motivated and have the ability to motivate others? Is your background in clinical investigation broad, with experience in a number of different therapeutic areas? Are you interested in getting in on the ground floor of a recently established drug development group?

If your answers to these questions are yes, then Nova Pharmaceutical Corporation would very much like to review your résumé. Our clinical research unit has an opening for a leader in clinical investigation, in a group which will grow dramatically in the near future. Initial responsibilities include preparation of regulatory documentation, helping design developmental studies, and monitoring both clinical and certain off-site preclinical studies. This is a unique opportunity to enter and help structure a new clinical research unit.

Nova offers competitive salaries and an excellent benefits package. For further information, please enclose a current résumé with salary requirements to:

Mrs. Lydia K. Battaglia
NOVA PHARMACEUTICAL CORPORATION
5210 Eastern Avenue
Baltimore, Maryland 21224-2788

An Equal Opportunity Employer

POSITIONS OPEN

CHAIRPERSON DEPARTMENT OF MICROBIOLOGY MEHARRY MEDICAL COLLEGE

Meharry Medical College, School of Medicine, invites applications and nominations for the position of professor and chairperson of the Microbiology Department. The department seeks continued strong leadership with the opportunity to expand into new areas of research emphasis. Candidates should hold the M.D. or Ph.D. or equivalent degree and have a demonstrated commitment to excellence in research and teaching and a proven record in obtaining extramural funding in research. The department currently focuses on immunology and host-parasite interactions, regulation of gene expression, and the molecular and genetic basis of pathogenicity. The department is well-equipped and has major funding from NIH, as well as training grants available. Excellent salary, space, and start-up funds will be provided. Applicants should send curriculum vitae, letter of application, and the names of five references prior to 30 September 1986 to: Dr. George C. Hill, Chairperson, Microbiology Search Committee, Department of Microbiology, Meharry Medical College, Nashville, TN 37208; telephone: 615-327-6193. *An Equal Opportunity/Affirmative Action Employer.*

DEAN COLLEGE OF PHARMACY UNIVERSITY OF NEBRASKA MEDICAL CENTER

Applications and nominations are invited for the position of dean of the College of Pharmacy. The college is one of nine major units of the Medical Center. It offers the doctor of pharmacy degree as the sole professional degree. M.S. and/or Ph.D. degrees are offered through the Pharmaceutical Sciences Graduate Program. Graduates of an accredited college of pharmacy are preferred. Applications with a current curriculum vitae and the names of at least three references or letters of nomination should be submitted no later than 15 October 1986 to: Dr. Rosalee C. Yeaworth, Dean, College of Nursing, and Chairman, Advisory Search Committee, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, NE 68105.

An Equal Opportunity/Affirmative Action Employer

DIRECTOR, RADIOBIOLOGY LABORATORY

The University of Utah School of Medicine invites applications and nominations for the position of director of the Radiobiology Laboratory. This organization has been in existence since 1951 and is funded primarily by the Department of Energy. The individual chosen will have a distinguished record of scholarship and professional achievement as evidenced by publications and grant awards appropriate for a professorial appointment. Evidence of administrative skills is essential. The director will be responsible for expanding the role of the laboratory from current toxicity studies of heavy radionuclides in dogs into appropriate areas of molecular and cellular biology and genetics. Applicants should submit a letter of application, curriculum vitae, and names of three references to: Walter Stevens, Ph.D., Associate Dean for Research, School of Medicine, Room 1C104 Medical Center, 50 North Medical Drive, University of Utah, Salt Lake City, UT 84132. Deadline for applications is 30 September 1986. *Equal Opportunity/Affirmative Action Employer.*

EPITHELIAL CELL BIOLOGIST

McMaster University, Faculty of Health Sciences, is seeking an assistant professor who will develop a strong research program in the function and integrity of the mucosal epithelium. The faculty has a number of multidisciplinary research groups working in complementary areas such as: mucosal immunology; inflammation of the gastrointestinal and respiratory tracts; protein transport, virology. Applicants should have 2 years of postdoctoral training and experience or interest in the cell biology of epithelial cell lines and their genetic manipulation.

In keeping with Canadian employment and immigration regulations, this advertisement is directed especially to Canadians.

Applicants should send a complete curriculum vitae and the names of at least two references to: Dr. B. J. Underdown, Associate Dean (Research), McMaster University, 1200 Main Street West, HSC-3N7, Hamilton, Ontario, Canada L8N 3Z5.

POSITIONS OPEN

CHEMIST

Specialist in gas chromatograph-mass spectrometer (GC-MS) interpretation, instrumentation, troubleshooting, and computerized data handling. Reviews contracts, reports, and position papers related to Superfund and DERP. Writes review comments on a variety of topics concerning hazardous wastes. Reviews organic analytical data, especially GC-MS or GC, current EPA methods, and the capabilities of the available instruments. Inspects commercial, contractor, and division laboratories supporting Superfund and DERP projects for testing capabilities. Ph.D. in chemistry desired. Must be a U.S. citizen.

Starting salary is \$31,619 per annum.

For additional information concerning qualification requirements and application procedures, telephone: collect (Mrs. Richey) 402-221-4525.

District Engineer
U.S. Army Engineer District, Omaha
Attention: Personnel Office (MROPO-R)
1612 U.S. Post Office and Courthouse
Omaha, Nebraska 68102-4978
An Equal Opportunity Employer

DEPUTY DIRECTOR OFFICE OF ENVIRONMENTAL PROCESSES AND EFFECTS RESEARCH WASHINGTON, DC \$61,296 TO \$68,700

U.S. Environmental Protection Agency (EPA) is seeking highly qualified candidates for the position of deputy director, Office of Environmental Processes and Effects Research (OEPER). OEPER is responsible for the development of scientific methods and data necessary to understand, predict, and manage the entry, movement, and fate of pollutant effects on the food chain, as well as their effects on nonhuman organisms and ecosystems. The deputy director is responsible with the director for an interdisciplinary Washington staff and support to six major EPA environmental research laboratories.

To meet the requirements of the position, applicants must have research management experience and a bachelor's or higher degree in the life sciences and must meet the technical and executive qualifications described in the vacancy announcement. Telephone or write for a copy of the vacancy announcement to: Edna Morse, Environmental Protection Agency, SES and Executive Resources Unit, PM-224, 401 M Street, SW, Washington, DC 20460. The telephone number is 202-382-3328.

Applications must be postmarked by 12 September 1986.

EPA is an Equal Employment Opportunity Employer.

ORGANIC CHEMISTRY TEXAS A&M UNIVERSITY

Applications and nominations are invited for a tenure-track FACULTY APPOINTMENT in any area of organic chemistry at the assistant professor level, effective September 1987. Candidates must have a Ph.D. and preferably 1 to 2 years of postdoctoral experience. Appointments at the level of associate or full professor will also be considered for established investigators. Applicants must submit curriculum vitae, outline of research plans, and three letters of recommendation by 15 October 1986 to: Head, Department of Chemistry, Texas A&M University, College Station, Texas 77843. *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION, PATHOLOGY. Applications are invited for a senior faculty position in the Department of Pathology to direct the Anatomic Pathology Section in the Department of Laboratory Medicine at the Ottawa General Hospital affiliated with the University of Ottawa. The director of anatomic pathology should be boarded in anatomic pathology with an expertise in some subspecialty of pathology. *In accordance with the Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.* Applicants should submit their curriculum vitae and the name of three references to: Samuel W. French, M.D., Professor and Chairman, Department of Pathology, Faculty of Health Sciences, University of Ottawa, 451 Smyth Road, Ottawa, Ontario, Canada K1H 8M5.

The Marine Biological Laboratory
Woods Hole, Massachusetts

DIRECTOR

Distinguished biologist with substantial administrative experience and broad interests in biology to direct year-round research institution with large, pre-eminent summer teaching program. Salary competitive. Term of initial appointment five years, to begin anytime between November 1986 and August 1987. Send letter, *curriculum vitae*, and names of at least three references to:

**Chairman, Search Committee
Marine Biological Laboratory
Woods Hole, MA 02543**

The MBL is an equal opportunity/
affirmative action employer.



Postdoctoral Research Position

To participate in ongoing research into the biochemical mechanisms of transformation by the DNA tumor viruses, SV40 and polyoma virus. Studies involve the generation and characterization of mutant forms of the transforming proteins with the aim of identifying domains which contribute to oncogenic transformation. Approaches include *in vitro* mutagenesis, gene fusion and expression and biochemical analysis. Experience with DNA manipulation and cell culture is desirable. Initial assignment is for two years.

Interested applicants should send curriculum vitae and names and addresses of three references to: Dr. Alan E. Smith at Integrated Genetics, Inc., 31 New York Avenue, Framingham, MA 01704.

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COMPUTATIONAL CHEMISTRY ASSOCIATE (BS/MS)

The Pharmaceutical Research and Development Division of The Upjohn Company, located in Kalamazoo, Michigan has an opening in its Computational Chemistry Unit involving research in extending computational methods for molecular modeling, and in applying those methods to the study of small molecules and macromolecules of interest.

The responsibilities include graphics programming, algorithm development, engaging in research collaborations with scientists from many different disciplines, and some training of other scientists in the use of the graphics systems. Responsibilities also include participation in the development of novel artificial intelligence methods for computer assisted drug design. The successful candidate will have a B.S. or an M.S. degree in chemistry, biochemistry, or a related field. A strong background in organic or biochemistry and some programming experience are required.

Upjohn offers a stimulating research environment, opportunity for career growth, competitive salary and benefits, and relocation assistance. Kalamazoo, a mid-sized Michigan community, provides a rich mix of cultural, educational and recreational pursuits.

For confidential consideration, please call toll free 1/800/253-8600, ext. 3-6767, (inside Michigan call collect 616/323-6767) to request an employment application be sent to you. Please refer to Ad Number 19595-B when calling.



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Government
of Canada

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du Canada

VISITING FELLOWSHIPS IN CANADIAN GOVERNMENT LABORATORIES 1987-88

The Government of Canada offers visiting fellowships in Canadian Government Laboratories to provide promising young scientists with the opportunity to work with well-established research groups and leaders in their fields. These fellowships are tenable in the laboratories of the following departments and agencies:

Agriculture Canada
Atomic Energy of Canada Limited
Communications Canada
Energy, Mines and Resources
Environment Canada

Fisheries and Oceans Canada
Health and Welfare Canada
National Defence
National Museums of Canada
National Research Council Canada

Eligibility: Applicants should have received a doctorate from a recognized university within the last five years or a master's degree followed by at least two years of research experience and a demonstrated capability to conduct independent research.

There are no citizenship restrictions. However, successful candidates who are not Canadians or permanent residents of Canada must satisfy Canadian immigration requirements.

Stipend: Fellowships have an annual value of \$26,760 (under review) plus a travel allowance.

Duration of Tenure: Appointments are made for one year; renewals for a second year are possible.

Application Procedures: The deadline for receipt of applications is December 15, 1986. Information regarding application procedures may be obtained from:

**Visiting Fellowships Officer
Natural Sciences and Engineering Research Council
200 Kent Street
Ottawa, Ontario
Canada
K1A 1H5
Telephone: (613) 996-4363**

Canada

POSITIONS OPEN

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

DIRECTOR

Patrick Center for Environmental Research

The Academy's Division of Environmental Research seeks qualified candidates to fill the position of director of the Patrick Center for Environmental Research in Philadelphia. Candidates must possess an earned doctorate in the aquatic sciences, and a strong record of scholarship and research. The successful candidate must have the leadership qualities to direct program development for both applied and basic research and a record for developing diverse funding sources for research programs.

Compensation will be commensurate with qualifications and experience. Send (i) curriculum vitae, (ii) statement of professional goals, and (iii) the names and addresses of at least four references to: **Dr. Louis E. Sage, Vice President, Academy of Natural Sciences of Philadelphia, Philadelphia, PA 19103**, by 15 September 1986.

An Equal Opportunity Employer.

DIRECTOR, MASS SPECTROMETRY CENTER

The College of Medicine, University of South Alabama, is seeking a highly qualified spectroscopist faculty member to operate the Mass Spectrometry Center. This individual will occupy a tenure-track position at a rank commensurate with experience, in a Basic Medical Science Department that best fits his or her training and interest. The director must be an established spectroscopist/investigator who is competitive for extramural grant support and interested in directing the total operation of the service aspects of the center. The director will have half-time to pursue his/her own research. The appointment director will participate in selection of the instrument (magnetic sector or triple quadrupole, with LC, GC, and FAB) and organizing the service facility. Candidates are invited to send curriculum vitae, an outline of proposed research, and names of three references to: **Dr. June Ayling, Chairperson, Search Committee, College of Medicine, MSB 3130, University of South Alabama, Mobile, AL 36688**.

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

DIRECTOR CLINICAL LABORATORIES. The University of Wisconsin-Madison Medical School and University of Wisconsin Hospital and Clinics, a 536-bed teaching hospital with 70 plus outpatient clinics, are seeking a director of clinical laboratories. Candidates should have demonstrated experience in clinical laboratory administration and have academic credentials commensurate with appointments at the tenure level in the Medical School Department of Pathology and Laboratory Medicine. In particular, the candidate must possess exceptional managerial skills and be able to stimulate the development and transfer of new methodologies to the clinical setting. Individuals should have a record of creative and productive research in laboratory medicine and be committed to the training of residents and fellows in the hospital laboratories.

Applicants should send curriculum vitae and list of references to: **Richard Hong, M.D., UW Hospital and Clinics, 600 Highland Avenue, K4/434, Madison, WI 53792**.

To guarantee full consideration, applications should be received by 31 October 1986. Applications will be accepted until an appointment is made. Screening of applications will begin in September 1986. *The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.*

HEAD, DEPARTMENT OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS. The Louisiana State University Medical Center in New Orleans is seeking an exceptional individual to head its Pharmacology Department. We offer an unusual opportunity to build an academically outstanding department. Experience in directing an active and competitive research program and both teaching and administrative expertise are essential. Address correspondence to: **John J. Spitzer, M.D., Chairman, Search Committee, Department of Physiology, LSU Medical Center, 1901 Perdido Street, New Orleans, LA 70112**.

LSU is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

DIRECTOR, OFFICE OF RESEARCH AND SPONSORED PROGRAMS

The director will be responsible for review and approval of applications seeking extramural support; assist faculty in the development of proposals; liaison with the Grants and Contracts Administration and Development Office; supervise the activities of the executive secretaries of the IRB and Animal Care Committee; negotiation of research agreements with industrial sponsors; liaison with federal and private sponsors of research and training; development of a newsletter on grants opportunities and research policies; act as executive secretary of the Faculty Grants Program and provide staff assistance to the assistant vice president for research. Candidate should have 3 to 5 years of experience in research administration in an academic setting, be familiar with policies and programs of federal research sponsors, an advanced degree in the biological sciences, and have experience with electronic record keeping and word processing systems. Letters of application should include curriculum vitae, references, a statement of the candidate's accomplishments and philosophy toward academic administration; and should be sent to: **Leonard P. Paplauskas, Assistant Vice President for Research, University of Connecticut Health Center, Farmington, CT 06032**, no later than 15 September 1986.

An Affirmative Action/Equal Opportunity Employer, M/W/H.

ENVIRONMENTAL CHEMISTS: The Connecticut Agricultural Experiment Station has openings for two assistant scientists: one with training and experience in soil chemistry or soil physics to investigate processes that determine movement of pollutants in soil and water; the second with training and experience in physical organic chemistry to investigate processes that control persistence of low molecular weight halocarbons in soil and water. The scientists will be expected to initiate and conduct pioneering research in both the laboratory and field and to publish cogent reports. The positions are full-time research supported by station funds. Ph.D. in chemistry or closely related field. Send letter of application, résumés, transcripts, and the names of three references to: **Dr. Charles R. Frink, Chief, Department of Soil and Water, The Connecticut Agricultural Experiment Station, P.O. Box 1106, New Haven, CT 06504-1106**. *An Equal Opportunity/Affirmative Action Employer.*

The Institute for Environmental Studies at Louisiana State University is seeking outstanding applicant to fill a senior level tenure **FACULTY POSITION**. It is anticipated that the applicant's primary area of research should encompass organic geochemistry with emphasis on studying the processes involved in the movement and disposition of natural and man-made organic chemicals in the biosphere. Applicants with demonstrated research achievements in related areas of environmental studies will also be considered. Scientists interested in this position must be able to demonstrate excellence in research and teaching, including proven ability to attract support for their research endeavors. Please send résumé, brief description of research interest and support, and three letters of recommendation to: **Professor E. B. Overton, Director, Institute for Environmental Studies, Room 42 Atkinson Hall, Louisiana State University, Baton Rouge, LA 70803**. *LSU is an Equal Opportunity Employer.*

FACULTY POSITION IN DEVELOPMENTAL PHARMACOLOGY. The Department of Obstetrics and Gynecology of Cleveland Metropolitan General Hospital and the Perinatal Clinical Research Center of Case Western Reserve University invites applications for a research position in clinical pharmacology (M.D./Ph.D. or Ph.D.) available 1 July 1987. The successful applicant should have a strong background in clinical pharmacokinetics and developmental pharmacology. This person will be expected to support ongoing research in perinatal pharmacology and to develop an independent research program including extramural funding. Experience with large animal surgery and computer programming helpful. Rank and salary are flexible and commensurate with qualifications. Letters of application and curriculum vitae should be sent to: **Chairperson Search Committee, Department of Obstetrics/Gynecology, Cleveland Metropolitan General Hospital, 3395 Scranton Road, Cleveland, Ohio 44109**. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY POSITION IN GENETICS UNIVERSITY OF WASHINGTON

Applications are invited for an **assistant professor** position to begin in 1987 or 1988. Candidates should have a Ph.D. degree, postdoctoral experience, and demonstrated accomplishments in research. Areas of particular interest include genetic approaches to development, neurobiology, protein-nucleic acid interactions, and plant biology. Responsibilities will include teaching and research. Interested persons should send curriculum vitae, a description of research plans, and three letters of reference by 1 November 1986 to:

**Chairman, Search Committee
Department of Genetics, SK-50
University of Washington
Seattle, Washington 98195**

The University of Washington is an Equal Opportunity Employer.

FACULTY POSITION IN ORGANIC CHEMISTRY AT IOWA STATE UNIVERSITY

Applications are invited for this position which will become available either January 1987 or summer 1987. All research areas in organic chemistry will receive consideration. The appointment probably will be at the level of assistant professor; however, applications at all levels will be considered. Candidates with outstanding potential for, and commitment to, excellence in both research and teaching are sought to join a faculty with a strong tradition of research in organic chemistry. Applicants should submit curriculum vitae, transcripts, a documented summary of past accomplishments, and an explicit statement of research plans and teaching objectives to: **Professor D. K. Hoffman, Chemistry Department, Iowa State University, Ames, Iowa 50011**. Junior applicants also should arrange for at least three letters of recommendation to be sent. *Women and minority applicants are encouraged to apply. Iowa State University is an Affirmative Action/Equal Opportunity Employer.*

THE HEBREW UNIVERSITY HADASSAH MEDICAL SCHOOL JERUSALEM FACULTY AND POSTDOCTORAL POSITIONS

The Faculty of Medicine of the Hebrew University invites applications for tenure-track faculty positions and for Allon Fellowship candidates leading to tenure-track positions in all fields of the basic medical and pharmaceutical sciences. Ph.D. and/or M.D. degree and postdoctoral training are required. Excellence in research and teaching will be of prime importance in the decisions of the search committee. Candidates are expected to develop independent research. Applicants should send their curriculum vitae, list of publications, research plans, and three letters of recommendation to: **Mrs. D. Abramson, Office of the Dean, P.O.B. 1172, Jerusalem 91010, Israel**, by 15 November 1986.

Postdoctoral positions are also available. Submit curriculum vitae, list of publications, and two letters of recommendation to the above address by 15 November 1986.

MOLECULAR BIOLOGISTS

Crop Genetics International (CGI) is seeking energetic, innovative molecular biologists at senior and junior levels for its microbial pesticide program. The successful candidates will join a team of geneticists and pathologists developing an exciting, novel microbial technology for the protection of major crop plants from disease and predation. CGI is located south of Baltimore, MD, near the major research, educational, cultural, and recreational facilities of the Chesapeake Bay area. **Research scientist.** The successful candidate will have a Ph.D. in microbial genetics/biochemistry with recombinant DNA training and experience, specifically in the analysis and manipulation of bacterial transcription and translation. He/she will supervise DNA sequencing and site-directed mutagenesis. Familiarity with computers and sequence software is highly desirable. **Research assistant/associate.** The successful candidate will have a B.S. or M.S. in science and have had experience in recombinant DNA technology. Sequencing experience and computer familiarity highly desirable. Submit résumés in confidence to: **Dr. J. J. Anderson, Crop Genetics International, 7170 Standard Drive, Hanover, MD 21076**. *An Equal Opportunity Employer.*

**The University
Of Texas Health
Science Center
At Houston**

**DEAN
School Of
Public Health**

Applications and nominations are invited for the position of Dean of The University of Texas School of Public Health, the only School of Public Health in the State of Texas.

The Dean reports to the President of The University of Texas Health Science Center at Houston. The Dean promotes academic excellence and provides administrative leadership for the School. Degrees conferred are the Master of Public Health, the Master of Science, the Doctor of Public Health, and the Doctor of Philosophy.

The Dean is also responsible for assuring the admission of students who possess superior intellect and intellectual curiosity, and whose motivation is to anticipate the public health issues of the future and be prepared to solve them as they occur. The Dean is responsible for the quality and effectiveness of the instructional and research programs of the School.

Located in the Texas Medical Center, the School affords both the faculty and students a broad range of interdisciplinary academic and research exposure.

Applications and nominations will be accepted through **October 15, 1986**. Please provide the names, addresses and phone numbers of five professional references.

**Office of the President
The University of Texas
Health Science Center
at Houston
P.O. Box 20036
Houston, TX 77225**



An Equal Opportunity Employer -
Women and Minorities Are
Encouraged To Apply.

Research Manager, Biochemistry

Join a prominent team in plant biotechnology.

The Agricultural Biotechnology Research Unit of CIBA-GEIGY is seeking a dynamic research biochemist to serve as manager of the biochemistry department at its facility dedicated to plant biotechnology, located in Research Triangle Park, N.C.

The manager will coordinate the research efforts of scientists at the Ph.D. and M.S. level and supervise service facilities for protein chemistry, DNA chemistry and monoclonal antibody production. As a member of the management committee, you will participate in the direction of the research efforts of our Biotechnology facility.

We seek an individual with a strong background in protein and DNA chemistry and a working knowledge of molecular biology and immunological techniques. The successful candidate will have proven capabilities in research leadership, 5-10 years' experience as an independent investigator in an academic or industrial environment, and a Ph.D. in chemistry, biochemistry, molecular or cell biology.

In return for your expertise, you'll receive an excellent salary, a comprehensive benefits package and the opportunity to contribute to a highly professional and innovative environment. For prompt and confidential consideration, please forward your curriculum vitae to: Dr. Mary-Dell Chilton, Agricultural Biotechnology Research Unit, CIBA-GEIGY Corporation, P.O. Box 12257, Research Triangle Park, NC 27709-2257. An Equal Opportunity Employer m/f/h/v.

Progress Through Innovation

CIBA-GEIGY

Senior Pharmacologist

Wyeth Laboratories is a pacesetter in the development and production of biologicals, nutritionals and pharmaceuticals. We have an opening at our Corporate Headquarters in Radnor, PA for a Pharmacologist qualified for a major role in developing novel antihypertensive, diuretic and renal protective agents.

Responsibilities will include screening actions of compounds and determining mechanism of action using *in vitro* and *in vivo* techniques. Will use micro-puncture techniques to assess drug effects on glomerular hemodynamics; and will supervise and maintain the Section's renal unit—directing an Associate Pharmacologist. You will be expected to initiate new research programs to develop therapeutic agents for renal and cardiovascular disorders.

We require doctoral training in renal pharmacology/physiology plus 2-5 years postdoctoral training or relevant experience. Extensive experience in renal micro-puncture, especially for evaluation of glomerular hemodynamics is required; experience with isolated perfused kidneys and standard clearance techniques preferred.

We offer good salary, top associates and facilities, and a campus-like setting on the Main Line. For prompt, confidential consideration, send curriculum vitae with salary history to: **Personnel Manager, Wyeth Laboratories, Inc., P.O. Box 8299, Philadelphia, PA 19101**. An Equal Opportunity Employer, M/F/H/V responses encouraged.

Wyeth Laboratories, Inc.



POSITIONS OPEN

FACULTY POSITION IN MOLECULAR NEUROBIOLOGY

The Sanders-Brown Center on Aging and The Department of Medical Microbiology and Immunology at the University of Kentucky Medical Center invite applications for a tenure-track faculty position at the assistant professor level. We are seeking an individual with research interests and expertise in the area of molecular mechanisms of brain function, especially with respect to Alzheimer's disease. The position is a 12-month appointment with a competitive salary and negotiable starting date. Besides having relevant postdoctoral training, the candidate is expected to participate in a multidimensional research program, as part of the NIA-funded Alzheimer's Disease Research Center, and in teaching and training graduate students. Excellent support for research start-up, technical assistance, and equipment will be provided. The Center on Aging and the Medical Microbiology and Immunology Department have 24 faculty members with a strong history of federal funding and major research strengths in molecular biology, genetics immunology, and basic and clinical aspects of Alzheimer's disease. Interested individuals should apply by sending curriculum vitae, a brief statement describing proposed research, and three letters of reference to: **Dr. Jeffrey N. Davidson, Department of Medical Microbiology and Immunology, or to Dr. William R. Markesbery, Center on Aging, University of Kentucky College of Medicine, Lexington, KY 40536-0084.** *The University of Kentucky is an Equal Opportunity/Affirmative Action Employer.*

GROSS ANATOMY—NEUROSCIENCE

The Department of Anatomy, Loyola University of Chicago Stritch School of Medicine invites applications for a tenure-track position at the assistant professor level. Candidates should have completed the Ph.D. or M.D. degree and preferably have one or more years of postdoctoral training. The successful applicant must be qualified to teach human gross anatomy and will be expected to develop a strong research program in neuroscience. Send a letter of inquiry, curriculum vitae, and the names of three references by 1 October 1986 to: **Anthony J. Castro, Ph.D., Professor of Anatomy, Loyola University of Chicago, Stritch School of Medicine, 2160 South First Avenue, Maywood, IL 60153.** *Affirmative Action/Equal Opportunity Employer.*

MATERIALS DEVELOPMENT SCIENTIST

Applications are invited for a new position as research associate I in a program concerned with the development of optical materials and ultrafine composite layer-structures. The program will be concerned with calco-genide glasses prepared by laser and conventional processing; this will involve laser-assisted chemical vapor deposition. Elucidation of basic mechanisms will be undertaken using mathematical modeling.

The candidate should hold a Ph.D. degree in materials science/metallurgy and have experience with processing of materials using the carbon dioxide and excimer laser. Also required, expertise in materials characterization using optical and scanning electron microscope and the use of analytical transmission electron microscope, ability to do computer programming using Fortran. Salary \$25,000 per year. Apply to: **Dr. P. R. Strutt, Metallurgy Department, U-136, University of Connecticut, Storrs, CT 06268.** *An Equal Opportunity Employer, M/F.* (Search number 6G148)

THE UNIVERSITY OF CONNECTICUT

JUNIOR STAFF OR POSTDOCTORAL POSITIONS (two) available immediately in the Neurology Department, Henry Ford Hospital. Areas of research include photodynamic therapy, hyperthermia, ischemia, NMR, and radiation biology. Ph.D. in relevant area required. Salary and fringe benefits are competitive. Please send curriculum vitae and name of three references to:

Dr. F. W. Hetzel or Dr. M. Chopp
Department of Neurology
Henry Ford Hospital
2799 West Grand Boulevard
Detroit, MI 48202

POSITIONS OPEN

TRUDEAU INSTITUTE INC. ** SEARCH REOPENED **

Positions are available for qualified IMMUNOLOGISTS interested in establishing independent programs in the following areas:

- Basic cellular immunology
- Tumor immunology
- Transplantation immunology
- Immunity to infectious and parasitic diseases

Preference will be given to applicants interested in immunoregulation.

Appointment will be made at the level of assistant or associate professor, depending on the amount of postdoctoral experience and publication record. No teaching is required. The successful applicant will be guaranteed from 3 to 5 years of support, depending on the level of appointment, but will be expected to compete for outside funding. Campus housing is available.

The Trudeau Institute is a not-for-profit, pure research institute that specializes in studying the immunology of host defense mechanisms directed against a broad spectrum of diseases. It is located on the shore of Saranac Lake, in the Adirondack mountains, 8 miles from Lake Placid.

Send curriculum vitae and the names of three references to:

Robert J. North, Ph.D., Director
Trudeau Institute Inc.
P.O. Box 59
Saranac Lake, NY 12983

MOLECULAR BIOLOGISTS, IMMUNOLOGIST, AND CHEMIST

SOUTH DAKOTA STATE UNIVERSITY in an increased emphasis on basic research, is looking for outstanding candidates with a track record in extramural funding to conduct vigorous research programs and participate in graduate training in the following fields:

One or two **MOLECULAR BIOLOGISTS** who may relate to one or more of several subdisciplines,

One **IMMUNOLOGIST** experienced in contemporary techniques, and

One **CHEMIST** with extensive industrial experience for conducting research and fostering innovative links with industry.

These tenure-track positions require a Ph.D. or equivalent degree and may be filled at any of the professorial levels. Primary emphasis is on research with minor teaching responsibilities in advanced level courses. Salary negotiable.

Brookings is an east-central South Dakota community with easy access to the university and recreational pursuits, including lakes and a sunny four-season climate. The community is recognized for its high quality of life, excellent schools, and extensive parks/recreational activities in a crime safe environment.

If these positions match your abilities and career goals, we invite you to explore our expanded research ventures. Candidates should submit résumé, description of research interests and capabilities together with the names of four references to: **Dr. C. P. Sword, Director of Research, South Dakota State University, Brookings, SD 57006. Telephone: 605-688-4181.** Deadline for application is 15 September 1986, or until positions are filled.

South Dakota State University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

PEPTIDE CHEMIST

The Protein Chemistry Core Laboratory of Howard Hughes Medical Institute at Columbia University seeks an individual with at least a bachelor's degree in chemistry or biochemistry for a challenging position in a state-of-the-art core laboratory involved in peptide and DNA synthesis, micro-sequencing, and amino acid analyses. This individual should have experience with automated solid phase peptide synthesis and purification of resultant peptides. The successful applicant should be able to work well in a group setting which requires meticulous attention to quality control detail and documentation. Competitive salary with excellent benefits. Send curriculum vitae and names and addresses of two references to: **Dr. Hagan Bayley, Howard Hughes Medical Institute, Columbia University, 722 West 168 Street, New York, NY 10032.**

POSITIONS OPEN

Ph.D. OR POSTDOCTORAL IMMUNOLOGIST, ENTRY LEVEL. Broad based immunologist with particular interest/experience in cell-mediated immunity. Development of a research program to elucidate the immunologic mechanisms involved in contact and photocontact hypersensitivity and development of predictive biologic assays. Preference for Ph.D. in immunology, 0 to 4 years of industrial or postdoctoral experience, with interest in applying immunologic expertise towards problem solving. Send résumé and publication list to: **Dr. T. J. Logan, Manager, Ph.D. Recruiting, Immunologist Position, Procter & Gamble Company, P.O. Box 39175, Cincinnati, OH 45247.** *An Equal Opportunity Employer.*

X-RAY AND NEUTRON DIFFRACTION

Position available for a **Ph.D. SCIENTIST** trained in small-angle diffraction methods to collaborate on basic studies of the physical chemistry of model cell membrane systems. The work of the laboratory involves diffraction and NMR investigations of the interactions of peptides and small molecules with lipid bilayers. The person selected will initially undertake research directed at understanding the structural basis of hydration forces of bilayers. An opportunity exists for developing an independent research program. The appointment will be made at the postgraduate researcher or assistant research biophysicist level, depending upon the training and qualification of the candidate. Position must be filled by 1 January 1987, but earlier if possible. Applicants should submit curriculum vitae, representative publications, and the names of three references to: **Professor Stephen H. White, Chairman, Department of Physiology and Biophysics, College of Medicine, University of California, Irvine, CA 92717.**

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

PHYSIOLOGIST

The West Virginia School of Osteopathic Medicine (WVSOM) invites applications for a tenure-track appointment at the assistant professor level. Applicants should have a Ph.D. in physiology with background in systems and expertise in the cardiovascular system. Successful candidate will exhibit a strong commitment to teaching and should be capable of conducting an independent research program.

Applications, including a current curriculum vitae, and names of three individuals who can serve as professional references, should be sent to: **Chairperson, Physiology Search Committee, c/o Human Resources Office, WVSOM, 400 North Lee Street, Lewisburg, West Virginia 24901.** Deadline for receipt of applications is 30 September 1986. Preferred starting date is 1 January 1987.

WVSOM is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOWS

Two positions are available, one to study the modulation of biosynthesis of neuropeptides. Experience in protein separation, HPLC, and RIA desirable. Available 1 July. A second position is available to examine mechanisms of neuropeptide release using push-pull perfusion and in vitro perfusion. Background in neuroendocrinology, stereotaxic surgery and RIA desirable. Send curriculum vitae and three references to: **Dr. J. C. King, Department of Anatomy and Cell Biology, Tufts Medical School, 136 Harrison Avenue, Boston, MA 02111.**

POSTDOCTORAL FELLOW

Position available immediately for a suitable candidate to participate in an active and expanding program of molecular genetics and cytogenetics of human cancer. Successful candidate will participate in (i) studies of gene shifts associated with chromosome rearrangements in tumor cells using in situ molecular hybridization of gene probes to chromosome preparations and (ii) studies of gene expression by in situ RNA hybridization of gene probes to cell and tissue preparations. Training in modern chromosomal banding techniques and autoradiography essential. Apply with curriculum vitae, names of referees, and a statement of experience and interests to: **Dr. R. S. K. Chaganti, Head, Laboratory of Cancer Genetics and Cytogenetics, Memorial Sloan-Kettering Institute for Cancer Research, 1275 York Avenue, New York, NY 10021.**

ASSOCIATE CHIEF OF RADIATION MEDICINE

Develop research programs and protocols; implement research in radiation and nuclear medicine; and provide medical expertise in radiation accident management. Requirements: MD experienced (5 years) in clinical nuclear medicine and radiation medicine research as well as medical program management. Skills in effective writing, speaking and teaching are essential. Graduate training in radiation biology is highly desirable as is board certification in nuclear medicine. Send resume and salary history and requirements to:

Employment Office
Oak Ridge
Associated Universities
P.O. Box 117
Oak Ridge, TN 37831-0117

An Equal Opportunity Employer

SCIENTIST/ POSTDOCTORAL FELLOW

RETROVIRUS RESEARCH & PRODUCTION

Bionetics Research, Inc., a leading biomedical research & development company located in the greater Washington, DC area, is seeking a Virologist to perform the following technical and research functions in support of its expanding HTLV III production unit and outculturing laboratory.

- Develop techniques for virus quantitation and detection involved in biological, biochemical, and immunological characterization of HTLV III and related viruses.
- Provide scientific input to ongoing virus production facility.
- Review and monitor protocols for contract work and new commercial studies in retroviral research.
- Monitor large-scale production and purification of retrovirus, fostering total worker safety and high product quality.

Requirements include a PhD in Virology, Cell Biology or Immunology with experience in biological containment research.

To apply, please submit C.V. to:

Sharon Bushwaller
BIONETICS RESEARCH, INC.
5516 Nicholson Lane
Kensington, Maryland 20895

BIONETICS RESEARCH, INC.

BRI is an equal opportunity employer. Female and male applicants welcome.

CSIRO AUSTRALIA RESEARCH FELLOW A\$27,475-A\$40,410 PLANT MOLECULAR BIOLOGY DIVISION OF PLANT INDUSTRY CANBERRA ACT

The CSIRO Division of Plant Industry conducts research on problems fundamental to plant biology and agricultural production. One of the Division's programs involves research on the biochemical processes of photosynthesis and the development of herbicides that selectively inhibit photosynthesis.

DUTIES: The appointee will collaborate with scientists in the Division in a study of the regulation of gene expression in cereals by abscisic acid. This work involves construction of recombinant DNA clones and assays of gene expression in various plant systems.

QUALIFICATIONS: Applicants should have a PhD or equivalent qualifications, and proven research ability in molecular biology, preferably in a system involving plants.

TENURE: A term of three years with Australian Government superannuation benefits available.

APPLICATIONS: Stating relevant personal particulars, including details of qualifications and experience, the names of at least two professional referees and quoting reference No A4658, should be directed to:

The Chief
CSIRO Division of Plant Industry
GPO Box 1600
Canberra ACT 2601 AUSTRALIA
By September 12, 1986.

CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER

BIOCHEMIST/ MOLECULAR BIOLOGIST

Program Resources, Inc. has an immediate opening at the NCI-Frederick Cancer Research Facility, Frederick, MD for a Scientist in Biochemistry or Molecular Biology.

Selected candidate will perform collaborative research on the studies of Cro repressor-DNA interaction and regulation of gene expression of a selected gene. Research will involve cloning and biochemistry on a regulatory protein. This is a 1 year appointment subject to renewal.

This position requires a PhD in biochemistry or molecular biology; plus 1-3 years of experience in the research area described above.

Selected candidate will receive a salary commensurate with experience, a comprehensive benefits

package including a 401(K) Retirement Plan, and relocation assistance.

Please send a curriculum vitae, salary requirement, publications list, and the names and addresses of three references to:

M. Elizabeth Battle
Employment Representative
PROGRAM RESOURCES, INC.
NCI-Frederick Cancer
Research Facility
P.O. Box B
Frederick, MD 21701



PROGRAM
RESOURCES,
INC.

An equal opportunity employer m/f.

POSITIONS OPEN

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE. Ph.D. in biochemistry, physiology, cell biology, and so forth. To study receptor binding, second messengers, phospholipids, and ion fluxes during pancreas stimulus-secretion coupling in NIH-funded project. Résumé and references to: **Dr. Michael Steer, Department of Surgery, Beth Israel Hospital and Harvard Medical School, 330 Brookline Avenue, Boston, MA 02215.**

POSTDOCTORAL POSITION is available for a microbiologist/immunologist to conduct research investigating the respiratory disease in animals. Presently, ongoing studies include the isolation and characterization of capsular polysaccharide antigen, certain animal pathogens, along with investigation into the aerobiology of respiratory disease. A background in biochemical purification of cell products, transblotting techniques, and immunochemistry is desired. Candidate should have a doctoral degree and previous research experience. To apply send a letter of application, three letters of reference and curriculum vitae by 1 October 1986 to:

**Harvey D. Hilley, D.V.M., Ph.D.
School of Veterinary Medicine
North Carolina State University
4700 Hillsborough Street
Raleigh, NC 27606**

North Carolina State University is an Equal Opportunity Employer.

A **POSTDOCTORAL POSITION** is available in a combined clinical and basic science research program involving the quantification of Positron Emission Tomographic (PET) images and the development and use of formal mathematical models to investigate brain/behavior relationships. A strong background in multivariate statistical modeling and parameter estimation is preferred, although candidates with a background in physics and image processing will also be considered. Applicants should send curriculum vitae and at least two references to: **D. A. Rottenberg, M.D., Department of Neurology, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021.**

POSTDOCTORAL POSITIONS are available in the area of organization and regulation of genes specifying biodegradation of chlorinated compounds, desulfurization of coal, as well as in the production of exopolysaccharide alginate during infection of cystic fibrosis patients with *Pseudomonas aeruginosa*. Experience in molecular biology and protein biochemistry, particularly in DNA sequencing, S1 nuclease and reverse transcriptase mapping, site-directed mutagenesis, purification and conformational studies with enzymes, and so forth, is desirable. The projects are under the supervision of **Dr. A. M. Chakrabarty**. Send curriculum vitae and names of three references to: **Kenneth C. Johnson, University of Illinois at Chicago, Department of Microbiology/Immunology, E-703 MSA, 835 South Wolcott, Chicago, IL 60612. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION IN DEMOGRAPHIC AND POPULATION GENETICS. Immediate opening for an individual with a strong quantitative background and interest in demographic and genetic analysis of pedigrees, to collaborate with investigators in our Population Genetics Laboratory (**Drs. Bennett Dyke, Jean W. MacCluer, and Candace M. Kammerer**). Ongoing projects include demographic and genetic analyses of captive primate colonies, and studies of genetic correlates of fertility and of disease susceptibility in pedigreed animal and human populations. Please send résumé and names of three references by 22 August 1986 to: **Personnel Director, Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284.**

An Equal Opportunity Employer, M/F.

POSTDOCTORAL POSITION available immediately to study immune regulation in autoimmunity. Experience in molecular biology is preferred along with interest in immunology and neurobiology. Send curriculum vitae and names of references to: **Dr. Donard S. Dwyer, Neurosciences Program, University of Alabama at Birmingham, Birmingham, AL 35294. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION—Available immediately. The candidate should have recently completed the Ph.D. and have interest in bioorganic and enzyme mechanisms. The position requires demonstrated experience in organic synthesis, particularly in the areas of nucleoside/tide and heterocycle synthesis. Please send résumé to: **Dr. C. A. Caperelli, FOX CHASE CANCER CENTER, 7701 Burholme Avenue, Philadelphia, PA 19111. Equal Opportunity Employer.**

POSTDOCTORAL POSITION. Mechanotransducer ion channels and the cytoskeleton: multidisciplinary studies patch clamp, video-processed light and electron microscopy, immunology, and isotope flux measurements. Experience with some or all of above techniques required. NIH salary on long-term grant. Send curriculum vitae and references to: **Dr. Fred Sachs, Biophysics, 105 Parker Hall, State University of New York (SUNY), Buffalo, NY 14214. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS

Two postdoctoral positions are available to study the biochemistry of homologous genetic recombination and heteroduplex DNA repair in vitro. Individuals with experience in one or more of the following areas should apply: transfection/transformation of mammalian cells, retrovirus use in mammalian genetics, protein and DNA biochemistry. Send curriculum vitae and names of three references to:

**Personnel Administrator
Attention: Dr. R. Fishel
BRI-Basic Research Program
NCI-FCRF, BOX B, Building 428
Frederick, MD 21701-1013
Equal Opportunity Employer, M/F/H/V**

POSTDOCTORAL POSITION available beginning July 1987 to study nerve terminal membrane proteins which recognize synaptic extracellular matrix components. Experience with monoclonal antibodies, or protein biochemistry, or DNA methods preferred, but not required. Send curriculum vitae and three reference letters to: **Dr. Steven Carlson, Department of Physiology and Biophysics, University of Washington, Seattle, WA 98195. The University of Washington is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION to study developmental gene regulation in retina and lens. Projects involve gene splicing and nucleic acid chemistry. Please send résumé and references to: **Dr. Suraj P. Bhat, Vision Molecular Biology, Jules Stein Eye Institute, University of California School of Medicine, Los Angeles, CA 90024. Telephone: 213-825-9543. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately to study the function of m⁶A residues in eukaryotic and retroviral mRNA's. Initially, site-specific mutagenesis will be carried out at known m⁶A sites in Rous sarcoma virus RNA [*Mol. Cell. Biol.* 5, 2298 (1985)]. Experience with RNA and/or recombinant DNA preferred. Send curriculum vitae and three letters of reference to: **Karen L. Beemon, Ph.D., Department of Biology, Johns Hopkins University, Baltimore, MD 21218.**

POSTDOCTORAL POSITION available immediately to study a protein marker specific for carcinogenesis and tumorigenesis using biochemical, immunochemical, and recombinant DNA techniques. Laboratory experience related to two or more of these areas desired. Salary of \$20,000 plus, negotiable depending on experience. Send résumé to: **Dr. Thomas E. Webb, Ohio State University Comprehensive Cancer Center, 410 West 12 Avenue, Columbus, OH 43210.**

POSTDOCTORAL POSITION (Ph.D.)

In immunology/molecular genetics. Research focused on pathogenesis of diabetes mellitus and autoimmunity. Involves recombinant DNA, hybridoma, molecular cloning, and immunochemistry. Immediately available. Send curriculum vitae and references to: **Dr. S. Srikanta, Joslin Diabetes Center, Research Division, One Joslin Place, Boston, MA 02215. An Affirmative Action Employer.**

The MAX-PLANCK-GESELLSCHAFT ZUR FÖRDERUNG DER WISSENSCHAFTEN E.V.

announces the establishment of a

Clinical Research Group of the Max Planck Society at the Department for Clinical Immunology and Rheumatology, University of Erlangen-Nürnberg.

A JUNIOR SCIENTIST

is given the opportunity to independently establish this group and carry out a research program on the subject of

Pathobiochemical Mechanisms in Cartilage Destruction in close collaboration with the Department for Clinical Immunology and Rheumatology. The research program will focus on molecular biological and pathobiochemical mechanisms involved in cartilage destruction.

It is expected that the applicant has gained international reputation in the research fields of pathobiochemical and molecular biological aspects of collagen metabolism and/or cartilage destructive mechanisms. The project is outlined and the appointment will be made for a period of five years. Salary is according to group C 3 of the "Bundesbesoldungsgesetz".

Close collaboration with a second clinical research group entitled "Immuno-pathogenic Mechanisms in Reactive Arthritis and Rheumatoid Arthritis" is expected.

The group will have at its disposal approximately 200 m² research space and appropriate funding for scientific co-workers and technical supporting staff, equipment, and running costs.

Applications including curriculum vitae, list of publications, summary of present and planned research activities should be mailed by September 15, 1986, to the

**Max-Planck-Gesellschaft zur
Förderung der Wissenschaften e.V.
- Generalverwaltung -
Postfach 647
D - 8000 München 1**

The MAX-PLANCK-GESELLSCHAFT ZUR FÖRDERUNG DER WISSENSCHAFTEN E.V.

announces the establishment of a

Clinical Research Group of the Max Planck Society at the Department for Clinical Immunology and Rheumatology, University of Erlangen-Nürnberg.

A JUNIOR SCIENTIST

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Immuno-pathogenic Mechanisms in Reactive Arthritis and Rheumatoid Arthritis

in close collaboration with the Department for Clinical Immunology and Rheumatology. The research program will focus on molecular biological, microbiological and immunological mechanisms involved in the pathogenesis of reactive arthritis and rheumatoid arthritis. Special emphasis will be placed on the role of infectious agents involved in the triggering and perpetuation of joint destructive events.

It is expected that the applicant has gained international reputation in the research fields of either molecular biological aspects of immunogenetics and/or humoral and cellular immune reactivities involved in tissue destructive mechanisms. The project is outlined and the appointment will be made for a period of five years. Salary is according to group C 3 of the "Bundesbesoldungsgesetz".

Close collaboration with a second clinical research group entitled "Pathobiochemical Mechanisms in Cartilage Destruction" is expected.

The group will have at its disposal approximately 200 m² research space and appropriate funding for scientific co-workers and technical supporting staff, equipment, and running costs.

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**Max-Planck-Gesellschaft zur
Förderung der Wissenschaften e.V.
- Generalverwaltung -
Postfach 647
D - 8000 München 1**

MACROMOLECULAR CRYSTALLOGRAPHY

The Protein Engineering Group at Monsanto's World Headquarters and Research Center is seeking a Ph.D. Protein Crystallographer as part of its expanding research program in understanding protein structure-function relationships.

The successful candidate must have a Ph.D. in a relevant discipline and a strong background in the practical aspects of Protein Crystallography, including crystallization, data collection, structure solution and refinement and molecular modeling.

Responsibilities of this position emphasize collaboration with Monsanto scientists on problems of protein structure and design. This is an opportunity to work within a group of established Protein Crystallographers.

Monsanto, a leader in biotechnology, offers one of the best equipped crystallographic and molecular modeling laboratories in the country. Equipment includes two Rigaku 12 KW rotating anode X-ray generators with one AFC5 single counter diffractometer and a dual chamber area detector system with a dedicated VAX 11/750 computer. Computing facilities include a VAX 11/780 computer with two Evans and Sutherland PS300 graphics terminals, and an FPS-264 array processor.

Send resume and letter of reference to: **MONSANTO COMPANY; 800 N. Lindbergh Blvd.; Mail Code 02G; Box MAS; St. Louis, MO 63167.** An Equal Opportunity Employer M/F/H/V.

Monsanto

Postdoctoral Scientist Cell Biology

The Cell Biology Department of Smith Kline & French Laboratories, located in suburban Philadelphia, Pennsylvania, is seeking a postdoctoral scientist interested in developing clinical diagnostic assays using Flow Cytometry; preparing immunochemical reagents; culturing mammalian cells; performing data analysis using statistical software; performing spectrophotometric and spectrofluorometric analysis of reagents; performing cell separations using gradient and centrifugal techniques such as elutriation; and adapting manual assays to robotic systems.

The successful candidate must have:

- Ph.D. in Clinical Immunology, Immunology or equivalent.
- experience developing clinical diagnostic procedures, operating a Flow Cytometer and computer, and culturing mammalian cells.
- demonstrated ability to work with sophisticated electronic equipment.

Postdoctoral positions are normally of two years duration. Publication of results is supported and encouraged.

We offer an excellent compensation and benefits program including an attractive relocation package. For confidential consideration, send your C.V. and names of 3 references to George P. Kissell, Jr., 1568 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer, M/F/H/V.

SK&F

A SmithKline Beckman Company

DNA Sequencer

The Plant Cell Research Institute, in Dublin, California (in the San Francisco Bay Area), has an opening for an experienced DNA Sequencer. This research assistant position, for a person at the Bachelor's or Master's level (or equivalent), was established to provide a DNA sequencing service for the Institute. The DNA Sequencer will be responsible for working with PCRI scientists to plan sequencing strategies, for execution of those strategies and for analysis of data. Mastery of either Maxam-Gilbert or dideoxy sequencing methods is required. It is essential for the applicant to work well with other scientists and to exhibit initiative in keeping abreast of state of the art sequencing techniques. Send resume and names of three references to:

Employee Relations Manager-8608
ARCO Plant Cell Research Institute
6905 Sierra Ct.
Dublin, CA 94568-2641

ARCO Chemical, Inc.

Division of AtlanticRichfieldCompany

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Agricultural
Research
Service

United States
Department of
Agriculture

CENTER DIRECTOR Salary Range \$61-72K

PLUM ISLAND ANIMAL DISEASE CENTER

Plum Island Animal Disease Center is the principal USDA location for research, diagnosis and training on animal diseases which are foreign to the United States and pose a continuing threat to the livestock industry of this country. The research facility is a P-3 biocontainment facility with potential for P-4 studies and is located on Plum Island, New York.

The Director is responsible for planning, organizing, implementing, monitoring and controlling the Center's multi-disciplinary research program, management activities to support the program; and advising Agency and Department management on research goals. Research Leaders for Pathobiology, Immunology and Molecular Biology report to the Center Director who is also responsible for a comprehensive biological safety program designed to contain dangerous animal pathogens, foreign to the U.S. Logistics support is provided to the Animal and Plant Health Inspection Service which is responsible for diagnostic and training activities associated with foreign animal diseases.

The candidate should have an established reputation in research on infectious animal diseases and research leadership. Experience which demonstrates the ability to lead, manage, and coordinate the activities of a Center is required. Applicants must have a Doctor of Veterinary Medicine degree or equivalent. A Ph.D. in veterinary, biological or a related science is desirable. Must be a U.S. citizen.

Application forms (resumes are not acceptable) can be obtained by contacting: **Dolores Kauffman, USDA, ARS, POB, Room 417, Bldg. 003, BARC-West, Beltsville, MD 20705, (301) 344-2944.** Applications in response to this advertisement must be marked 6EO46 and received by **September 30, 1986.**

USDA IS AN EQUAL OPPORTUNITY EMPLOYER
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POSITIONS OPEN

POSTDOCTORAL POSITION available immediately for a recent Ph.D. interested in working on the effects of trace elements (for example, Se), from acidic precipitation on the composition of phytoplankton communities. Candidates should have experience in aquatic chemistry and/or phytoplankton culture techniques. Appointment is initially for 6 months and is renewable for up to three additional years, pending the availability of funds. Send curriculum vitae and names of three references to: **Dr. L. M. Brown, Department of Plant Sciences, The University of Western Ontario, London, Ontario N6A 5B7, Canada.**

POSTDOCTORAL POSITION available immediately to study the structure and function of novel blood clot dissolving enzymes. Experience in HPLC, microsequencing, and protein modification desirable. Please send curriculum vitae, statement of research interests and experience, and names of three references to: **Dr. Francis S. Markland, Department of Biochemistry, University of Southern California (USC) School of Medicine, Cancer Research Laboratory number 106, 1303 North Mission Road, Los Angeles, CA 90033.**

POSTDOCTORAL POSITION. Available immediately to participate in studies on ligand receptors and signal transduction in cultured Leydig cells. Salary is commensurate with qualifications and experience. Must be a U.S. citizen or permanent resident. Send curriculum vitae and the names and addresses of three persons who can be contacted for reference to: **Dr. Mario Ascoli, The Population Council, Center for Biomedical Research, 1230 York Avenue, New York, NY 10021.**

POSTDOCTORAL POSITION IN MOLECULAR VIROLOGY. Research on gene expression and regulation at the RNA and protein levels in adenovirus, and oncogenic cell transformation in herpes simplex virus. Submit curriculum vitae and names of three references to: **Dr. William S. M. Wold, Institute for Molecular Virology, St. Louis University School of Medicine, 3681 Park Avenue, St. Louis, MO 63110.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN PHARMACOLOGY AND BIOCHEMISTRY. Ph.D. to work on receptor binding and metabolism of radioactive compounds potentially useful for in vivo receptor imaging. Related experience desirable. Salary commensurate with experience. Send curriculum vitae to: **Hank F. Kung, Ph.D., Department of Nuclear Medicine, SUNY/Bufalo, Building 5, VA Medical Center, Buffalo, NY 14215. SUNY/Bufalo is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION. PLANT MOLECULAR BIOLOGY. A 2-year grant-funded position is available starting 1 October 1986. Research involves molecular characterization of the substrate regulation of nitrite reductase in plants. Applicants must have a Ph.D. with experience in contemporary techniques of molecular biology. Training in cDNA and genomic library construction, screening, and sequencing desirable. Send curriculum vitae, transcripts, and three letters of recommendation by 10 September 1986 to: **Dr. Leonard Beevers, Department of Botany and Microbiology, University of Oklahoma, Norman, OK 73019. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE. Immediate position available to set up and direct laboratory for immunohistochemistry of the lower urinary tract. Laboratory to become an integral part of ongoing, multidisciplinary, basic, and clinical investigation into lower urinary tract function and dysfunction. Successful candidate must be either recent Ph.D. or M.S. with several years of experience in standard H&E, as well as immunohistology. Electron microscopy experience helpful. Salary commensurate with experience. Send curriculum vitae and name, address, and telephone number of three references to: **Dr. Michael R. Ruggieri, University of Pennsylvania, Division of Urology, 5 Silverstein/H.U.P., 3400 Spruce Street, Philadelphia, PA 19104. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN



Wayne State University
Detroit, Michigan 48202

RESEARCH ASSISTANT/ASSOCIATE TO BE MANAGER

DNA Synthesis and Characterization and Fermentation Facility for the Molecular Biology Center
Wayne State University

Applications are invited for the position of research assistant/associate to be manager of a recently developed facility at Wayne State University. Candidates should hold a master's or Ph.D. degree and have experience in several of the following areas: HPLC, automated DNA synthesis, DNA sequencing, plasmid and viral DNA preparation, and large-scale fermentation. In addition to the management of the facility, responsibilities will include preparation, purification, and analysis of synthetic DNA, operation of a large-scale and benchtop fermentor isolation and purification of plasmid and viral DNA's training students, and developing new approaches in the above areas. Salary commensurate with experience. Please submit curriculum vitae and have three letters of recommendation sent to: **Richard L. Lintvedt, Interim Director, Molecular Biology Center, 123 Chemistry Building, Wayne State University, Detroit, MI 48202.**

Wayne State University is an Equal Opportunity/Affirmative Action Employer and actively seeks applications from women and minority groups.

RESEARCH ASSISTANT, FISH PATHOLOGY—College of Veterinary Medicine, Mississippi State University. Position available 15 September 1986 to perform research in the area of dermatopathology or winter mortality syndrome and analysis of cold temperature adaptation of channel catfish. Must have M.S. in fish or comparative pathology. Send résumé and three letters of recommendation to: **Paula J. Snow, P.O. Drawer V Mississippi State, MS 39762.**



BioTech Products Company

R&D DIRECTOR BIOTECHNOLOGY

Coors Biotech, a wholly-owned subsidiary of the Adolph Coors Company, invites qualified individuals to apply for the position of Research and Development Director. The Director will be a key member of the company's management team and will have primary responsibility for the technological capability of the company.

The individual we seek will be educated at the Ph.D. level in Microbiology, Biochemistry, Microbial Physiology, or a closely related field, and will have a good working understanding of both classical microbiology and recombinant techniques. Ten years industrial research experience including significant project or research management responsibility is required.

Send salary history and resume to:

**Coors Biotech Products Company
6204 South College
Fort Collins, CO 80525**

Equal Opportunity Employer M/F/H/V

Chemists Peptide Chemistry

The Peptide Chemistry Department of Smith Kline & French Laboratories is seeking outstanding chemists to fill three types of positions:

- **Peptide Chemists** - for synthesis, purification, and characterization of peptides; assisting in the design of biologically active peptides; and analyzing biological results in the context of structure-activity relationships.
- **Synthetic Chemists** - for synthesis of unusual amino acids and peptides, and nonpeptide mimics as well as routine peptide synthesis; assisting in the design of biologically active peptides; and analyzing biological results in the context of structure-activity relationships.
- **Development Chemists** - for optimization of synthetic reactions and scaleup of syntheses; investigations into new peptide synthesis methodologies.

Successful candidates must have:

- B.S. in Organic Chemistry or equivalent with a minimum of three years relevant experience.
- Minimum of two years experience in synthesis, purification and characterization of organic compounds.
- Experience with modern analytical techniques including HPLC, column chromatography, and the interpretation of NMR and mass spectra.
- M.S. in Chemistry or equivalent desirable.

Located near Valley Forge, PA in a new, state-of-the-art research facility, we offer an excellent salary, benefits, and relocation package as well as the opportunity for personal and professional growth. Please forward your resume to **George P. Kissell, Jr., Manager, Personnel Relations, SK&F Laboratories, 1564 Spring Garden Street, Philadelphia, PA 19101**, and indicate to which position(s) you are applying. We are an equal opportunity employer, m/f/h/v.

SK&F
A SmithKline Beckman Company

DIRECTOR

MOLECULAR BIOLOGY CENTER WAYNE STATE UNIVERSITY

Wayne State University is seeking a director of its newly formed Molecular Biology Center (MBC). The purpose of the Center is to enhance and to extend the University's research productivity in areas of molecular biology. The University is especially interested in enhancing areas that are of importance to industries in the State of Michigan.

The MBC's mission is interdisciplinary in scope and involves programs in the basic science departments of the School of Medicine, departments of Biological Sciences and Chemistry in the College of Liberal Arts, and certain clinical departments in the School of Medicine. A primary goal of the Center is improvement of human health with a view toward biotechnology implementation. Four broad areas of research are emphasized: gene structure and function, organization of the human genome, synthesis and characterization of new products, and protein structure and function. Funds are available within the Center to employ research professors, research scientists, postdoctoral fellows, graduate research assistants and research support personnel. Furthermore, new programs consistent with the objectives of the Center may be developed under the leadership of the Director.

The Director of the MBC will report to the Vice President for Research at Wayne State University and will have responsibility for:

1. Recruiting new senior research staff, postdoctoral fellows, graduate students, and research support personnel to support the MBC's research programs.
2. Managing the MBC's budget consisting of \$2.4 million per year in State funds plus funds obtained through industrial, federal, and private grants and contracts under the leadership of the director.
3. Appointment of advisory committees with university and industrial representation.
4. Managing office and research support facilities for the technical activities of the MBC.
5. Disseminating information about the progress and accomplishments of the MBC.
6. Working with the Metropolitan Center for High Technology, a University-affiliated incubation center for new business ventures and expansion of existing business in advanced technology growth fields.
7. Coordinating the MBC's activity with state agencies responsible for advancing economic development in technical areas.

Qualifications

1. A proven record of accomplishments as a molecular biology researcher and as a research manager.
2. Ph.D. degree and considerable experience in an appropriate area related to the goals of the Molecular Biology Center.
3. Ability to work effectively with persons of diverse interests and backgrounds in setting goals and implementing programs.
4. Proven organizational skills required for developing interdisciplinary programs.
5. Ability to identify public and private research funding opportunities and to assist in obtaining such support for research teams in the MBC.
6. Prior experience or contact with industrial firms involved with the products of molecular biological research would be of value.

It is presumed that the successful candidate will be appointed to the faculty of Wayne State University in an academic department appropriate to his/her qualifications and experience. The salary is fully competitive and negotiable.

Letters of nomination or application with résumés should be sent to:

Dr. Garrett T. Heberlein
Vice President for Research and
Dean of the Graduate School
Wayne State University
1072 Mackenzie Hall
Detroit, MI 48202

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Wayne State University

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RENAL

PhD in Pharmacology or Biochemistry in antihypertensive techniques to evaluate novel diuretics, emphasis on the renin-angiotensin-aldosterone system. 2-4 years' post-doc experience. Radioimmunoassay and supervisory experience advantageous.

CNS

PhD in Neuropharmacology/Neuroscience to work on drugs to treat cognitive disorders/Alzheimer's Disease. 2-5 years' post-doc research with competence in behavioral pharmacology essential. Multidisciplinary research team.

BS/MS scientist to work on Alzheimer's Disease. 3-5 years' experience with behavioral models for measurement of cognitive performance.

PULMONARY

PhD to evaluate interaction of novel agents with peptide leukotriene receptors *in vivo*. Background in pulmonary physiology, with emphasis on mechanics of respiration; pulmonary vascular dynamics valuable asset. Scientific achievement through publication record. Supervisory experience advantageous. Effective teamwork essential.

BS/MS to work on lipoxigenase pathway of arachidonic acid metabolism. 1-2 years in biochemical pharmacology with skills in enzyme purification, HPLC, and computer-based data analysis.

Suburban setting 25 miles south of Philadelphia. Competitive salary and comprehensive benefits. Principals only. Charles T. Brodigan, Assoc. Emp. Mgr.,



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Sandoz Pharmaceuticals Corporation is responsible for products that improve the quality of life. Our developments are the result of research conducted by professionals who specialize in many different fields.

We have an immediate opening for a Postdoctoral Scientist—Pulmonary Physiologist to work within our Platelet Department. You'll participate in the pharmacological evaluation of new compounds in the prevention of autocoid and antigen-induced bronchoconstriction. This will entail *in vivo* assessment of lung mechanics as well as analyses relating to modeling the pulmonary function in primates. Publishing your research and membership in scientific associations is strongly encouraged.

POSTDOCTORAL SCIENTIST



The qualified candidate will possess a Ph.D. in Physiology, Pharmacology or a related discipline, with proven expertise in pulmonary physiology and surgical techniques. A creative and innovative approach to research is desired.

Positions at Sandoz offer personal satisfaction, professional opportunity/challenge, competitive salaries and an excellent benefits package. Our campus-like facilities are conveniently located in northern New Jersey.

For prompt consideration, please forward your resume and salary requirements in confidence to:



Joseph P. Castellano
Director of Human Resources

**SANDOZ RESEARCH INSTITUTE
SANDOZ PHARMACEUTICALS CORPORATION**

East Hanover, New Jersey 07936
An Equal Opportunity Employer M/F

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE—position available immediately in nutritional immunology to study effect of dietary antioxidants on natural killer cell activity and related cell surface markers during aging. Ph.D. in immunology or biochemistry preferred. Please send curriculum vitae and names of three references to: **Dr. G. Yogeeswaran, Nutritional Immunology and Toxicology Laboratory, USDA/Human Nutrition Research Center on Aging at Tufts University, 711 Washington Street, Boston, MA 02111. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE. Available 21 October 1986. Research in neuropharmacology and neurophysiology of fever, circadian rhythms, and sleep. Techniques include computerized data acquisition and analysis of drinking, activity and temperature rhythms, automated sleep scoring, and standard stereotaxic and histological procedures. Salary: \$16,000 to \$19,000. Send curriculum vitae and three letters of recommendation by 15 October 1986 to: **Dr. Evelyn Satinoff, University of Illinois, Psychology Department, 603 E. Daniel, Champaign, IL 61820; telephone: 217-333-1615. Interviews possible before closing date. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL SCIENTISTS

Merck Sharp & Dohme Research Laboratories is currently seeking postdoctoral scientists to participate in a multidisciplinary program dealing with cellular and molecular cardiology. These positions require a Ph.D. in biological sciences or the equivalent with 0 to 2 years of postdoctoral research experience involving enzymology, protein purification, and the growth of eukaryotic cells. A high degree of self-motivation, the ability to work as part of a team, and technical innovation are also required. Our modern research facilities are located 25 miles northwest of Philadelphia. Please reply in confidence to:

**Jacques P. Kueny
Merck Sharp & Dohme
Research Laboratories
West Point, PA 19486
Equal Employment Opportunity/
Affirmative Action Employer, V/H**

POSTDOCTORAL RESEARCHER. Genentech, Inc., a leader in the field of biotechnology, has an opening for a postdoctoral researcher to join a group interested in the regulation of tumorigenesis, in particular, the molecular basis by which growth factor/oncogenes inhibit tumor cell destruction. The successful candidate will have a Ph.D. in molecular biology, cell biology, or any other relevant degree. Please send résumé to: **Human Resources Department, number 1418, Genentech, Inc., 460 Point San Bruno Boulevard, South San Francisco, CA 94080. An Equal Opportunity Employer.**

RESEARCH ASSOCIATE—Operate and maintain laboratory equipment for a research project concerned with the detection and study of cancer cells. Will produce monoclonal antibodies and will combine them with radioisotopes in order to determine whether they can be used for human cancer detection and therapy. Will employ a variety of laboratory techniques including the following: passage of cell lines; development of monoclonal antibodies; immunizations, fusions, cloning, ascites production and purification; radioimmunoassays; enzyme-linked immunosorption assays; SDS gels; immunohistochemistry; section of frozen and fixed tissues; inoculation and care of nude mouse xenografts. Forty hours weekly, 8:30 a.m. to 4:30 p.m., \$22,000 yearly. Minimum requirements: M.D. or Ph.D. in biochemistry or medicine. Four years as a research associate which should include 4 years of experience in the following techniques: passage of cell lines; development of monoclonal antibodies; immunizations, fusions, cloning, ascites production, and purification; radioimmunoassays; enzyme-linked immunosorption assays; SDS gels; immunohistochemistry; sectioning of frozen and fixed tissues; inoculation and care of nude mouse xenografts. Send résumés to: **Attention: Mr. Boksa, Reference number 5505-B, Illinois Job Service, 910 South Michigan Avenue, 3rd Floor, Chicago, IL 60605. An employer-paid advertisement.**

POSITIONS OPEN

UNIVERSITY OF MANCHESTER AND L'INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE POSTDOCTORAL RESEARCH ASSOCIATES COMPUTER AIDED PEPTIDE AND PROTEIN ENGINEERING

There are four vacancies on this EEC-funded project in the following twinned laboratories: the EPSITRON Peptide and Protein Engineering Research Unit, Department of Biochemistry, University of Manchester, and the Laboratoire de Biochimie Physique in the Université de Paris-Sud. The work will involve the development of computer software, on hardware ranging from microcomputers to supercomputers and including interactive graphics, for the design of modified peptides and proteins, including artificial vaccines. Appointment will be for 2 years with some flexibility as to starting date. Preference will be given to theoretical chemists with substantial computing experience and interest in protein systems.

Salary on Research 1A scale. Candidates should contact: **Dr. Jean Garnier, Laboratoire de Biochimie Physique, Batiment 433, Université de Paris-Sud, 91405 Orsay Cedex, France, or Dr. Barry Robson, EPSITRON Peptide and Protein Engineering Research Unit, Department of Biochemistry, The Medical School, University of Manchester, Oxford Road, Manchester, M13 9PT, U.K. Telephone numbers for preliminary enquiries are (33) 16 9416429 and (44) 61 273 8241, respectively.**

POSTDOCTORAL RESEARCH IN BIOLOGICAL PHYSICS AT CORNELL UNIVERSITY

Molecular mechanisms of living vertebrate cell surface receptor dynamics: transmembrane signaling, auditory and electrical transduction, and conformational fluctuations in ion channels challenge modern physics. We apply modern physical methods like fluctuation spectroscopy, digital 3-D image analysis, quantum optics, diffraction of synchrotron x-radiation, single-channel recording, stochastic analysis of individual molecular trajectories in cell surface percolation, receptor clustering, and cooperative neural network responses to study cellular biophysics and biotechnology. Applicants for postdoctoral openings in this collaborative interdisciplinary research should send curriculum vitae, publication list, and references to: **Professor Watt W. Webb, Applied Physics, Cornell University, Clark Hall, Ithaca, New York 14853-2501.**

Cornell University is an Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSOCIATE. Ongoing study of modified amino acids/proteins in renal disease/dialysis. Background in methods of protein chemistry, HPLC, immunology, and cell biology. Three-year position available immediately for Ph.D. Send résumé, names of three references, and research interests to: **Lorraine M. Kraus, Ph.D., Professor, Department of Biochemistry, College of Medicine, University of Tennessee, Memphis, TN 38163. An Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE: Experimental research in the fields of biochemistry and physiology using knowledge of biochemistry and physiology, and laboratory equipment and analytical techniques such as radioscopic techniques. Study of small and large intestine and pancreas for developmental and nutritional studies: perform surgery on small animals to obtain data and results. Ph.D. in biochemistry or an M.D., plus 1 year of experience required. 40 hours per week; \$23,000 per year. JO number 0103247, DOT 090.227 010. Mail résumé to: **New York State Job Service, 584 Delaware Avenue, Buffalo, NY 14202.**

RESEARCH PHYSICIST: To engage in research, development, design, fabrication, testing, and modification of laser-triggered circuit switches for real-time signal processing, and subsequent projects. Requires Ph.D. in physics or electrical engineering, plus 1 year experience in experimental or theoretical research in optoelectronics or fiber optics. \$465 per week; job site: San Diego, California. Send this ad and a résumé to: **Job number MA 5681, P.O. Box 9560, Sacramento, CA 95823-0560, not later than 30 August 1986.**

POSITIONS OPEN

POSTDOCTORAL SCIENTIST. Position available to study the cell and molecular biology of ion transport across membranes. Applications with experience in protein purification, or electron microscopy will be preferred. Please send curriculum vitae and three letters of reference to: **Q. Al-Awqati, Department of Medicine, Columbia University, 630 West 168 Street, New York, NY 10032. Equal Opportunity/Affirmative Action Employer.**

RESEARCH DIRECTOR, EAR, NOSE AND THROAT (ENT) DEPARTMENT. The Department of Otolaryngology—Head and Neck Surgery (HNS) Henry Ford Hospital seeks a new research director effective immediately. This individual should have minimum of 5 years of postdoctoral experience, strong administrative skills, and a demonstrated excellence in research. An outstanding publication record is expected. The position includes establishment of the individual research laboratory and direction of other department research, including clinical research and the resea training of residents. Currently the departmental laboratories include electrophysiology, animal psychoacoustics and histology, with convenient access to TEM and SI facilities. However, candidates in all areas of research relevant to ENT/HNS will be considered. Interested individuals should send a résumé, names of three references, and a brief letter explaining their qualifications; research interests to: **Richard D. Nichols, M.D., Chairman, Department of Otolaryngology—Head and Neck Surgery, Henry Ford Hospital, 2799 West Gray Boulevard, Detroit, MI 48202. Henry Ford Hospital is an Affirmative Action/Equal Opportunity Employer.**

SENIOR TECHNICAL INFORMATION SPECIALIST (CHEMIST). To be coordinator of Review Process related to EPA responsibility under Section 5 of the Toxic Substances Control Act. Requirements are a Ph.D. in chemistry, a strong background in computer programming languages, especially NAT RAL, and familiarity with chemical data management systems. Subject to U.S. government security clearance. Salary: \$25,000 per year. Résumés only to: **The Department of Employment Services/IRA Job number 4266, 500 C Street, NW, Washington, DC 20001 Telephone 724-3370.**

CENTER FOR GENE STRUCTURE AND FUNCTION HUNTER COLLEGE OF THE CITY UNIVERSITY OF NEW YORK SEQUENCING AND SYNTHESIS FACILITY MANAGER

Hunter College of the City University of New York, in conjunction with the development of a Research Center for Gene Structure and Function, is searching for a manager for a facility which will house contemporary equipment for sequencing and synthesis of nucleic acids and proteins. The equipment will include a computerized gas phase peptide sequencer, an oligonucleotide synthesizer, a peptide synthesizer, and HPLC equipment. The candidate should present evidence of considerable experience with the operation and maintenance of such equipment. The manager will interact and consult with faculty and graduate students and be responsible for scheduling and the day-to-day operation of this facility. A Ph.D. and evidence of equivalent laboratory experience is required. The salary range is \$28,000 to \$36,000, depending on qualifications. Excellent fringe benefits. Send your curriculum vitae and the names of three references no later than 5 September 1986 to:

**Thomas Schmidt-Glenewinkel, Ph.D.
Department of Biological Sciences
Hunter College of the City University of New York
695 Park Avenue
New York, NY 10021**

Hunter College is an Equal Opportunity/Affirmative Action Employer. Minority candidates and women are particularly invited to apply.

ImClone Systems, a Manhattan biotechnology company seeks **TECHNICIANS IN IMMUNOLOGICAL AND MOLECULAR BIOLOGY.** Applicants should be experienced in recombinant DNA and hybridization. Immunology applicants should be experienced in monoclonal antibody development, immunoassays, tissue culture, and small animal handling. Reply to: **ImClone Systems, 180 Varick Street, New York, NY 10011.**

MOLECULAR BIOLOGISTS

We are expanding our Molecular Biology Department. Scientists with BS, MS, Ph.D. Degrees interested in product development and new product applications should possess experience in one or more of the following areas:

- Large Scale Nucleic Acid Production
- Plasmid Construction
- Expression Systems
- Colony Screening
- DNA Sequencing
- Nucleic Acid Hybridization

Excellent communicative skills and the ability to work as a member of a team are essential. Full company paid benefits package. For consideration send resume in confidence to:

**BOX 150,
SCIENCE**

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Advancement in research and new product development is a keynote in the success of Abbott Laboratories, a \$3.5 billion healthcare leader. Our pharmaceutical New Discovery Group continues this progressive approach by strengthening our commitment to scientific innovation, while offering challenges to the finest in the scientific community.

PH.D. PHARMACOLOGIST

Within this select group, a position exists for a Ph.D. in renal physiology/pharmacology, responsible for conducting studies on the effects of antihypertensive agents on renal parameters in lab animals. Qualifications include experience in in vivo renal hemodynamic and function measurements, with experience in single-nephron techniques desirable.

Abbott is headquartered in an attractive suburban setting on the Lake Michigan shoreline, 30 miles north of Chicago. In addition to an outstanding scientific environment, we provide an exceptional salary and benefits package, including profit sharing and stock retirement plan. For confidential consideration, please send your resume with salary history to: **Patricia Handy/Corporate Placement, Dept. S-8/15.** Abbott is an Equal Opportunity Employer m/f.

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1515 BROADWAY
NEW YORK, N.Y. 10036**

VISUAL NEUROPHYSIOLOGIST

The Salk Institute for Biological Studies announces positions at the Assistant or Associate Professor level in visual neurosciences.

Candidates are expected to establish independent research programs in a newly established **Vision Center** at the Institute. We are particularly interested in individuals working on the cellular basis of visual cortical function and/or the relationship between cortical function and perception.

Applicants should have a PhD or MD degree and postdoctoral experience.

Qualified candidates should send curriculum vitae, description of research interests, and the names of three references to:

**Vision Center Search Committee
The Salk Institute
for Biological Studies
P.O. Box 85800
San Diego, California 92138-9216**

Equal Opportunity Employer M/F/H/V

POSITIONS OPEN

RESEARCH POSITION—Project Associate/Assistant Scientist. Project associate/assistant scientist position open for candidate with a Ph.D. or M.S. in immunology or cell biology. Expertise in the biology of endothelium, dendritic cells, and lymphocytes preferable. Salary commensurate with experience. Apply to: **Venkat Rao, M.D., Department of Surgery, University of Wisconsin, Clinical Science Center, 600 Highland Avenue, Madison, WI 53792. The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.**

RESEARCH TECHNICIANS WANTED

The Howard Hughes Medical Institute in Dallas, TX currently has several positions available for research technicians. Applicants should have some background in either genetics, neurobiology, cell biology, biochemistry, or x-ray crystallography.

Send correspondence, full curriculum vitae and references to:

Louise Edlund
Howard Hughes Medical Institute
University of Texas Health
Science Center, Dallas
5323 Harry Hines Boulevard
Dallas, TX 75235-9050



STAFF OFFICER NATIONAL RESEARCH COUNCIL (NRC) RADIATION BIOLOGY, BIOSTATISTICS, AND EPIDEMIOLOGY

The NRC/Board on Radiation Effects Research seeks a staff officer with primary responsibility for assisting a prospective committee in the preparation of radioepidemiologic tables and secondary duties on studies within the board's purview such as BEIR V. The individual should have an advanced degree or equivalent experience in fields related to radiobiology, radiation epidemiology, biostatistics, and must be an advanced computer programmer. Demonstrated communication and administrative skills are required, as well as expertise in the identified areas of radiation biology as evidenced by research in these fields especially in action programming. Applications should be submitted by 15 September 1986 to: **Position number 451.011S, National Research Council, 2101 Constitution Avenue, NW, Washington, DC 20418. An Equal Opportunity Employer.**

UNIVERSITY OF MARYLAND FOUNDATION (UMF) UNIVERSITY TECHNOLOGY LIAISON OFFICER

UMF seeks an individual with technical management experience to lead College Park, Maryland, campus programs in the areas of technology development and technology transfer. Duties include: maintain liaison with UM researchers, administration, and with University Technology Corporation, a company in the business of identifying and managing the transfer of university research with commercial potential; identify research with university-industry transfer potential and coordinate review of each possibility; and provide invention management services.

Desirable qualifications: a substantial background in a science or engineering discipline, at least 5 years of practical experience with development of a technology-based product in a research management role, familiarity with a broad range of technologies, and a proven ability to recognize commercial possibilities of university research. Must have the technical expertise necessary to elicit the confidence of researchers and excellent communication skills required to document and communicate technological information to diverse audiences. Salary will be negotiated within the \$35,000 to \$50,000 range.

Send letter, résumé, and names of three references by 11 September 1986 to: **Technology Liaison Committee, Attention: Joanne Schram, UMF, 3300 Metzert Road, Adelphi, MD 20783.**

Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

TWO POSITIONS available to study the **BIOCHEMISTRY, IMMUNOLOGY, AND GENETICS OF A HUMAN MALARIA PARASITE.** Duration 2 years, starting in early autumn. Experience in biochemistry, recombinant DNA techniques, or immunochemistry desirable. Send curriculum vitae and names of three references to:

Dr. Joseph Inselburg
Department of Microbiology
Dartmouth Medical School
Hanover, NH 03756
Telephone: 603-646-7666

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COLLEGE OF THE VIRGIN ISLANDS

VISITING ASSISTANT OR VISITING ASSOCIATE PROFESSOR OF MARINE BIOLOGY (nontenure-track, renewable) beginning 15 January 1987. A doctorate and experience in teaching vertebrate and evolution or population biology required. Field experience in the tropics and research interests which can be pursued in the Virgin Islands desirable. Will teach 12 credit hours per semester in vertebrate biology, evolution, population biology, or general biology for majors and non-majors. Compensation from \$27,114 to \$39,514, plus liberal benefits. Address letter of application, current résumé, official college transcripts and three letters of recommendation by 1 October 1986 (late applications accepted until filled) to: **Dr. William P. MacLean, Vice President for Academic Affairs, College of the Virgin Islands, Charlotte Amalie, St. Thomas, U.S. Virgin Islands 00802.**

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TRAINING PROGRAM

POSTDOCTORAL AND PREDOCTORAL TRAINING PROGRAM IN INFECTION AND IMMUNITY

This NIAID-supported program provides training for careers in research and teaching in the biochemistry and molecular genetics of the pathogenesis of infectious disease. Applicants must be citizens or permanent residents of the United States. Postdoctoral candidates should send résumé and the names of three references. Preference will be given to predoctoral applicants with an M.S. degree or equivalent in related fields. Predoctoral applicants should apply to:

The Graduate School of Arts and Sciences, Emory University. Postdoctoral applicants should write to:

Dr. John K. Spitznagel
Professor and Chairman
Department of Microbiology and Immunology
502 Woodruff Memorial Building
Emory University School of Medicine
Atlanta, GA 30322

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POSTDOCTORAL TRAINING IN INFECTION AND IMMUNITY

This program supports postdoctoral research training for careers in research and teaching in the pathogenesis of infectious disease. A position is now open for applicants prepared to participate in work in progress to characterize genes involved in resistance of bacteria to oxygen-independent antimicrobial activities of phagocytes. Applicants who are trained in the molecular genetics of prokaryotes are especially invited to apply, but other backgrounds will be considered. Applicants must be citizens or legal permanent residents of the United States. Please write to:

Dr. John K. Spitznagel
Professor and Chairman
Department of Microbiology and Immunology
502 Woodruff Memorial Building
Emory University School of Medicine
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SYMPOSIUM

MECHANISMS OF DRUG RESISTANCE IN NEOPLASTIC CELLS 15 to 16 October 1986

The 9th Annual Bristol-Myers Symposium on Cancer Research will be held in Washington, DC, on 15 to 16 October 1986. Tuition is \$75 (\$20 students/fellows). Organized by Vincent T. Lombardi Cancer Research Center of Georgetown University. For further information, contact: **Office of Continuing Medical Education, Georgetown University Medical Center, 3800 Reservoir Road, NW, Washington, DC 20007. Telephone: 202-625-2306.**

FELLOWSHIPS

UNIVERSITY OF CALIFORNIA, SAN DIEGO, DEPARTMENTS OF MEDICINE AND BIOLOGY. Fellowships in **endocrinology.** Applications are invited from academically oriented M.D.'s and Ph.D.'s for a 2- to 3-year NIH training grant-funded program of research in the biology of calcium and skeletal metabolism beginning January and/or July 1987. Specific projects include (i) biosynthesis, secretion, and molecular biology of calcitonin, chromogranin A, and related factors; (ii) vitamin D and the immune system; (iii) molecular biology of the calcitropic hormone receptors; (iv) bone matrix and minerals; (v) oncogene expression and skeletal differentiation. Send curriculum vitae and two references to: **L. J. Deftos, M.D., San Diego VA Medical Center (V-111C), San Diego, CA 92161. An Affirmative Action/Equal Opportunities Employer.**

POSTDOCTORAL FELLOWSHIP immediately available for studies on the molecular basis of differentiation in the mammary gland or skeletal muscle. Limited to those with recent doctorate; prefer background in biochemistry or molecular biology. Send curriculum vitae and letters of reference to: **Frank E. Stockdale, M.D., Ph.D., Stanford School of Medicine, M211, Stanford, CA 94305-5306.**

LUCILLE P. MARKEY FELLOWSHIPS for graduate study in PHYSIOLOGY AND BIOPHYSICS at the University of Miami School of Medicine

Fellowships are now available for Ph.D. studies in neurobiology, membrane biophysics, development, and cell-to-cell communication. Applications are sought from highly qualified individuals with backgrounds in the physical, biological, or engineering sciences. Annual stipend \$12,000, plus tuition and fees. For information and applications, write to: **Dr. K. J. Muller, P.O. Box 016430, Miami, FL 33101. Telephone: 305-547-6821. The University of Miami is an Affirmative Action/Equal Opportunity Educator and Employer.**

POSTDOCTORAL FELLOWSHIP

Postdoctoral fellowship available in a newly established pharmacology program at the Fox Chase Cancer Center. We are seeking an individual with background in biochemistry, molecular biology, or pharmacology to work in the area of anticancer drug resistance. Correlation between the basic laboratory findings and the clinical applications are involved in this project. We provide an excellent salary and benefits package. Qualified individuals should send curriculum vitae with three references to: **Dr. Kenneth Tew, Pharmacology Department, FOX CHASE CANCER CENTER, 7701 Burholme Avenue, Philadelphia, PA 19111. Equal Opportunity Employer, M/F.**

MARKETPLACE

PROCEEDINGS OF SYMPOSIUM ON ESTROGEN RECEPTOR DETERMINATION WITH MONOCLONAL ANTIBODIES

Cancer Research is pleased to announce its most recent supplement, *Symposium on Estrogen Receptor Determination with Monoclonal Antibodies*. This special issue consists of 19 papers presented at a symposium sponsored by Abbott Laboratories, which featured studies on two innovative estrogen receptor assays, ER-EIA and ER-ICA, and the extension of these techniques to various areas of cancer research. Price, \$20/copy (plus \$2 outside US and Canada) payable to: **WAVELY PRESS, 428 E. Preston St., Baltimore, MD 21202.**



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NUCLEIC ACID CHEMIST OR BIOCHEMIST

Reference B/T 2029 S

A person with post doctoral experience in all aspects of synthetic gene design, construction and cloning. We have very good computer facilities, two automated DNA synthesizers and excellent technical support.

Qualified candidates should be able to manage their own project area. They will be expected to collaborate closely with other scientists in our multidisciplinary projects. Highly competitive salaries will be dependent upon qualifications and experience. The new research center is located in the suburbs of Toulouse, near the international airport and close to the university and government sponsored research laboratories. Toulouse is the mid-sized city in a heart of a rich cultural and historical region within easy reach of the Pyrenees and of the mediterranean coast.

For confidential consideration, please send your resume to Mr FABRE, as to let him know the reference you are answering to.

BACTERIAL GENETICIST - Reference B/T 2030 S

A wide experience of different microorganisms and/or bacteriophages and preferably with a knowledge of techniques in molecular biology is required.

PROTEIN BIOCHEMIST - Reference B/T 2031 S

The qualified candidate will have at least two years of post doctoral experience in the isolation, purification and characterization of proteins from natural and recombinant sources. Interest in structure and function of polysaccharide moieties in glycoproteins is highly desirable. Microsequencing facilities are available.

PA

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Cardiovascular Research Scientist Coronary Diseases/ Myocardial Salvage Unit

Supervise the development and evaluation of new Pharmacologic approaches to myocardial salvage and coronary reperfusion. In addition to a PhD in Physiology or Pharmacology, the candidate must possess 3-5 years' post-doctoral experience in the areas of myocardial ischemia and infarction, or coronary pharmacology. Expertise in large animal models of myocardial ischemia is essential, as is command of related measurement techniques. A background in isolated vascular and cardiac muscle preparations is preferred.

Post-Doctoral Fellowship

Participate in ongoing projects that include the study of cardiac sodium and potassium channels and their block by drugs; the role of mediators of inflammation in ischemic damage; and the development of chronic animal models for the study of

arrhythmias and antiarrhythmic drug action. Using *in vivo* and *in vitro* electrophysiology techniques, successful candidate will research the mechanism and treatment of ischemic arrhythmias. We seek a recent PhD in Physiology or Pharmacology for this 2 year fellowship, which will develop a broad, interdisciplinary approach and apply state-of-the-art techniques to the investigation of promising new areas in cardiovascular pharmacology.

Both positions offer an excellent salary and benefits package as well as continued opportunities for recognition among a staff of distinguished professionals. Our 20-acre corporate campus in Radnor, an attractive community on Philadelphia's prestigious Main Line, offers an exceptionally stimulating research environment. To find out more, forward your resume and salary requirements indicating position of interest to: **Personnel Manager, Wyeth Laboratories, Inc., P.O. Box 8299, Philadelphia, PA 19101.** An Equal Opportunity Employer. M/F/H/V responses encouraged.

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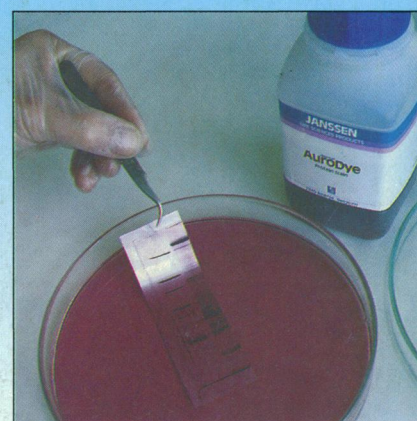
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