

R&D and the Budget Crisis

Eleventh Annual AAAS Colloquium on R&D Policy

26 & 27 March 1986

Capital Hilton ♦ Washington, DC

- ♦ Discussion will be based on *AAAS Report XI: Research and Development, FY 1987*, a timely and comprehensive analysis of the proposals for R&D in the FY 1987 budget, prepared by AAAS and a group of its affiliated scientific, engineering, and higher education associations. Registrants will also receive *Proceedings* following the Colloquium and *Congressional Action on R&D in the FY 1987 Budget* in the fall.
- ♦ Trends and prospects for R&D in defense, energy, health, space, and other areas will be explored by leaders from industry, universities, agencies of the federal government, Congress, the White House, and the scientific and engineering communities.
- ♦ Perspectives will be provided on topics such as impacts of deficit-cutting legislation on R&D, responses by the scientific-technical community, public and private roles in research, and strategies for government-industry cooperation.

For further details, write: AAAS R&D Colloquium, Public Sector Programs,
1333 H Street, NW, Washington, DC 20005

Sponsored by the AAAS Committee on Science,
Engineering, and Public Policy

American Association for the Advancement of Science

**11th AAAS R&D Colloquium
Washington, D.C.
26-27 March 1986**

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Packets will be mailed to preregistrants on about 12 March; registrations received after 12 March will be held at the AAAS Registration Desk in the Capital Hilton. **Refund Policy:** Advance registration fees and meal tickets will be refunded for cancellations received by 24 March; no refunds will be made on cancellations received after this date.

Registration fees include all sessions and publications; meals are included only with payment of full registration fee. All registrants receive *AAAS Report XI: Research and Development, FY 1987* before or at the Colloquium, published *Proceedings* after the meeting, and a supplementary report, *Congressional Action on R&D in the FY 1987 Budget*, in the fall.

Mail registration form to: AAAS Meetings, R&D Forum Registration, 1333 H Street, N.W., Washington, D.C. 20005

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during the cell cycle, and tissue growth. Unlike many authors, who focus on somewhat rigid definitions of cell-cycle stages by emphasizing biological and biochemical processes required for DNA replication and mitotic division, Baserga avoids a confusing series of semantic arguments that can obscure the biological features of cell-cycle control.

A second series of chapters deal with cell proliferation from the point of view of cell biology. Here, rather than presenting a catalog of the numerous approaches that have been pursued, the author is selective, focusing on the use of cell-cycle mutants, cell fusion, and perturbations of the cell cycle by drugs. Baserga emphasizes the informational content of cells in specific phases of the cell cycle and the relationships between cell growth and cell division. In addition to developing these subjects from both conceptual and experimental standpoints, he candidly presents the strengths and limitations of experimental approaches, facilitating assessment of results and their interpretation.

The final chapters are concerned with molecular approaches to the identification of genes whose expression is dependent on the cell cycle and to the characterization of those genes that influence cell growth and cell proliferation. Discussions of experimental strategies and results provide a timely summary of current efforts to identify genes and gene products involved in regulating the complex and interdependent biochemical events required for cell reproduction.

The book is exceptionally well written. Topics are developed clearly and concisely. The references provide sources for original research articles and appropriate reviews. There is a good balance between presentation of data and opinion. Much of the material is developed from a historical perspective, providing a sense of direction for future investigations.

Among the many monographs and symposium volumes on the subject of cell growth and cell division that have been written during the past several years, this contribution is outstanding. For scientists working in the field, the book offers a valuable picture of where the field is and where it is going. For students, the book provides a readily understandable introduction to problems associated with the control of cell proliferation. And, for physicians, it offers some critical insights into the cellular and molecular basis of a broad spectrum of disease processes and developmental abnormalities.

GARY STEIN
JANET STEIN

University of Florida School of Medicine,
Gainesville 32610

Books Received

Ada. A Life and a Legacy. Dorothy Stein. MIT Press, Cambridge, MA, 1985. xx, 321 pp., illus. \$19.95. MIT Press Series in the History of Computing.

Ada for Specification. Possibilities and Limitations. S. J. Goldsack, Ed. Published on behalf of the Commission of the European Communities by Cambridge University Press, New York, 1985. xvi, 266 pp., \$37.50. Ada Companion Series.

Ada in Use. John G. P. Barnes and Gerald A. Fisher, Jr., Eds. Published on behalf of the Association for Computing Machinery and Ada Europe by Cambridge University Press, New York, 1985. xii, 366 pp., illus. \$49.50. Ada Companion Series. From a conference, Paris, 1985.

Alcohol Policies. Marcus Grant, Ed. World Health Organization Regional Office for Europe, Copenhagen, 1985 (U.S. distributor, WHO Publications Centre USA, Albany, NY). x, 133 pp. Paper, \$9.50. WHO Regional Publications, European Series no. 18.

Altered Harvest. Agriculture, Genetics, and the Fate of the World's Food Supply. Jack Doyle. Viking, New York, 1985. xxii, 502 pp., \$25.

The Amazing Newborn. Marshall H. Klaus and Phyllis H. Klaus. Addison-Wesley, Reading, MA, 1985. xii, 145 pp., illus. Paper, \$10.95.

Biochemistry of Plant Cell Walls. C. T. Brett and J. R. Hillman, Eds. Cambridge University Press, New York, 1985. xiv, 312 pp., illus. \$34.50. Society for Experimental Biology Seminar Series, no. 28. From a symposium, Glasgow, July 1984.

Biofeedback and Sports Science. Jack H. Sandweiss and Steven L. Wolf, Eds. Plenum, New York, 1985. xviii, 201 pp., illus. \$24.50.

Biological Responses in Cancer. Vol. 4. Enrico Mihich, Ed. Plenum, New York, 1985. xiv, 256 pp., illus. \$49.50.

Biology of Invertebrate and Lower Vertebrate Collagens. A. Bairati and R. Garrone, Eds. Plenum, New York, 1985. xxii, 583 pp., illus. \$89.50. NATO Advanced Science Institutes Series A, vol. 93. From a workshop, Cuomo, Italy, June 1984.

Biology of Ovarian Follicles in Mammals. Sardul S. Guraya. Springer-Verlag, New York, 1985. xii, 320 pp., illus. \$69.50.

The Biology of Trypanosomes. Leslie Hudson, Ed. Springer-Verlag, New York, 1985. x, 183 pp., illus. \$44. Current Topics in Microbiology and Immunology, vol. 117.

Biomechanics of Normal and Pathological Human Articulating Joints. Necip Berme, Ali E. Engin, and Kelo M. Correia da Silva, Eds. Nijhoff, Dordrecht, 1985 (U.S. distributor, Kluwer, Hingham, MA). viii, 376 pp., illus. \$52.50. NATO Advanced Science Institutes Series E, vol. 93. From an institute, Estoril, Portugal, June 1983.

Biophysics and Biochemistry at Low Temperatures. Felix Franks. Cambridge University Press, New York, 1985. x, 210 pp., illus. \$44.50.

Biorhythms and Epilepsy. A. Martins da Silva, C. D. Binnie, and H. Meinardi, Eds. xvi, 238 pp., illus. \$42.

Cluster Mystery. Epidemic and the Children of Woburn, Mass. Paula DiPerna. Mosby, St. Louis, MO, 1985. x, 415 pp., illus. \$13.95.

Color Measurement. Theme and Variations. D. L. MacAdam, 2nd ed. Springer-Verlag, New York, 1985. xiv, 230 pp., illus. Paper, \$29. Springer Series in Optical Sciences, vol. 27.

Computational Methods for the Determination of Formation Constants. David J. Leggett, Ed. Plenum, New York, 1985. xvi, 478 pp. \$75. Modern Inorganic Chemistry.

Computer Aided Chemical Thermodynamics of Gases and Liquids. Theory, Models, and Programs. Paul Benedek and Francis Olti. Wiley-Interscience, New York, 1985. xxx, 729 pp., illus. \$85.

Computer-Assisted Medical Decision Making. Vol. 1. James A. Reggia and Stanley Tuhirim, Eds. Springer-Verlag, New York, 1985. xx, 288 pp., illus. \$26.50.

The Concise Dictionary of Science. Robin Kerrod. Arco, New York, 1985. 253 pp., illus. \$11.95.

Consensus and Conflict. Essays in Political Sociology. Seymour Martin Lipset. Transaction, New Brunswick, NJ, 1985. viii, 375 pp. \$24.95; paper, \$12.95.

Contemporary Nephrology. Vol. 3. Saulo Klahr and Shaul G. Massry, Eds. Plenum, New York, 1985. xxiv, 768 pp., illus. \$89.50.

The Cortex of the Rat. A Stereotaxic Atlas. Karl Zilles. Springer-Verlag, New York, 1985. vi, 121 pp., illus. \$39.50.

Early Identification of Children at Risk. An International Perspective. William K. Frankenburg, Robert N. Emde, and Joseph W. Sullivan, Eds. Plenum, New York, 1985. xx, 393 pp., illus. \$42.50.

Earth Surface Systems. Richard J. Huggett. Springer-Verlag, New York, 1985. xii, 270 pp., illus. \$52. Springer Series in Physical Environment, vol. 1.

Electron and Photon Interactions at Intermediate Energies. D. Menze, W. Pfeil and W. J. Schulle, Eds. Springer-Verlag, New York, 1985. viii, 481 pp., illus. Paper, \$30. Lecture Notes in Physics, vol. 234. From a workshop, Bad Honnef, West Germany.

Hepatitis B. Robert J. Gerety, Ed. Academic Press, New York, 1985. xiv, 469 pp., illus. \$79.

The Hidden Victims of Alzheimer's Disease. Families under Stress. Steven H. Zarit, Nancy K. Orr, and Judy M. Zarit. New York University Press, New York, 1985. x, 218 pp. \$30; paper, \$14.95.

The High Cost of High Tech. The Dark Side of the Chip. Lenny Siegel and John Markoff. Harper and Row, New York, 1985. viii, 244 pp. \$16.50. A Cornelia and Michael Bessie Book.

Immunological Methods. Vol. 3. Ivan Lefkovits and Benvenuto Pernis, Eds. Academic Press, New York, 1985. xxviii, 477 pp., illus. \$54.50.

In Vitro Fertilization and Embryo Transfer. Markku Seppälä and R. G. Edwards, Eds. New York Academy of Sciences, New York, 1985. xii, 619 pp., illus. Paper, \$140. Annals of the New York Academy of Sciences, vol. 442. From a congress, Helsinki, May 1984.

In Vitro Techniques. Propagation and Long Term Storage. A. Schäfer-Menuhr, Ed. Nijhoff/Junk, Dordrecht, Netherlands, 1985 (U.S. distributor, Kluwer, Hingham, MA). xii, 194 pp., illus. \$38.50. Advances in Agricultural Biotechnology. From a seminar, Braunschweig, West Germany, Nov. 1984.

Information Processing in Biological Systems. Behram Kursunoglu, chairman. Stephan L. Mintz and Arnold Perlmutter, Eds. Plenum, New York, 1985. x, 164 pp., illus. \$42.50. Studies in the Natural Sciences, vol. 21. From a meeting, Jan. 1983.

Manuscripts of the Dibner Collection in the Dibner Library of the History of Science and Technology of the Smithsonian Institution Libraries. Smithsonian Institution Libraries, Washington, DC, 1985 (distributor, Watson, Canton, MA). xiv, 146 pp. + plates. \$35. Smithsonian Institution Libraries Research Guide no. 5.

Mapping the Cosmos. Jane Chance and R. O. Wells, Jr., Eds. Rice University Press, Houston, 1985. viii, 175 pp., illus. \$19.95.

Mass Loss from Red Giants. Mark Morris and Ben Zuckerman, Eds. Reidel, Boston, 1985 (distributor, Kluwer, Hingham, MA). xvi, 320 pp., illus. \$49. Astrophysics and Space Science Library, vol. 147. From a conference, Los Angeles, June 1984.

Math! Encounters with High School Students. Serge Lang. Springer-Verlag, New York, 1985. xii, 118 pp., illus. Paper, \$19.95.

Measurement of Audition and Vision in the First Year of Postnatal Life. A Methodological Overview. Gilbert Gottlieb and Norman A. Krasnegor, Eds. Ablex, Norwood, NJ, 1985. xx, 474 pp., illus. \$57.50. Based on a conference, Elkridge, MD, Sept. 1982.

The Mechanical Universe. Introduction to Mechanics and Heat. Richard P. Olenick, Tom M. Apostol, and David L. Goodstein. Cambridge University Press, New York, 1985. xviii, 584 pp., illus. \$24.95.

Mechanisms of Inorganic and Organometallic Reactions. Vol. 3. M. V. Twigg, Ed. Plenum, New York, 1985. xviii, 519 pp., illus. \$69.50.

The Medical and Biological Effects of Light. Richard J. Wurtman, Michael J. Baum, and John T. Potts, Jr., Eds. New York Academy of Sciences, New York, 1985. xii, 408 pp., illus. Paper, \$92. Annals of the New York Academy of Sciences, vol. 453. From a symposium, New York, Oct. 1984.

Plant Cell Culture. A. Fiechter, Ed. Springer-Verlag, New York, 1985. viii, 140 pp. \$32. Advances in Biochemical Engineering/Biotechnology, vol. 31.

Plant Conservation in the Mediterranean Area. C. Gómez-Campo, Ed. \$67.50. Junk, Dordrecht, 1985 (U.S. distributor, Kluwer, Hingham, MA). xii, 269 pp., illus. \$67.50. Geobotany 7.

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

Polymer Degradation and Stabilisation. Normal Grassie and Gerald Scott. Cambridge University Press, New York, 1985. viii, 222 pp., illus. \$54.50.

Rational Politics. Decisions, Games, and Strategy. Steven J. Brams. CQ Press, Washington, DC, 1985. xvi, 233 pp., illus. Paper, \$16.95.

Recent Advances in Biological Membrane

Aspirator

Model SWJ120 Water Jet Aspirator produces vacuum and removes organic vapors from evaporators, concentrators, and drying systems. This prevents degradation of vacuum pump oil by solvents and reduces the possibility of laboratory contamination. The unit will condense corrosives and organic or inorganic acids and alkalis. Solvent vapors may be removed from vacuum chambers, distillation equipment, filtering flasks, desiccators, dialyzers, and reservoirs. Savant Instruments. Circle 556.

Gas Chromatograph/Mass Spectrometer

The 5100 series is augmented by the 5100EF for environmental laboratories. Model 5100EF comprises the model 9611 gas chromatograph, a quadrupole mass spectrometer with a mass range from 4 to 800 atomic units, and the SuperIncos data system with AutoQuan quantitation software. The software includes programs for instrument control and for searching the NBS/EPA library of mass spectra. An ion source for electron ionization is standard and a chemical ionization and a Pulsed Positive Ion-Negative Ion Chemical Ionization/(PPINICI) accessory are options. Finigan MAT. Circle 557.

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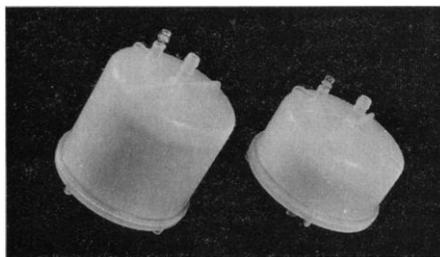
Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement 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 (on pages 318A and 422E) and placing it in a mailbox. Postage is free.

Image Analysis for Autoradiography

The RAS-R100 is designed to analyze receptor autoradiograms. It identifies, localizes, and measures neurotransmitter and drug-binding distribution. The system provides quantitative data to assist in neurobiological studies. Such techniques as competitive inhibition, saturation, kinetic association and dissociation, and others may be enhanced. Multigroup regional comparisons, univariational mapping, and single- and double-concentration drug displacement experiments are also likely to benefit from the RAS-R100. The system comprises a computer, integrated analysis and video-digitizing subsystems, two color monitors, printer, graphics pad, and special firmware and software dedicated to receptor analysis. Modular design renders the system able to be placed in a variety of configurations to fit available laboratory space. The computer is the IBM PC XT or AT and its original functions are not altered so the addition of this application may be used to enhance its utility and cost-effectiveness. Amersham, Research Products Division. Circle 577.

Modular Chromatography Devices

Zetachrom 100 and 250 are modular, fully contained chromatography devices. They combine high-capacity matrix with high flow rates to eliminate gel fines, channeling, bypass, and bed volume changes during buffer exchange. Both units are available for DEAE, QAE, and SP methods. Both units may be operated by gravity or by peristaltic pumps. They are prepacked, ready to use, and disposable. They may be refrig-



erated before elution to store bound proteins. Zetachrom 100 units offer flow rates of 20 to 50 ml/min with a maximum operating pressure of 50 psi at 20°C . Zetachrom 250 units offer flow rates of 75 to 125 ml/min. The medium is a solid-phase matrix composed of a cellulose support for mechanical strength, vinyl copolymers as functional-group carriers, and a cross-linker for controlled porosity and dimensional stability. The "housing" of these units is made of

polypropylene. They may be autoclaved, wet, at 121°C for 60 minutes (Zetachrom 100) or for 90 minutes (Zetachrom 250). Cuno Molecular Separations. Circle 575.

Cell Culture Reactor

The Bioreactor is a conical glass culture vessel whose shape requires reduced gas flow and gentler circulation to yield higher cell density and productivity. This vessel eliminates foaming problems in high-serum media. The Bioreactor ensures efficient mass transfer and a homogenous, low-shear environment for suspended cells and microcarriers. Automation of harvest-feed cycles and microprocessor control with programmable cartridges render operation easy to learn. The 3.5 liter borosilicate glass culture vessel is easy to remove for autoclaving. Bellco Biotechnology. Circle 552.

Literature

Earth Science Slides comprises a set of 500 35-mm slides to be used to illustrate principles of geology. These are suitable for supplementing classroom, laboratory, and fieldwork in geology and physical science courses. A guidebook accompanies each set. Crystal Productions. Circle 561.

Graphics 86 is a catalog of materials to render preparation of scientific and academic illustrations, posters, charts, graphs, and slides easier. Scientific Instrument Services. Circle 562.

Monoclonal Antibody Table illustrates functional lymphocyte subsets. This chart depicts the reactivities of Leu monoclonal antibodies with leukocyte subpopulations in normal human peripheral blood. Becton Dickinson Immunocytometry Systems. Circle 563.

Laboratory Analyzers includes apparatus for Kjeldahl analysis, solvent extraction, laboratory data management, sample preparation, and ion analysis, all of particular use in food testing laboratories. Tecator. Circle 566.

Cryoscope describes the Cryette which is designed to measure the freezing point depression of solutions with freezing points from -6° to 26°C . Precision Systems. Circle 567.

Liquid Scintillation Counter is devoted to the Raytest model that offers 15-program multiuser capability. IN/US Service. Circle 568.

Titration describes the Metrohm 682 titrator which automates operation of up to four burettes with up to 40 stored programs. Brinkmann Instruments. Circle 580.

Studies. Structure and Biogenesis, Oxidation and Energetics. Lester Packer, Ed. Plenum, New York, 1985. x, 554 pp., illus. \$85. NATO Advanced Science Institutes Series A, vol. 91. From an institute, Spetsai, Greece, Aug. 1984.

Recent Advances in Planetary Meteorology. Garry E. Hunt, Ed. Cambridge University Press, New York, 1985. xiv, 161 pp., illus. \$39.50. From a symposium, Hamburg, Aug. 1983.

Relativistic Astrophysics. Marek Demiański. Pergamon, New York and PWN—Polish Scientific Publishers, Warsaw, 1985. xii, 341 pp., illus. \$45. International Series in Natural Philosophy, vol. 110. Translated from the Polish edition by Antoni Pol.

Representation and Responsibility. Exploring Legislative Ethics. Bruce Jennings and Daniel Callahan, Eds. Plenum, New York, 1985. xvi, 332 pp. \$39.50. Hastings Center Series in Ethics.

Research and Development in Expert Systems. M. A. Bramer, Ed. Cambridge University Press, New York, 1985. viii, 228 pp. \$34.50. From a conference, Warwick, England, Dec. 1984. British Computer Society Workshop Series.

Research on Exemplary Schools. Gilbert R. Austin and Herbert Garber, Eds. Academic Press, Orlando, FL, 1985. xiv, 232 pp. \$42.50; paper, \$24.95. Education Psychology.

Restoring the Earth. How American Are Working to Renew Our Damaged Environment. John J. Berger, Knopf, New York, 1985. xii, 241 pp. \$16.95.

Reverse Osmosis/Ultrafiltration Process Principles. S. Sourirajan and Takeshi Matsuura. National Research Council Canada, Ottawa, Ontario, 1985. vii, 1113 pp., illus. C\$125.

Science and Technology Indicators for Development. Hiroko Morita-Lou, Ed. Westview, Boulder, CO, 1985. xvi, 207 pp. Paper, \$18. United Nations Science and Technology for Development Series. From a meeting, Graz, Austria, May 1984.

Sea Fog. Wang Binhua. China Ocean Press, Beijing, and Springer-Verlag, New York, 1985. iv, 330 pp., illus. \$79. Translated from the Chinese.

Star Warriors. A Penetrating Look into the Lives of the Young Scientists behind our Space Age Weaponry. William J. Broad. Simon and Schuster, New York, 247 pp., illus. \$16.95.

The State of Graduate Education. Bruce L. R. Smith, Ed. Brookings Institution, Washington, DC, 1985. x, 193 pp., illus. Paper, \$9.95. Brookings Dialogues on Public Policy. From a conference, Washington, DC, Nov. 1984.

Stereochemistry of Heterogeneous Metal Catalysis. M. Bartók *et al.* Wiley-Interscience, New York, 1985. xxiv, 632 pp., illus. \$135.

Structures and Procedures of Implicit Knowledge. Arthur C. Graesser and Leslie F. Clark. Ablex, Norwood, NJ, 1985. viii, 326 pp., illus. \$42.50; paper, \$24.50. Advances in Discourse Processes, vol. 17.

Surface and Interfacial Aspects of Biomedical Polymers. Vol. 2, Protein Adsorption. Joseph D. Andrade, Ed. Plenum, New York, 1985. xviii, 347 pp., illus. \$49.50.

Survey Research for Geographers. Ira M. Sheskin. Association of American Geographers, Washington, DC, 1985. viii, 112 pp. Paper, \$6. Resource Publications in Geography.

Taxonomic Analysis in Biology. Computers, Models, and Databases. Lois A. Abbott, Frank A. Bisby, and David J. Rogers. Columbia University Press, New York, 1985. xvi, 336 pp., illus. \$40; paper, \$16.50.

Teaching Children about Science. Ideas and Activities Every Teacher and Parent Can Use. Elaine Levenson. Illustrations by Deborah A. Coulombe. Prentice-Hall, Englewood Cliffs, NJ, 1985. x, 214 pp., illus. Paper, \$14.95. Prentice-Hall Science Education Series.

Theory of Heavy Fermions and Valence Fluctuations. T. Kasuya and T. Saso, Eds. Springer-Verlag, New York, 1985. xii, 287 pp., illus. \$27.50. Springer Series in Solid-State Sciences, vol. 62. From a symposium, Shima Kanko, Japan, April 1985.

Toxic Susceptibility. Male/Female Differences. Edward J. Calabrese. Wiley-Interscience, New York, 1985. xvi, 336 pp., illus. \$59.95.

Treatise on Basic Philosophy. Mario Bunge. Vol. 7, Epistemology and Methodology III: Philosophy of Science and Technology. In two parts. Part 1, Formal and Physical Sciences. xii, 263 pp., illus. \$39; paper, \$22. Part 2, Life Science, Social Science and Technology. xii, 341 pp., illus. \$49; paper, \$24.50. Reidel, Dordrecht, 1985 (U.S. distributor, Kluwer, Hingham, MA).

The Two Faces of Chemistry. Luciano Cagliari. MIT Press, Cambridge, MA, 1985. xvi, 218 pp. Paper, \$8.95. Translated from the Italian edition (Milan, 1979) by Mirella Giacconi. Reprint, 1983 edition.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Any deadline in ad must be at least 2 weeks after date of issue in which ad appears. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference.

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Bio-Organic Chemist, Ph.D. 1982. Drug metabolism, cytochrome P-450 mechanistic study, physical organic, and synthetic organic chemistry. Experience with HPLC, NMR, UV, and MS. Seeking research position in bio-organic/pharmaceutical chemistry, drug metabolism, or bioanalytical chemistry. Available immediately. Box 10, SCIENCE. 1/24, 31; 2/7

Bio-Organic/Organic Chemist: Ph.D. (Calcutta) 1962. Working on extraction, separation, isolations, and estimations of the major phospholipids from experimental lung-tissue samples. Enjoys writing of the chemical structures of organic molecules. Will prefer part-time research/teaching job in Manhattan. Available in May 1986. Dr. Ghosh, Apartment Number 7K, 60 East 12 Street, New York City, NY 10003. 1/24, 31; 2/7

Cellular/Molecular Biologist, Ph.D. Seeking administrative/management position. Extensive experience in diagnostic biotechnology assessment—interfacing information between R&D and upper management for two major health care corporations. Expertise in development of nonradioactive DNA probe diagnostic products. Strong immunological and protein chemistry background. Box 11, SCIENCE. X

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Biostatistician. Ph.D., with 20 years of consulting/research experience in biology, epidemiology, medical research, seeks supervisory research position. Publications and computer background in SAS, BMD, SPSS, and Fortran. Box 6, SCIENCE. 1/24, 31

A recent Ph.D. in **Physical (Analytical) Chemistry** with several years of experience as a lecturer. Research in biophysical chemistry with current publication. Seeks teaching/research position in academic environment. S. Marvasti, 20 Bloomer Drive, Burlington, NJ 08016. Telephone: 609-387-3221. X

Immunologist. Ph.D. Experienced scientist with background in university and industrial research in cellular immunology and hybridoma/monoclonal antibodies. Experienced in all phases of laboratory operation. Seeking position in industrial or academic setting. Box 8, SCIENCE. 1/24, 31

Immunologist, Ph.D. (Microbiology, M.A.) Established and managed monoclonal antibody laboratories; directed enzyme and fluorescence immunoassay development for FDA-approved diagnostic kits; supervised manufacture of indirect fluorescence tests. Seeks managerial/scientist position. Box 267, SCIENCE. X

Medical Microbiologist/Physician. M.S., M.D. (University of Michigan). Presently engaged in postdoctoral training at major university in fungal pathogenesis. Extensive knowledge of medical mycology. Seeks academic position. Ample teaching experience. Bilingual. Box 284, SCIENCE. X

Pathologist/Biostatistician. Seeking medical research position in industry or academia. Interest is in applying mathematics to medical science, combining theoretical and experimental aspects. Experience in epidemiology, nutrition, computers, and management. Box 281, SCIENCE. X

Product Development Manager, Ph.D. Thirteen years of experience in development and manufacture of microbiological reagents and diagnostics. Familiar with FDA and GMP guidelines. Hands-on experience with bulk cultivation, separation, sterilization, freeze drying, and high-volume packaging technologies. Good analytical and planning skills have successfully interacted with regulatory, QA/QC operations, and manufacturing at all stages of product development. Seeks senior pilot-plant or manufacturing management position in diagnostics/pharmaceutical industry. Box 5, SCIENCE. X

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOLOGY. A tenure-track position to teach major and nonmajor courses in the areas of genetics, microbiology, immunology, and general biology. Candidates must have a Ph.D., be committed to undergraduate teaching, and be able to develop a research program that involves undergraduates. Send résumé and three letters of recommendation to: **Dr. Patricia S. Brown, Head, Biology Department, Siena College, Loudonville (Albany), NY 12211.**

ASSISTANT PROFESSORS OF MOLECULAR MICROBIOLOGY

The Department of Botany and Microbiology at Oklahoma State University is seeking applicants for two new tenure-track positions in microbiology as part of an expanding program in **molecular genetics**. Candidates should have postdoctoral experience utilizing recombinant DNA techniques and research interests/expertise in one or more of the following: microbial physiology, molecular virology, gene regulation, nitrogen fixation, transformation with Ti plasmids, amino acid sequencing, and transposon mutagenesis. Extensive facilities for molecular biological research are currently available and will expand with the completion of a \$40 million center for biotechnology at Oregon State University. Funds will be provided to help the appointees establish competitive research programs. Each appointee will be expected to teach an undergraduate course in microbiology and develop a graduate course in his/her area of expertise. To assure full consideration, send curriculum vitae, statement of research goals, transcripts, and names of three references by 15 March 1986 to: **Dr. Glenn Todd, Head, Department of Botany and Microbiology, Oklahoma State University, Stillwater, OK 74078. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION
SECTION ON VIRUSES
AND CELLULAR BIOLOGY
NATIONAL INSTITUTE OF CHILD HEALTH
AND HUMAN DEVELOPMENT
NATIONAL INSTITUTES OF HEALTH**

Applications are invited for a postdoctoral position (Ph.D. or M.D.) which will be available beginning September, 1986. Within the broad area of developmental biology, this laboratory studies mechanisms of viral and cell DNA replication, as well as mutagenesis. *In vitro* DNA replication systems are used extensively.

A background in molecular biology or biochemistry is required, and preference will be given to candidates with experience in nucleic acid and enzyme chemistry. Excellent facilities and research support are available. Salary will be commensurate with experience and qualifications.

Please send a curriculum vitae, the names of three (3) references, and a brief summary of research accomplishments and goals to:

**Dr. Kathleen Dixon,
Section on Viruses and Cellular Biology,
Building 6, Room 1A15,
NICHD, NIH
Bethesda, MD 20892**

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

Pharmacologist

Smith Kline & French Laboratories, a major worldwide pharmaceutical company, has an immediate opening for a scientific administrative position in the department of Pre-registrational Affairs at the company's new worldwide R&D headquarters located in suburban Philadelphia near Valley Forge, PA. This opening offers a manager-level position with the opportunity to develop knowledge of the drug development and registration process from a worldwide perspective.

The successful applicant will be responsible for reviewing pharmacology reports and for preparing summaries and evaluations of the data which will be included in the dossiers used by SK&F Regulatory Affairs groups in order to obtain clinical trials and marketing approval worldwide. He/she will also be involved in responding to questions from regulatory authorities. Other duties will include advising R&D on current worldwide regulatory requirements, being a member of development project teams and maintaining an awareness of new developments in pharmacology. Some overseas travel is expected.

Candidates must have a Ph.D. in pharmacology, a minimum of five years relevant experience in industry, together with excellent writing ability and demonstrated skills in report and document preparation. A knowledge of molecular biology or biotechnology would be a distinct advantage.

Smith Kline & French offers an excellent salary and benefits package. For confidential consideration interested candidates should send CV's to M. O'Neill, Smith Kline & French Laboratories, 1586 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer, M/F/H/V.

SK&F
A SmithKline Beckman Company



Public Service Commission Commission de la Fonction
of Canada publique du Canada

Research Scientist, Senior Invertebrate Zoologist

**National Museums of Canada
Invertebrate Zoology Division
Ottawa, Ontario**

We require an experienced scientist to curate the national collection of invertebrates. You will develop the collection by conducting field trips to acquire specimens. You will also assist in the selection of projects and in the research conducted on systematics, taxonomy, zoogeography and ecology on a world-wide scope with special reference to Canada. In addition, you will be responsible for providing service to the scientific and general public, including involvement with the production of displays and exhibits.

You require graduation with a doctorate degree from a recognized university or a lesser degree with evidence of research experience and productivity equivalent to that of a doctorate degree in a biological science. Experience in the field of systematics research and in supervision and administration is required. Knowledge of English and French is essential. Please note that in some cases language training may be offered.

We offer a salary ranging from \$28,176 to \$52,409 commensurate with your qualifications and experience.

**Forward your résumé and/or
application form, quoting reference
number S-85-31-5915-47JG-(G35), to:**
Joan Girling (613) 996-8054
Public Service Commission of Canada
Ottawa, Ontario K1A 0M7

Closing date: February 28, 1986
*Vous pouvez obtenir ces renseignements en
français en communiquant avec la personne
susmentionnée.*

The Public Service of Canada is
an equal opportunity employer

Canada

POSITIONS OPEN

ANTIVIRAL DRUG EVALUATION

Postdoctoral Fellow/Research Associate position is available to work on the evaluation of new nucleoside analogues with respect to their antiviral activity against human herpesvirus, as well as to their potential use as radiolabeled probes to selectively image herpesvirus infections in vivo. The latter studies are currently using quantitative autoradiographic methods for preclinical development of probes for noninvasive diagnosis and pathophysiologic studies of human herpes encephalitis. Please send curriculum vitae and bibliography along with the names of three references to: **Richard W. Price, M.D., Department of Neurology, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021. Equal Opportunity Employer, M/F/H.**

ASSISTANT PROFESSOR—The Department of Physiology and Biochemistry invites applications for a tenure-track position available July 1986. Individuals working in any area of biochemistry or cell and molecular biology as applied to lipid metabolism and atherogenesis are encouraged to apply. Candidates will be expected to establish an independent research program, contribute to the teaching activities of the department, and participate in the atherosclerosis and cardiovascular research group. Send curriculum vitae, names and telephone numbers of three references, and a brief description of research objectives to: **Dr. George Rothblat, Professor and Chairman, Department of Physiology/Biochemistry, Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, PA 19129. Equal Opportunity Employer, M/F.**

ASSISTANT/ASSOCIATE PROFESSOR OF METEOROLOGY. Applications are invited for a tenure-track, 9-month academic appointment in the Department of Meteorology, University of Hawaii at Manoa, beginning 1 August 1986. **Salary range:** assistant professor—\$22,728 minimum to \$33,648 maximum; associate professor—\$28,752 minimum to \$42,576 maximum. This may be supplemented up to an additional 27.8 percent from other sources (including grants and contracts) during the summer. **Duties:** Teach undergraduate and graduate courses in dynamic meteorology and numerical modeling and forecasting; develop an active sponsored research program; and supervise the work of graduate students. **Minimum qualifications for assistant and associate professor:** Ph.D. in meteorology, demonstrated ability as a teacher. Rank and grade within rank will be determined by experience. Submit an application (including a complete curriculum vitae, publications list, and a statement of teaching and research interests) and arrange for two letters of recommendation sent directly to: **Dr. Wan-Cheng Chiu, Acting Chairman, Department of Meteorology, University of Hawaii at Manoa, 2525 Correa Road, Honolulu, Hawaii 96822. Inquiries: Telephone: 808-948-7476. Closing date:** 31 March 1986, or until a qualified candidate is selected. *The University of Hawaii is an Equal Opportunity Employer.*

ASSISTANT OR ASSOCIATE PROFESSOR

Excellent academic opportunity for M.D./Ph.D. researcher in new, basic brain science program bearing on psychiatric disorders (molecular level research preferable). Must have demonstrated skills in basic research and be credentialed in psychiatry (minimum: Board-eligible). Funding available: personal salary, laboratory equipment, and start-up salaries. Some teaching and minimal clinical duties. Curriculum vitae and sample papers to: **K. Z. Altshuler, M.D., University of Texas Health Science Center, Department of Psychiatry, 5323 Harry Hines, Dallas, TX 75235-9070. An Equal Opportunity Employer University.**

ASSISTANT PROFESSOR OF BIOLOGY—Position available May 1986. Undergraduate teaching responsibilities include: zoology, anatomy, physiology, genetics, and cell biology. Ph.D. with commitment to, and experience in, teaching required. Send curriculum vitae, three letters of recommendation, and transcripts to:

Sister John Karen Frei, O.P. Ph.D.
Associate Vice President
Academic Health Science Center
Barry University
11300 Northeast Second Avenue
Miami Shores, Florida 33161
Equal Opportunity Employer

POSITIONS OPEN

MEMORIAL UNIVERSITY OF NEWFOUNDLAND DEPARTMENT OF BIOCHEMISTRY ASSISTANT/ASSOCIATE PROFESSOR IN BIOCHEMISTRY

The Department of Biochemistry, Memorial University of Newfoundland, St. John's, Newfoundland, invites applications from qualified individuals for a tenure-track faculty position at the level of assistant/associate professor of biochemistry. Applicants should have a Ph.D. and productive postdoctoral experience if appointed at the assistant professor rank, and a proven record of independent research if appointed at the associate professor rank. The successful candidate will be required to establish a strong, independent research program and to undertake undergraduate and graduate teaching. The department has strong interests in biological oxidation and toxicology, molecular biology, metabolic biochemistry, and biochemistry of macromolecules and membranes. The position is, at present, subject to budgetary approval. Applicants should submit curriculum vitae and names of three referees to: **Dr. S. Mookerjee, Head, Department of Biochemistry, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, A1B 3X9, before 1 April 1986.**

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

ASSISTANT PROFESSOR— PLANT GENETICIST

Tenure-track position fall 1986. Ph.D. preferred. Salary dependent on qualifications and experience. Teach introductory courses, botany, genetics, and cell biology. Application deadline 1 March 1986. Provide evidence of quality teaching. Send letter, curriculum vitae, transcripts, and three letters of reference to: **Dr. R. L. Stoffer, Chair, Search Committee, Department of Biology, Ashland College, Ashland, Ohio 44805. Equal Opportunity/Affirmative Action Employer**

DEPARTMENT OF CELLULAR, VIRAL, AND MOLECULAR BIOLOGY UNIVERSITY OF UTAH

The Department of Cellular, Viral, and Molecular Biology presently has two tenure-track positions available at the **ASSISTANT PROFESSOR** level. Qualified candidates will be considered at the associate professor level as well. Applicants should hold a Ph.D. and/or an M.D. degree, have postdoctoral experience, and have demonstrated ability to do research independently. Participation in graduate and medical teaching programs will be expected. Current faculty research interests include: heat shock proteins in *Escherichia coli*, lambda molecular genetics, translational control in prokaryotes, topoisomerases, bacteriophage assembly, animal virus RNA polymerases, virus-host cell interactions, and genome reorganization in ciliated protozoans. Applicants should send curriculum vitae, present and future research plans, and should arrange to have three letters of recommendation sent to: **Faculty Search Committee, Department of Cellular, Viral, and Molecular Biology, University of Utah School of Medicine, Salt Lake City, Utah 84132. Deadline for applications is 15 March 1986. Equal Opportunity/Affirmative Action Employer.**

ASSISTANT RESEARCH SCIENTIST for clinical-research neuropsychologist to join behavioral neurology group of the Department of Neurology, College of Medicine, University of Florida. Ph.D. required in clinical psychology, with strong emphasis on basic experimental design in models of behavior and statistical analysis. Experience working with neurologically impaired populations and research expertise in memory, emotion, praxis, and attention in both patients and normals. Specific requirements include knowledge of psychophysiological techniques and computer analysis of movement. Background in experimental design and statistics, as well as knowledge of human neuroanatomy and neuropsychological assessment required. Salary commensurate with expertise. Send résumé to: **Kenneth M. Heilman, M.D., Department of Neurology, Box J236, University of Florida, Gainesville, Florida 32610. An Equal Opportunity/Affirmative Action Employer.** Application recruiting deadline 7 February 1986. Anticipated starting date 7 March 1986.

POSITIONS OPEN

ASSISTANT RESEARCH BIOCHEMIST (Professor of Research Series) SALARY APPROXIMATELY \$30,000

Position available for Ph.D. in biochemistry with minimum of 5 years postdoctoral experience to do work in tumor invasion and metastasis. Established record required in hydrophobic chromatography, connective tissue biochemistry, and calcium-regulated proteases as demonstrated by publication of appropriate papers in reputable journals. Send curriculum vitae, bibliography, and names and addresses of four references to: **Sanford Barsky, M.D., Department of Pathology, UCLA School of Medicine, Los Angeles, California 90024. UCLA is an Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.**

ASSOCIATE DIRECTOR AND MANAGER OF BOTANICAL GARDENS. The University of Michigan solicits applications for the position of associate director and manager of the Matthaei Botanical Gardens. We seek an experienced horticulturalist-administrator who can relate well to faculty, students, and the public. Candidates should have at least a master's degree in horticulture, botany, or a related field or an equivalent combination of education and experience, and must have had substantial experience in administration, as well as in the propagation and preparation of plant material for research. The associate director and manager reports to the director who provides general leadership and oversight, but is not ordinarily involved in day-to-day administration. The botanical gardens is about 250 acres in size and contains several greenhouses and other research facilities together with a display conservatory. The gardens are a unit within the Department of Biology, but provide plant material and research facilities for faculty and students from several departments.

THE DIRECTOR WILL: (i) manage the gardens and direct the staff, (ii) supervise the planning for and the maintenance of the physical facilities, (iii) work with faculty and students to facilitate their teaching and research, and (iv) direct the public relations program.

Salary will be commensurate with education and experience. A faculty appointment (adjunct or tenured) is not necessary, but could be considered for applicants with appropriate credentials.

First consideration will be given to applications received by 15 February 1986. Send a letter, current résumé, and three references to: **Robert S. Holbrook, Associate Vice President for Academic Affairs, The University of Michigan, 503 Thompson Street, Ann Arbor, MI 48109-1340; telephone: 313-763-1282.**

The University of Michigan is a Non-discriminatory, Affirmative Action Employer.

THE AUSTRALIAN NATIONAL UNIVERSITY invites applications from suitably qualified men and women for appointment as **BEHAVIORAL SCIENTIST OR RESEARCH PSYCHIATRIST** (Research fellow, spru), NH and MRC social psychiatry research unit and Who Collaborating Center for the Epidemiology of Mental Disorders, who should have a doctorate and evidence of research experience in the form of published work. Training and experience relevant to the unit's program of work will be a necessary qualification. The unit is engaged in research in two areas: the measurement and natural history of neurosis, including the detection of vulnerability factors; and the epidemiology of dementia and depression in later life. The person appointed will work in either or both of these subjects. Experience relevant to the measurement of personality traits or of social support would be an advantage. The appointment will be for 3 years in the first instance, and is available from 1 July 1986. There is a possibility of extension after review, for a further period of up to 2 years. Inquiries to: **The Director of the Unit, Dr. A.S. Henderson (062) 473695.** Closing date: 7 February 1986. Reference SP: 5.12.1 Salary will be in accordance with qualifications and experience within the range: Research fellow \$27,233 to \$35,777 per annum. A clinical loading may be payable to a medically qualified appointee (\$4,919 per annum). Grants towards travel, assistance with housing, superannuation. Maternity leave is available. The university reserves the right not to make an appointment or to make an appointment by invitation at any time. Applicants should quote the reference number when submitting applications to: **R. V. Dubs, Registrar, GPO Box 4, Canberra, ACT, 2601 Australia. The University is an Equal Opportunity Employer.**

A senior faculty position, with tenure, at the University of California, Los Angeles.

Joint appointment in the Department of Physiology, School of Medicine, and The Crump Institute for Medical Engineering, effective July 1, 1986. Salary and rank to be determined according to experience. Duties include graduate teaching of topics in dynamical systems theory to graduate students of Physiology and other departments, and possibly some lectures in the medical curriculum. Half time or more will be reserved for research. Candidates should have a strong background in physical and mathematical biology with emphasis on topological approaches to dynamic stability and analysis of biological rhythms.

The appointee will spend most of his time at the Medical Engineering Institute, which is a multidisciplinary group of about twelve scientists from Physics, Engineering, Physiology, Medicine, Psychology and Pediatrics. He will be expected to participate in the regular multidisciplinary work of the Institute scientists, who jointly undertake research projects that apply physical, mathematical and engineering knowledge to biomedical problems, theoretical or practical and clinical. He will also have the opportunity to work collaboratively with members of the Physiology Department, according to mutual agreements, in addition to maintaining his own research program.

The base salary for this senior position is funded by the State of California and is a 12 month/year salary commitment.

Please send statements of interest and curriculum vitae to:

Dr. F. Eugene Yates, Director
Crump Institute for Medical Engineering
University of California, Los Angeles
6417 Boelter Hall
Los Angeles, California 90024

BEFORE: March 1, 1986

"UCLA is an Equal Opportunity/Affirmative Action Employer."

**BIOMEDICAL
LITERATURE ANALYSTS**

Doctorate degree in the Biological or Medical Sciences or similar.

The MOST IMPORTANT qualification is a PROVEN, OUTSTANDING ABILITY to critically and perceptively ANALYZE published SCIENTIFIC STUDIES, data, meeting presentations and related, in great depth and expeditiously on a peer review level.

Open-mindedness, high intelligence, and professional integrity important. Broad biomedical or related background essential, preferably with emphasis on etiology of chronic diseases, i.e., cancers and/or cardiovascular and/or chronic respiratory, etc. Fast reading comprehension essential. Good writing skills are important, as well as ability to explain complex scientific matters on an intelligent layman's level. Prefer recent post-graduate with some industrial or academic or editorial or similar experience.

A second position requiring a B.S. or Masters degree is also available having a thrust similar to what is specified above.

Positions are with a small New York City firm that is a scientific consultant in the defense of industrial liability litigation.

Please send detailed curriculum vitae including college(s), and positions held since graduation, professional references (no contacts will be made without applicant's consent), etc. to:

**Box 274
SCIENCE**

**BIOMEDICAL
LITERATURE ANALYSTS**

Doctorate degree in the Biological or Medical Sciences or similar.

The MOST IMPORTANT qualification is a PROVEN, OUTSTANDING ABILITY to critically and perceptively ANALYZE published SCIENTIFIC STUDIES, data, meeting presentations and related, in great depth and expeditiously on a peer review level.

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A second position requiring a B.S. or Masters degree is also available having a thrust similar to what is specified above.

Positions are with a small New York City firm that is a scientific consultant in the defense of industrial liability litigation.

Please send detailed curriculum vitae including college(s), and positions held since graduation, professional references (no contacts will be made without applicant's consent), etc. to:

**Box 274
SCIENCE**



**NATO ADVANCED
STUDY INSTITUTE**

**Principles and
Clinical Implications
of Neuroreceptor
Modulation**

**Corfu, Greece
June 16-27, 1986**

A series of lectures, tutorials and panel discussions will focus on the various aspects of neuroreceptor modulation, from the most basic and modern techniques of molecular biology, through the relevant anatomical, biochemical and pharmacological aspects of the field, to the clinical implications of receptor modulation.

Faculty includes: M. P. Abbraccio, Italy; J. C. Stoof, Netherlands; D. Comar, France; E. Costa, USA; C. De Montigny, Canada; A. Frazer, USA; G. L. Gessa, Italy; S. Langer, France; P. B. Molinoff, USA; N. H. Neff, USA; P. F. Spano, Italy; A. Gropetti, Italy; E. Kouvelas, Greece; A. D. Strosberg, France; A. J. Friedhoff, USA; B. Weiss, USA.

The course is open to scientists and postdoctoral fellows in molecular biology, biochemistry, physiology, pharmacology and relevant clinical sciences.

For further information contact: **Dr. Benjamin Weiss, Medical College of Pennsylvania, Eastern Pennsylvania Psychiatric Institute, 3200 Henry Ave., Philadelphia, PA 19129 (215) 842-4665.**

**RESEARCH BIOANALYTICAL
CHEMIST**

The Upjohn Company has a Research Scientist opening in its Drug Metabolism Research Department for a creative individual with a strong background in bioanalytical chemistry. The successful candidate will have the opportunity to make individual contributions in research aimed at the discovery and development of new pharmaceutical products. Responsibilities will include the development of specific and sensitive analytical methods for the measurement of drugs and their metabolites in biological systems; and the conduct of biopharmaceutics and pharmacokinetics projects at both the preclinical (animal) and clinical pharmacology (human) stages of drug development.

The successful candidates will have a Ph.D. in analytical chemistry, biochemistry, pharmaceutical sciences, or a closely related field; familiarity with the modern tools of separation and physico-chemical analysis is essential; previous experience in pharmaceutical or biochemical analysis is highly desirable as is the knowledge of pharmacokinetics; ability to communicate effectively with scientists in other disciplines on an intra- and inter-unit basis is required.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a mix of excellent cultural, educational and recreational pursuits, including numerous lakes and a four-season climate. Upjohn offers an excellent salary, commensurate with experience and an outstanding benefits program.

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 17898-B when calling.

Upjohn

A century of caring

An Equal Opportunity Employer M/F

POSITIONS OPEN

ASSOCIATE/ASSISTANT PROFESSOR

Medical College of Pennsylvania (MCP) invites applications for tenure-track associate or assistant professor of pharmacology. Applicant will be expected to establish an extramurally supported research program, participate in graduate teaching program, and have the opportunity to design laboratory space for own use. Candidates with background and interest in the cardiovascular system and aging are encouraged to apply. Submit curriculum vitae, statement of research plans, and names and addresses of at least three references to: **Dr. Jay Roberts, Professor and Chairman, Pharmacology, MCP, 3300 Henry Avenue, Room 305C, Philadelphia, Pennsylvania 19129. MCP is an Equal Opportunity Employer.**

ASSOCIATE OR FULL PROFESSOR—The Department of Physiology/Biochemistry and Surgery has a combined tenure-track position opening for an associate or full professor with an established research program in the area of platelet function and/or platelet vessel wall interaction. This individual will be responsible for organizing a multidisciplinary research effort in conjunction with established programs in atherosclerosis, thrombosis, cardiovascular physiology, and vascular surgery. Send curriculum vitae, names and telephone numbers of three references, and a brief description of research objectives to: **Dr. George Rothblat, Professor and Chairman, Department of Physiology/Biochemistry, Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, PA 19129. Equal Opportunity Employer, M/F.**

AUDITORY NEUROSCIENTIST—Assistant Professor. The Department of Neurophysiology of the University of Wisconsin Medical School invites applications for a tenure-track faculty position. Candidates must have demonstrated outstanding potential for independent research in auditory neuroscience. The individual will be expected to devote primary effort to research, but will also participate in the teaching of medical, graduate, and postdoctoral students. Send letter describing research interests, curriculum vitae, and names of three references to: **J. E. Hind, Chairperson, Department of Neurophysiology, 1300 University Avenue, Madison, WI 53706. Deadline for receipt of applications is 17 February 1986. The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.**

BIOLOGY

Assistant professor, tenure-track to begin 1 September 1986. Ph.D. The department is seeking an individual who has a broad background in developmental biology using modern cellular, molecular, and/or genetic approaches to investigate problems in differentiation or development. Develop and teach upper division lecture/laboratory courses in the area of developmental biology and one other course in a related area of interest, for example, reproductive biology or molecular evolution. Share teaching of lower division biology sequence and eventually contribute to Core Studies program for non-majors. Lewis and Clark College is a private liberal arts college with approximately 1500 undergraduates enrolled in 23 academic departments and several interdisciplinary programs. Applicants should demonstrate commitment to quality undergraduate teaching and a continuing program of scholarly inquiry. Applications must include: (i) a letter of application including a statement of educational philosophy and career goals; (ii) curriculum vitae; (iii) a syllabus that would be used in a developmental biology course; (iv) three letters of reference. Applications must be received by 15 February 1986. Submit to: **Steven Seavey, Chair, Biology Department, Lewis and Clark College, Portland, Oregon 97219. Telephone: 503-293-2726. Lewis and Clark is an Equal Opportunity Employer and encourages the application of women and minority candidates.**

BIOLOGY FACULTY

Applications are invited from exceptional candidates whose research interests lie in the molecular and cell biology of eukaryotic systems, including plant and animal developmental biology, and cellular and molecular immunology. Interested persons should send curriculum vitae, statement of research interests, and the names and addresses of three referees to:

**Chairman, MCD Biology Search Committee
Division of Biology, 156-29
California Institute of Technology
Pasadena, CA 91125**

Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

AVIAN ECOLOGIST-RESEARCH FELLOW NATURAL RESOURCES RESEARCH INSTITUTE UNIVERSITY OF MINNESOTA, DULUTH DULUTH, MINNESOTA

The newly established Natural Resources Research Institute at the University of Minnesota, Duluth has an immediate opening for a research fellow specializing in avian ecology.

Minimum Qualifications: M.S. degree in biology or related field with 1 year of experience.

Desired Qualifications: Ph.D. or M.S. degree and 3 years of experience in biology or related field.

We seek a Ph.D. or M.S. with 1 to 3 years of experience in biology or a related field who will be responsible for (i) censusing birds by sight and sound in northern forest habitats, (ii) organization and analysis of data collected, and (iii) preparation of reports and publications on the collected field data. This is a temporary 1-year position, and its continuation is dependent on the availability of research funds. We are particularly interested in individuals who have (i) ecological interests in the development and conservation of natural resources in northern ecosystems and (ii) desire to interact with a young and energetic staff of ecologists in the newly formed Natural Resources Research Institute. Applicants must be able to begin work on 1 April 1986. Send résumé and three letters of recommendation to: **Dr. Gerald J. Niemi, Chairman of Search Committee, Natural Resources Research Institute, 3151 Miller Trunk Highway, University of Minnesota, Duluth, MN 55811, postmarked by 1 March 1986.**

Salary is open.

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

BIOCHEMIST/STAFF SCIENTIST

Develop monoclonal antibodies to infectious agents and their biochemical characterization. The DNA from antibodies producing cells will be used in recombinant DNA techniques to improve the antibodies and will be properly characterized by immunochemical and biochemical techniques. Research experience in tissue culture, basic knowledge of immunology, hybridoma technology, and recombinant DNA technology (genetic engineering) is required. M.S. in biology or biochemistry; 40 hours per week, \$25,000 per year.

Send résumés to: **New York State Job Service, 55 Church Street, White Plains, NY 10601. Attention: E. Taylor, Job Number 0703321, DOT Number 041 061 026.**

CHAIRPERSON DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY MICHIGAN STATE UNIVERSITY

The colleges of human, osteopathic, and veterinary medicine invite nominations of, and applications from, individuals to lead this department which serves all three colleges. Candidates must have a D.O., D.V.M., M.D., and/or Ph.D. degree and an outstanding record of research in pharmacology and/or toxicology, a strong interest in professional and graduate education, and demonstrated leadership and administrative skills. Application should include a statement of interest in the position, curriculum vitae, and the names of three references. All materials should be sent to: **Harvey V. Sparks, Jr., M.D., Chair of Search Committee, Department of Physiology, Michigan State University (MSU), East Lansing, Michigan 48824. The deadline for receipt of these materials is 15 April 1986. MSU is an Affirmative Action/Equal Opportunity Employer.**

CLINICAL PHARMACOLOGIST. The Morehouse School of Medicine invites applications for a full-time faculty position in the Department of Pharmacology at the assistant or associate professor level. We seek candidates with the potential to develop a therapeutic drug monitoring service and research program related to clinical pharmacology. The position is available 1 July 1986. Please send curriculum vitae, statement of research plans, and three reference letters by 1 April 1986 to: **Dr. David W. Hein, Chairman, Department of Pharmacology, Morehouse School of Medicine, 720 Westview Drive, Atlanta, GA 30310. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

BIOCHEMIST OR MOLECULAR BIOLOGIST. Tenure-track, assistant professor; \$30,000; to 35,000 per 9 months dependent on experience. Start 24 August 1986. Require Ph.D.; prefer postdoctoral experience, strong chemistry background, and some university/college teaching experience. Duties: teaching and research in biochemistry/molecular biology, also some general chemistry teaching. Send curriculum vitae, statement of research and teaching interests, and three letters of reference to: **J. W. Keller, Chairperson, Search Committee, Department of Chemistry, University of Alaska, Fairbanks, AK 99701. Deadline 3 March 1986. The University of Alaska is an Equal Opportunity/Affirmative Action Employer and educational institution.**

BIOLOGY. Assistant/associate professor, developmental biology or comparative anatomy. Also teach general. Conduct research. Available 1 September 1986. Applications, three references to: **Dr. Cheryl Adams, Department of Natural Sciences, York College/City University of New York, Jamaica, NY 11451. Affirmative Action/Equal Opportunity Employer.**

CHAIRPERSON, BIOLOGICAL CHEMISTRY. Full-time position available in dental school on 1 September 1986. Faculty leadership in the area of departmental administration, teaching, research, and service is sought. Candidate must have demonstrated ability to generate extramural research support. Requires Ph.D. degree, with experience in teaching students in health professions. Department has interaction with graduate school and with dental science institute. Academic rank and salary commensurate with qualifications. Send inquiries and curriculum vitae to: **Dr. Max O. Hutchins, Department of Physiology, The University of Texas Health Science Center at Houston, Dental Branch, P.O. Box 20068, Houston, Texas 77225. An Equal Opportunity Employer. Women and minorities are encouraged to apply.**

The Department of Biology at University of Nevada, Reno is establishing a Eukaryotic Cell Biology Center. New faculty would interact with faculty in genetics, developmental biology, and ecology, develop a strong research program in their chosen field and participate in teaching of biology core courses. Several new appointments are expected. At this time, applications are invited for:

DEVELOPMENTAL BIOLOGIST: Ph.D. in developmental biology or related field; specialization in an area of cell differentiation, preferably embryogenesis of higher eukaryotes, at cellular to organismal level. Responsibilities: teaching embryology, graduate course(s) in area of specialization, research in cell differentiation using modern techniques of molecular biology.

CELL BIOLOGIST: Ph.D. in genetics or related field; research in an area of DNA integration/transformation in higher eukaryotes. Responsibilities: teaching a course in eukaryotic genetics and specialized graduate course; develop strong research program.

Appointments will be "B" academic year appointments starting August 1986; negotiable rank, salary, and tenure. *Well established investigators, especially minorities and women are encouraged to apply.*

Applicants must submit a letter of intent, curriculum vitae including future plan of research, transcripts, and three letters of reference by 10 March 1986 to:

**Baldev K. Vig, Chairman
Department of Biology
University of Nevada
Reno, NV, 89557-0015
Telephone: 702-784-6188**

Affirmative Action/Equal Opportunity Employer

PROFESSOR, NEUROPSYCHOPHARMACOLOGY DEPARTMENT OF PHARMACOLOGY, MCP

Medical College of Pennsylvania (MCP) invites applications for a faculty position at the rank of full professor. The successful applicant must have funded research grants in the area of neuropsychopharmacology. He/she will have the opportunity to submit their own design for laboratory space. Please submit curriculum vitae, statement of research plans, and names and addresses of at least three references to: **Dr. Jay Roberts, Professor and Chairman, Department of Pharmacology, Medical College of Pennsylvania, 3300 Henry Avenue, Room 305C, Philadelphia, Pennsylvania 19129. MCP is an Equal Opportunity Employer**

POSITIONS OPEN

CELL PHYSIOLOGIST. Valparaiso University, a private, Christian institution in the Lutheran tradition, invites applications for a tenure-track position at the level of assistant professor, beginning August 1986. A Ph.D. and a strong commitment to undergraduate teaching are required. Responsibilities include an upper-level cell physiology course with laboratory, development of a laboratory-based intermediate course, and participation in teaching an introductory course. An active research program, including supervision of undergraduate research, is also required. Submit letter of application, curriculum vitae, transcripts or list of course work, reprints, and three letters of reference to: **Dr. Robert Hanson, Department of Biology, Valparaiso University, Valparaiso, Indiana 46383.** *An Affirmative Action/Equal Opportunity Employer.*

CHAIRMAN BIOLOGICAL SCIENCES

Butler University plans to combine the current Departments of Botany and Zoology into a proposed Department of Biological Sciences and is seeking a chairman for the combined department of nine by 1 August 1986. A Ph.D. and qualifications appropriate for an appointment as associate professor or professor are required, as are administrative skills and a strong commitment to undergraduate teaching and research. The academic specialty is open, but a geneticist, vertebrate biologist, or evolutionary biologist will receive special consideration. Rank and salary are negotiable; benefits include TIAA/CREF. Applicants should send curriculum vitae, representative reprints, and the names of four references to: **Dr. James W. Berry, Biology Search Committee, Department of Zoology, Butler University, Indianapolis, IN 46208.** Applications should be received by 1 March. Butler University is a coeducational private university with 2000 full-time undergraduates enrolled in five colleges (Liberal Arts and Sciences, Pharmacy, Business, Education, and Fine Arts). Its 250-acre campus is located in a residential area 5 miles from downtown Indianapolis. *Butler University is an Equal Opportunity/Affirmative Action Employer.*

CONNECTIVE TISSUE RESEARCH

Two positions at associate professional staff level are available in the biochemistry section of the newly formed Department of Musculoskeletal Research at the Cleveland Clinic Foundation.

The laboratories are newly built and are equipped with state-of-the-art technology. The environment has been designed to integrate investigators research with those of complementary disciplines, notable orthopedic surgery, rheumatology, pathology, and bioengineering.

Applicants with backgrounds in molecular cell biology, biochemistry, or molecular immunology of connective tissues are invited to submit their curriculum vitae and names and addresses of three references to:

Cahir McDevitt, Ph.D.
Head, Section of Biochemistry
Department of Musculoskeletal Research
Cleveland Clinic Foundation
9500 Euclid Avenue
Cleveland, Ohio 44106-4475
Telephone: 216-444-5857

FACULTY POSITION

The Department of Earth and Environmental Sciences and the Department of Engineering invite applications for a tenure-track position from individuals who have a strong interest in students, research, and in teaching applied science in an interdisciplinary setting.

Candidates should have an earned Ph.D. or be in the final stages of the degree with a background in environmental engineering or applied meteorology. The successful candidate will have the added responsibility of coordinating the environmental engineering program.

The departments house exceptionally attractive and state-of-the-art facilities for professional growth and interaction with an active faculty. The school is at close proximity to the industrial centers of New York, Philadelphia, and Boston.

Applicants should send their résumé to: **Chairman, Department of Earth and Environmental Sciences, Wilkes College, Wilkes Barre, PA 18766.** *An Affirmative Action Employer.*

24 JANUARY 1986

POSITIONS OPEN

COMPUTER PROGRAMMER. Immediate opening at the University of Virginia, Charlottesville, Virginia, for a computer programmer with a background in image processing who will be responsible for writing algorithms for cardiac image analysis using a kontron system with an array processor interfaced to a MICROVAX-II. Experience with FORTRAN-77 required. Will be trained in writing microcode. Salary negotiable. Reply to: **Sanjiv Kaul, M.D., Box 158, Division of Cardiology, University of Virginia, Charlottesville, VA 22908.** Telephone: 804-924-9605. *The University of Virginia is an Equal Opportunity/Affirmative Action Employer.*

DIRECTOR OF TOXICOLOGY

Indiana University School of Medicine is seeking a director for the toxicology program within the Department of Pharmacology and Toxicology. Excellence in research, teaching, and service activities is expected, as is a proven record of leadership and management qualities. Applicants must hold the doctorate in toxicology and/or an M.D. degree with some experience in forensic toxicology. The position carries the additional title of director of the State Department of Toxicology. The department has legal responsibility for Indiana's Chemical Test Program and for analytical toxicology service to coroners' offices. The position is available 1 July 1986; applications should be received by 30 March 1986. Inquiries may be directed to: **Sherry F. Queener, Ph.D., Chair of Search and Screen Committee, Department of Pharmacology and Toxicology, Indiana University School of Medicine, 635 Barnhill Drive, MS A519, Indianapolis, IN 46223.** *Indiana University is an Equal Opportunity/Affirmative Action Employer.*

ECOLOGY/EVOLUTIONARY BIOLOGY

The Department of Biology at the University of Utah seeks to fill a tenure-track position (rank open) in ecology/evolutionary biology. We are especially desirous of applications from individuals with research interests in population biology (including population genetics), but would also welcome outstanding applicants representing other disciplines in the areas of evolutionary biology and ecology. The successful applicant will be expected to develop (or continue) a strong, independent research program, and to contribute to undergraduate and graduate instruction. We are particularly hopeful of attracting a person who will interact in a mutually beneficial way with existing faculty and graduate students. Applications will be accepted until position is filled, but we expect to begin interviewing candidates about mid-March.

Interested persons should send a letter of application, curriculum vitae, and three letters of recommendation or the names of three individuals willing to serve as references to:

Dr. Diane W. Davidson
Department of Biology
University of Utah
Salt Lake City, UT 84112

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

FACULTY POSITION

Department of Earth and Space Sciences
University of California, Los Angeles

The Department of Earth and Space Sciences is seeking an outstanding scientist to fill a tenure-track faculty position in planetary physics/planetology. Individuals with interests in any aspect of planetary science are encouraged to apply. Applicants are expected to have a Ph.D. in planetary physics/planetology, or a closely related field and be at a relatively early stage of their career working in new and emerging areas of the science. The successful candidate will be expected to play a key teaching role and to carry out a vigorous research program at the forefront of planetary physics/planetology. Applicants should send complete curriculum vitae, including a brief summary of previous research and teaching, a short statement of future research and teaching plans, a bibliography, and the names of at least three references prior to 15 February 1986 to: **Professor William I. Newman, Chair, Planetology Search Committee, Department of Earth and Space Sciences, University of California, Los Angeles, CA 90024.** The candidate should arrange to have three letters of reference transmitted directly to the above address. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

Scientists

We have been retained, exclusively, by three companies to identify candidates for the following positions:

Senior Scientist - Pharmacokinetics

A large multi-national chemicals and pharmaceutical manufacturer seeks an experienced researcher to join a pre-clinical drug evaluation group. The ideal candidate will have a Ph.D. in biochemistry, pharmacology, physiology or related fields. The individual with specific experience in pharmacokinetics and the application of HPLC methods to the analysis of drug metabolites will design and implement pre-clinical animal studies.

Manager - Polymer Science

A well-financed start-up company based on innovative membrane technology is seeking a hands-on leader for its polymer development program. This individual will be responsible for modifying hydrogel polymers. The ideal candidate should have a demonstrated appreciation for the physical chemistry of macromolecular systems involving hydrogels as well as the chemistry and performance of bulk copolymer blends. A Ph.D. in organic, polymer or physical chemistry and relevant postdoctoral experience is required.

Senior Biochemist

A division of a well-established, mid-sized manufacturer of specialty products for industrial and biomedical applications seeks a Ph.D. biochemist, molecular biologist or chemist to function as an in-house expert in the area of analytical and preparative separations techniques. Of specific interest is the application of HPLC techniques to separation problems encountered in enzymology, immunology, molecular biology and biochemistry.

For confidential consideration, please submit a current resume, including salary history, to Alfred R. Doig, Vice President. We would welcome the opportunity to discuss this position on the telephone.

D. P. Parker

and Associates, Incorporated
80 William St., Wellesley, MA 02181
Telephone (617) 237-1220

Our clients are equal opportunity employers M/F.

POSITIONS OPEN

ELECTRON MICROSCOPIST. Department of Pathology seeks an experienced electron microscopist with M.Sc. or Ph.D. degree to (i) supervise an active clinical/research EM Unit, (ii) become involved in collaborative EM research projects, and (iii) develop original EM-related techniques and projects. Send curriculum vitae, three letters of reference, summary of research interests, and relevant publications to: **Dr. J. S. Ryerse, Director of the EM unit, Department of Pathology, St. Louis University School of Medicine, 1402 South Grand Boulevard, St. Louis, MO, 63104.** *St. Louis University is an Equal Opportunity Employer.*

EXECUTIVE VICE PRESIDENT for the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America. A proven record of administrative and managerial experience is essential, preferably in agriculture, natural resources, or a closely related field. A Ph.D. in agronomy, crop science, soil science, or a closely related field is required. Responsibilities will include supervising the implementation of policy decisions of the Board of Directors of each society and administrative leadership for professional activities of the societies. Person must have capabilities and characteristics needed to work effectively with Board of Directors, committees, members, and headquarters staff. Salary will be competitive and commensurate with qualifications and experience. Will be located in Madison, Wisconsin. Closing date for receipt of résumés, 15 February 1986, or until suitable candidate is identified. Interested individuals should send their résumés to: **D. R. Buxton, Chair, Screening Committee, Department of Agronomy, Iowa State University, Ames, IA 50011.**

FACULTY POSITION SCHOOL OF HUMAN BIOLOGY

The School of Human Biology at the University of Guelph invites applications for a tenure-track position at the assistant professor level. The person we are seeking is one with a Ph.D. or equivalent doctoral degree, an active research program, and teaching experience in one or more of the school's areas of interest. The successful candidate's responsibilities will include teaching of undergraduate and graduate courses in human biomechanics, supervision of graduate students, and pursuance of an independent research program in one of the school's areas of strength.

The School of Human Biology is in a phase of growth and interactive development. The school's strengths group themselves into the two general areas of (i) applied human physiology and structure function relationships and (ii) human evolutionary biology, development, and morphology. Specific current research interests include neurophysiology of motor control, muscle metabolism, cardiovascular and pulmonary physiology, quantitative biomechanics, ergonomics, physical anthropology, morphology, human and medical genetics, and biological basis of behavior.

Applications for this position (which is subject to budgetary approval) should include curriculum vitae and names of three referees and should be sent, prior to 15 March 1986 to:

Dr. Stan R. Blecher, M.D. FCCMG
Professor and Director
School of Human Biology
University of Guelph
Guelph, Ontario, Canada N1G 2W1

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

FOOD MICROBIOLOGIST

Kirkegaard and Perry Laboratories (KPL), Inc., an established manufacturer of immunological reagents, plan to expand its products to the food and pharmaceutical industry. KPL is seeking a food microbiologist to join a team to develop immunoassay systems for detection of bacteria in foods and other industrial materials. The candidate should have extensive experience in methods development related to food testing for microbial contamination, as well as a strong background in immunoassay technology. Advanced degree in microbiology or related fields is required. The ability to interact and coordinate work with potential users and co-workers for successful product development is essential. KPL offers an excellent growth environment, as well as an attractive benefit package. Send your résumé to: **Albert Perry, Kirkegaard and Perry Laboratories, Inc., 2 Cessna Court, Gaithersburg, Maryland 20879.**

POSITIONS OPEN

BASIC SCIENCE FACULTY MEMBER IN CLINICAL DEPARTMENT

Wright State University School of Medicine Department of Emergency Medicine is seeking an assistant or associate professor with a Ph.D. in one of the biomedical sciences. This person will assist in development of a research laboratory. Responsibilities will include medical student teaching in basic science, development of a laboratory facility, and assistance in development and implementation of a departmental research program. Opportunities exist for research in cardiac and cerebral resuscitation and magnetic resonance-related activities. Position will offer a supportive environment in an academically stimulating, clinically active, well-respected department. Full-time laboratory technical assistance is provided. Limited equipment funding is available. A secondary faculty appointment in a basic science department would be available if appropriate. Salary and benefits will be commensurate with previous experience and Wright State University School of Medicine standards. Applications with a current curriculum vitae and the names of three references should be sent to: **John B. McCabe, M.D., Research Coordinator, Wright State University School of Medicine, Department of Emergency Medicine, P.O. Box 927, Dayton, Ohio 45401.** All applications received by 1 March 1986 will be considered; if the position is not filled therefrom, applications will be considered as received until the position is filled. *Wright State University is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS— ECOLOGY AND MOLECULAR BIOLOGY

Two full-time, tenure-track positions at assistant/associate professor level, starting fall 1986. Ph.D. required, postdoctoral experience desirable. Applicant will be expected to establish a strong research program involving graduate (M.S. and Ph.D.) students and interact with existing faculty.

ECOLOGIST with experimental/theoretical interests at the community level.

MOLECULAR BIOLOGIST using recombinant DNA techniques; specific research area(s) open.

Submit curriculum vitae, short statement of research interests, and names of three referees by 1 March 1986 to: **Dr. George W. Kidder III, Chairman, Department of Biological Sciences, Illinois State University, Normal, IL 61761.**

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

HEMATOLOGIST/ONCOLOGIST—The Department of Medicine at the University of California (UCSD), San Diego is recruiting a hematologist/oncologist at the assistant professor level to join the Division of Hematology/Oncology at the Veterans Administration Medical Center and the UCSD School of Medicine. The applicant should be a physician who is skilled as a clinician and teacher in hematology/oncology and who has demonstrated ability in independent laboratory investigation, preferably molecular genetics. The appointee must be licensed in California and Board-certified/eligible in either hematology or hematology and medical oncology. Please send curriculum vitae to:

Ivor Royston, M.D.
Chairman, Search Committee
Department of Medicine, V-111E
University of California, San Diego
La Jolla, CA 92093

Salary commensurate to experience. Closing date for accepting applications for this position is 21 February 1986. *The University of California, San Diego is an Equal Opportunity/Affirmative Action Employer.*

IMMUNOLOGIST—Tenure-track assistant professor in biological sciences, starting September 1986. Responsibilities include teaching undergraduate courses in immunology, participating in an introductory course in general or cell biology, and involving students in an active research program. An interest in parasitic or bacterial disease would be advantageous. Smith College, a highly selective liberal arts college, provides excellent facilities for research and teaching, and for interaction with colleagues in the five-college area. Send curriculum vitae, a statement of teaching and research objectives, and three letters of recommendation to: **Immunology Search Committee, Department of Biological Sciences, Smith College, Northampton, MA 01063,** by 21 February 1986.

POSITIONS OPEN

FACULTY POSITION

The Department of Cellular and Structural Biology invites applications for a full-time, tenure-track position. Primary concern will be given to individuals with research expertise in molecular genetics in the areas of mammalian gene expression and regulation by nuclear proteins, but all applicants in related areas will be considered. We seek an investigator with promise of, or, with a record of scholarship and extramural funding success who will complement the research interests in our genetics program, which include gene characterization and expression, gene mapping, cytogenetics, somatic cell genetics, and immunogenetics. The investigator is expected to build a strong sponsored research program, supervise graduate students, and teach graduate level courses in his/her specialty.

Applicants should submit curriculum vitae, a statement of professional goals, a record of research support, names, addresses, and telephone numbers of at least three references by 28 February 1986 to:

Barbara H. Bowman, Ph.D.
Professor and Chair
Department of Cellular and Structural Biology
The University of Texas Health Science Center at
San Antonio
7703 Floyd Curl Drive
San Antonio, Texas 78284

An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN CELL BIOLOGY

The Department of Cell Biology and Anatomy of the Johns Hopkins Medical School invites applications for a faculty position. We will consider applicants with strong research programs in any area of cell biology, including electron microscopy and image processing. Teaching responsibilities will be in cell biology and/or histology. Rank will depend on experience. Submit applications to: **Cell Biology Search Committee, Department of Cell Biology and Anatomy, Johns Hopkins Medical School, 725 North Wolfe Street, Baltimore, MD 21205.**

PH.D. MOLECULAR BIOLOGY—Centocor, Inc. has an immediate opening for a scientist to conduct research into the identification and characterization of human cancer-specific genes. The successful candidate will join young, energetic scientists using state-of-the-art technology to develop diagnostic and therapeutic reagents. Publication of research findings in leading journals is encouraged.

Candidates must have a Ph.D. in a related field and proven expertise in recombinant DNA technology, including the construction and screening of cDNA libraries. Experience in the cancer and/or viral infection fields is desirable. *Centocor, an Equal Opportunity Employer located near Valley Forge, PA,* offers competitive salaries and excellent benefits. Please send curriculum vitae to: **Dr. John Ghraieb, Centocor, Inc., 244 Great Valley Parkway, Malvern, PA 19355.**

The Magnetic Resonance Laboratory of Wright State University School of Medicine and the Charles F. Kettering Memorial Hospital are seeking an **MR SPECTROSCOPIST** to join its staff. A Ph.D., postdoctoral training in chemistry or an appropriately related field, and evidence of research productivity with *in vivo* or *in vitro* MR are required. The successful applicant will be expected to establish a vigorous independent research program and be able to collaborate with Magnetic Resonance Laboratory users on the design and interpretation of MR experiments. The successful candidate will be recommended for appointment to the faculty of the Wright State University School of Medicine as an assistant professor in the suitable department or program.

The Magnetic Resonance Laboratory currently has a whole animal spectrometer-imager with a 40-cm bore 2.3T magnet, a 9-cm bore 360 MHz spectrometer equipped for solution and solid-state spectroscopy, and a human-body imager with a 1.5T magnet.

Applicants should send curriculum vitae and the names and addresses of three references to: **Dr. Gerald Alter, Chair, Magnetic Resonance Center Search Committee, Department of Biological Chemistry, Wright State University School of Medicine, Dayton, OH 45435.** To be considered, applications must be post-marked prior to 1 May 1986. *Wright State University is an Equal Opportunity/Affirmative Action Employer.*

TECHNICAL SERVICES

Join Bethesda Research Laboratories' growing Technical Services Group. This group provides technical support for BRL products through the Tech-Line™, workshops, seminars, FOCUS, and the applications laboratory. Innovative scientists with good communication skills and experience in all molecular and cellular biology techniques are sought for the following positions:

- Staff Scientist (Ph.D.): Teach workshops; develop new applications in the laboratory; present techniques seminars; handle technical questions.
- Instructor (Ph.D.): Develop curriculum in cellular and molecular biology for Sales staff; teach theory and techniques in lecture and laboratory.
- Technical Specialist (B.S./M.S.): Handle technical questions; develop new applications in the laboratory; assist at workshops.

These positions offer competitive salary and benefits. Travel is required.

If interested, please send your resume in confidence to:

Mr. Wayne E. Fowler
GIBCO/BRL Division
Life Technologies, Inc.
Box 6009, 8717 Grovemont Circle
Gaithersburg, MD 20877

An equal opportunity employer. M/F/H.

MICROBIOLOGIST/ BIOCHEMIST MS/BS

Pfizer Central Research has an immediate opening for a microbiologist/biochemist in its Department of Immunology and Infectious Diseases. The successful candidate will perform a variety of microbiological and/or biochemical experiments involved in the discovery and evaluation of antibiotics.

Applicants should have a MS/BS in Microbiology and/or Biochemistry with directly related work experience. Experience with clinical isolates, enzyme preparation, liquid chromatography, radioactive isotopes, computers, and standard biochemical assay procedures is highly desirable.

This position offers a stimulating professional environment complemented by a competitive salary/benefits package. Forward your resume, description of research and references to: Charles P. Norris, Personnel Associate, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.



An equal opportunity employer



RESEARCH SCIENTISTS

TROPICAL FRESHWATER ENVIRONMENTAL TOXICOLOGY

OFFICE OF THE SUPERVISING SCIENTIST

ALLIGATOR RIVERS REGION RESEARCH INSTITUTE

Jabiru, Northern Territory

The Supervising Scientist for the Alligator Rivers Region is a statutory office, established by the Environment Protection (Alligator Rivers Region) Act, 1978, responsible directly to the Minister for Arts Heritage and Environment. The Supervising Scientist is responsible for coordinating and supervising activities concerned with the protection of the environment, mine workers, and members of the public in the Alligator Rivers Region from the effects of uranium mining operations. The Supervising Scientist is also responsible for the research necessary to establish standards and protection measures, and for defining practical and effective programs to assess and mitigate the environmental impact of uranium mining operations.

The focus of these research activities is the Alligator Rivers Region Research Institute which comprises a well-equipped multidisciplinary laboratory established near the regional center of Jabiru, close to the Ranger mine site.

Jabiru is located 260 km east of Darwin within the Kakadu National Park (an area included in the World Heritage List). Though remote, it has a population of about 1500 and provides all the community facilities expected in a modern town.

Local residents of the Region have available to them pastime activities such as boating, fishing, photography, bird watching, bush-walking, and studying Aboriginal art sites.

Environmental Toxicologists

The Region has a wet-dry monsoonal climate and its billabongs and flood plains support a rich and diverse flora and fauna. The Institute is anxious to build up its expertise in aquatic biology to ensure protection of these aquatic ecosystems and is seeking two scientists with complementary experience and competence to initiate and carry out research in environmental toxicology.

Biochemist/Physiologist (Ref VJ/53): To initiate, supervise and conduct research into methods of detecting and quantifying biochemical, physiological and histochemical responses associated with, or indicative of, the early onset of toxicosis in aquatic animals and to apply these methods in the assessment of the state of aquatic ecosystems of the area.

Assist in the coordination of the work of staff involved in studying "whole-body" responses of organisms (such as survival, growth, behavior, reproduction) when exposed to mine wastes, and the ecological effects of such wastes.

Aquatic Biologist (Ref VJ/54): To initiate, supervise, and undertake research into the toxicity to local freshwater animals of aqueous wastes arising from the mining and processing of uranium ore. Develop, as necessary, new laboratory and field tests for measuring response and assessing toxicity involving "whole-animals," including eggs and early developmental stages.

Evaluate and translate findings into the assessment of effects of wastes on populations in the field and assist in the development of computer simulation models of effects on population dynamics.

Qualifications: Applicants should possess a Ph.D. or equivalent qualifications and a proven record of research in environmental toxicology or a closely related area. Background and experience for the first position (VJ/53) will likely be in pharmacology, toxicology, or clinical chemistry with strength in pharmacokinetics and statistics; for the second (VJ/54) in aquatic zoology (strongly supported by environmental chemistry), bioassay (with competence in relevant analytical techniques), and biological field surveillance with some knowledge of computer modeling of the environmental transfer of toxic substances and assessment of man-made stresses on aquatic ecosystems. Ideally, both should have experience with freshwater organisms.

Salary depending on the number of years of postdoctoral research, will be determined within one of the following research scientist classifications:

Research Scientist	\$27,475-\$33,901
Senior Research Scientist	\$35,092-\$40,410
Principal Research Scientist	\$41,941-\$47,638

For employment at the more senior levels a minimum of 8 years of post-doctoral research is essential.

Conditions of Service: include 5 weeks and 2 days annual leave, annual leave loading, annual leave fare assistance, accumulative sick leave, and district allowance. Fares and removal expenses to take up duty may be payable in some circumstances. Government accommodation at an assisted rent is available at Jabiru.

General Conditions: The successful applicant may be appointed, if eligible, as a permanent officer of the Australian Public Service, or engaged on a fixed-term temporary arrangement. To be eligible for permanent appointment, applicants must be Australian citizens.

Contact officer for inquiries: Mr. V. Brown at (089) 79 2300.

Applications: (including curriculum vitae, nominated referees, telephone contact number and quoting appropriate reference number) should reach The Supervising Scientist, P.O. Box 387, Bondi Junction NSW Australia 2022 by 21 February 1986.

POSITIONS OPEN

MEDICAL WRITER. Major international public relations firm seeks medical writer to work on pharmaceutical/health care accounts, in New York City office. Challenging, diverse job with growth potential. Candidate must have experience writing on medical topics for a lay audience. Newspaper or wire-service experience and strong science background (Ph.D.) preferred. Excellent salary and benefits. Send résumé and three writing samples to: **Box 12, SCIENCE.**

MOLECULAR BIOLOGIST/ BIOTECHNOLOGIST/ COMPUTER APPLICATIONS IN BIOLOGY

Applications are now being accepted for faculty positions in the Department of Life Sciences. Applicants should have the Ph.D. (or M.S. with work toward the doctorate), teaching experience, and recent broad training in the biological sciences, and should be using modern genetic, molecular biology, and biochemical techniques to study problems with prokaryotic or eukaryotic cells. Responsibilities will include: (i) teaching undergraduate courses including molecular biology, genetics, and biotechnology; (ii) teaching courses in the department computer learning laboratory, emphasizing the use of software and applications of microcomputers in biology; (iii) developing a funded research program and involving students in the research effort; and (iv) developing cooperative and interactive relations with local and nationwide agencies and firms which are active in these fields. Specific rank and salary will depend on experience. Please submit your curriculum vitae, present and future research plans, and names of at least three references to: **Dr. Jack Seilheimer, Chairman, Department of Life Sciences, University of Southern Colorado, Pueblo, CO 81001, by 4 April 1986. Beginning August 1986.**

MOLECULAR GENETICIST: interested in gene expression in the mammalian brain and the application of molecular biology to human neuronal degenerative diseases. The Department of Neurology at Brigham and Women's Hospital (BWH) and Harvard Medical School invites applications for an anticipated faculty position as assistant professor. Candidates should hold a Ph.D. in molecular biology/genetics and have 3 years of postdoctoral experience in recombinant DNA techniques, including DNA/RNA sequencing and cloning, as well as research productivity in the area of CNS gene expression. Send curriculum vitae to: **Dr. D. Selkoe, Center for Neurologic Diseases, BSRB 12, BWH, 75 Francis Street, Boston, MA 02115. BWH and Harvard Medical School are Equal Opportunity/Affirmative Action Employers.**

NEUROPHYSIOLOGIST/EXERCISE PHYSIOLOGIST

Applications are invited for a tenure-track faculty position at the assistant or associate professor level (salary commensurate with experience). The successful applicant must have (i) demonstrated research expertise in any aspect of the neural control of skeletal, cardiac, or smooth muscle contraction, (ii) be able to establish an extramurally funded research effort, (iii) share in undergraduate and graduate teaching responsibilities. Application deadline: 15 February 1986. Send cover letter, curriculum vitae, examples of publications, and three references to: **Dr. D. P. Mood, Department of Kinesiology, Campus Box 354, University of Colorado, Boulder, CO 80309-0354. An Equal Opportunity/Affirmative Action Employer.**

PATHOLOGISTS. The Department of Pathology at University of California, Los Angeles (UCLA) School of Medicine has positions available at the assistant professor level to start on, or before, 1 July 1986. Qualifications include an M.D. degree, Board-eligibility or certification in anatomic pathology, demonstrated research ability, and eligibility for California licensure. Individuals with specialized interests in pulmonary pathology or pediatric pathology will be favored, although candidates with other specialties will be given strong consideration. Duties will include assistance on the autopsy service, teaching undergraduate and graduate students, and residents and development of an independent research program. Applications including curriculum vitae, summary of research interests, and names and addresses of four references should be sent to: **P. A. Cancilla, M.D., Chairman, Department of Pathology, UCLA School of Medicine, Los Angeles, CA 90024. UCLA is an Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.**

POSITIONS OPEN

NAVAL RESEARCH LABORATORY ACOUSTICS DIVISION

MATHEMATICIAN/COMPUTER SCIENTIST to formulate innovative signal processing algorithms and evaluate their effectiveness in ocean-acoustics applications. Originate or improve designs for real-time systems for processing experimental data, using a multichannel acoustic data processor on a VAX 11/780. Develop software for data reduction and analysis in both Fortran and array processor assembly language. Two openings; GS-12 salary from \$31,619 to \$41,105; and GS-9 salary \$21,804 to \$23,555. Grade and salary based on qualifications and experience. (ID number 51-114/192-11.1:JM)

Send résumé or SF-171 to:

Naval Research Laboratory
Civilian Personnel Office
4555 Overlook Avenue, SW, ID Number
Washington, DC 20375-5000

An Equal Opportunity Employer. U.S. citizenship required.

NAVAL RESEARCH LABORATORY ACOUSTICS DIVISION

MATHEMATICIAN/RESEARCH PHYSICIST to develop or extend, implement, and apply complex and computationally intensive algorithms for the performance prediction and evaluation of sonar systems in real ocean environments. Required are skills in physics and applied mathematics to interpret and analyze model predictions and experimental measurements and to report results. Experience in one or more of the following areas required: seismics, underwater acoustics, numerical analysis, and statistics. Must have a bachelor's degree, plus 3 years of professional experience. Positions at GS-11 salary up to \$34,292, and GS-12 salary up to \$41,105, depending on qualifications. (ID number 51-191/198-11:JM)

Send résumé or SF-171 to:

Naval Research Laboratory
Civilian Personnel Office
4555 Overlook Avenue, SW, ID number
Washington, DC 20375-5000

An Equal Opportunity Employer. U.S. citizenship required.

MOLECULAR AND ENVIRONMENTAL TOXICOLOGY

A new graduate program of research and coursework leading to the Ph.D. degree. Areas of research center on mechanisms of toxicity relating to endogenous compounds, drugs, and environmental pollutants. Specific research areas include neurotoxicology/neuropharmacology, pharmacogenetics, xenobiotic metabolism, pharmacokinetics, free radical toxicity, tumor promotion and carcinogenesis, and developmental toxicology. Affiliated programs include the Institute for Behavioral Genetics and the Alcohol Research Center. A graduate curriculum in toxicology and a seminar series form the other essential components of the program. A limited number of stipends are available for fall 1986. Apply to: **Director, Molecular and Environmental Toxicology Program, School of Pharmacy, University of Colorado, Boulder, Colorado 80309-0297. The University of Colorado at Boulder is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL OPPORTUNITIES IN BIOLOGY INDIANA UNIVERSITY—BLOOMINGTON

The Department of Biology and the Institute for Molecular and Cellular Biology regularly have openings for postdoctoral fellows to work with faculty on externally funded research projects and to teach within the department. The department and the institute have strong programs in genetics, microbiology, molecular, cellular and developmental biology, plant sciences, and organismal ecological, and evolutionary biology. Individuals wishing to have more information about these opportunities, or to apply for positions which may become available, should write to: **Postdoctoral Opportunities, Department of Biology, Indiana University, Bloomington, IN 47405.** Applicants should include a résumé, a list of current publications, and the names, addresses, and telephone numbers of their references. *Indiana University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

MOLECULAR BIOLOGY HORMONES AND GROWTH FACTORS

Individuals with a strong background in molecular biology are invited to apply for one research associate and two postdoctoral positions in an established molecular endocrinology laboratory. Projects include the study of the structure, function, and regulation of newly discovered members of the prolactin family of hormones, and pituitary growth factors. Applicants should send curriculum vitae, a brief description of their research interest, and three letters of reference to: **Dr. H. G. Friesen, Professor and Head, Department of Physiology, University of Manitoba, 770 Bannatyne Avenue, Winnipeg, Canada MB, R3E 0W3. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents in Canada.**

PHYSICIST—RESEARCH STAFF MEMBER—

Research in thin-insulator (silicon dioxide) used in contemporary metal-oxide-field effect transistor technology. Requires strong background in physics, theoretical and experimental. Thorough *k*/thin-insulator properties required. Must be able to suggest appropriate areas of new research and work effectively in laboratory—formulate experimental idea, develop experimental apparatus, perform experiments, and analyze and interpret resulting data. Experience in writing computer programs required for experimental and theoretical work. Must be able to effectively communicate results of work for internal and external presentation and or publication. Ph.D. in physics/theoretical physics plus three years in job or 3 years research in experimental solid-state physics (silicon dioxide) required. *Equal Opportunity Employer; 40-hour week; \$50,800 per year; 8:30 to 5:12 p.m. Résumé to: New York State Job Service, 55 Church Street, White Plains, NY 10601, include job order number 0702003, DOT 023.061.014.*

POSTDOCTORAL AND PREDOCTORAL OPPORTUNITIES IN ENVIRONMENTAL HEALTH SCIENCES AT UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA).

Funded pre- and postdoctoral positions are available immediately for studies in the following areas: (i) evaluation of risks due to chemical contaminants in wastewater purified for potable reuse (research in separations, GC/MS analysis and bioassay methodologies); (ii) evaluation of ozonation for treatment of ground waters (efficacy and mechanistic studies centering on synthetic organics; GC/MS studies of by-products); and (iii) evaluation of environmental impacts of rapid industrialization of the U.S.-Mexican border, with emphasis on hazardous waste transport and disposal. (Applicants with facility in Spanish are encouraged.) Predoctoral candidates may pursue M.S., Ph.D., or professional D.Env. degree with internship. Applications are encouraged immediately by telephone or mail: **William G. Glaze, School of Public Health, UCLA, Los Angeles, CA 90024; telephone, 213-206-1278. UCLA is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minority groups.**

POSTDOCTORAL POSITION

Areas of investigation include: (i) studies of protein kinases and cyclic nucleotide phosphodiesterases and cloning of the cDNA's and genes for these proteins and (ii) regulation of processes by cAMP and cGMP in intact heart, liver, and fat cells. Please send curriculum vitae and references to: **Dr. Jackie D. Corbin, Ph.D., Department of Molecular Physiology and Biophysics, Howard Hughes Medical Institute, Vanderbilt University Medical School, Nashville, TN 37232.**

PROTEIN CHEMISTRY HORMONES AND GROWTH FACTORS

Individuals with a strong background in protein chemistry, are invited to apply for one research associate and two postdoctoral positions in an established molecular endocrinology laboratory. Projects include the study of the structure, function, and regulation of newly discovered members of the prolactin family of hormones, and pituitary growth factors. Applicants should send curriculum vitae, a brief description of their research interest, and three letters of reference to: **Dr. H. G. Friesen, Professor and Head, Department of Physiology, University of Manitoba, 770 Bannatyne Avenue, Winnipeg, Canada MB, R3E 0W3. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents in Canada.**

POSITIONS OPEN

PHYSICIST—MEDICAL—to perform research in the development of nuclear techniques for clinical applications. Primary program involves in vivo neutron activation analysis and NMR spectroscopy. Ph.D. in medical physics or nuclear science is required. \$35,500 per year; 40-hour week. Job order number 0602187, D.O.T. Code 023061014. Please send résumé to: New York State Job Service, 55 Medford Avenue, Patchogue, NY 11772. *An Equal Opportunity Employer.*

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE beginning summer 1986, to study the regulation of mammalian collagenase gene expression in normal and diseased connective tissue. Experience in molecular genetics helpful, but not essential. Send curriculum vitae and names of three references to: **Dr. Constance E. Brinckerhoff, Department of Biochemistry, Dartmouth Medical School, Hanover, New Hampshire 03756.**

POSTDOCTORAL POSITION available for 1 to 2 years starting February 1986 to study details of DNA conformation and its dependence upon various environmental conditions. Ph.D. or equivalent degree required. Experience in physical-chemical techniques including NMR desirable. Send curriculum vitae and names of three references to:

Dr. Burt G. Feuerstein, Department of Laboratory Medicine, University of California, San Francisco, San Francisco, CA 94143.

POSTDOCTORAL POSITION available for studies of muscle gene regulation in *Drosophila*. Current work involves studies on promoter and alternate splicing function in transformed flies and in cell free systems. Preference will be given to candidates with experience in molecular biology and recombinant DNA. Send curriculum vitae to: **Dr. Robert Storti, Department of Biochemistry, University of Illinois at Chicago, College of Medicine, 1853 West Polk Street, Chicago, IL 60612.**

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

VICE PRESIDENT FOR RESEARCH AND GRADUATE STUDIES NORTHWESTERN UNIVERSITY

Evanston, Illinois

Northwestern University invites nominations and applications for the position of vice president for research and graduate studies.

The vice president for research and graduate studies is a newly created position to facilitate the scholarship of faculty and graduate students in all schools of the university. The vice president fosters interdisciplinary initiatives, also encouraging and facilitating the search for external funds. The vice president oversees distribution of appropriated and endowed funds which promote scholarly excellence among faculty and graduate students throughout the university. The vice president also works with faculty and industry, as appropriate, to help develop research initiatives of mutual interest. The vice president is responsible for more than \$100,000,000 in research proposals and administers a current annual budget of more than \$35,000,000. As chief officer for graduate programs, the vice president chairs the faculty of the graduate school, administers graduate admissions and financial aid, stimulates new programs, and monitors curriculum requirements, and the awarding of graduate degrees. The vice president serves as a member of the president's staff and of the deans' council.

Nominations and applications should be sent by 7 February 1986, to: **Dr. Thomas D. Cook, Chair, Vice Presidential Search Committee, c/o Department of Psychology, Kresge Centennial Hall, Northwestern University, Evanston, Illinois 60201.**

Northwestern is an Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION available to study DNA replication and cellular aging in yeast. Experience in yeast genetics and recombinant DNA techniques is desirable. Send curriculum vitae, including bibliography, and have three letters of reference sent to: **Dr. S. M. Jazwinski, Department of Biochemistry and Molecular Biology, Louisiana State University Medical Center, 1901 Perdido Street, New Orleans, LA 70112.** *LSUMC is an Equal Opportunity Affirmative Action Employer.*

POSTDOCTORAL POSITIONS. (i) Molecular characterization of membrane transport proteins identified using monoclonal antibodies; epithelial membrane biogenesis. **J. Lever.** (ii) Genetic and biochemical characterization of the synthesis and assembly of membrane components in both prokaryotic and eukaryotic systems. **W. Dowhan.** Both positions require a strong background in biochemical techniques. **Biochemistry and Molecular Biology Department, University of Texas Medical School, P.O. Box 20708, Houston, TX 77225.** *Affirmative Action Employer.*

POSTDOCTORAL POSITION IN SAN FRANCISCO BAY AREA. Cloning, expression, and site-specific mutagenesis of proteases to investigate the structure/function of elastases. Work in a modern, well-equipped, active research laboratory in the Martinez VA Medical Center, approximately 30 miles from San Francisco. Salary approximately \$20,000 per year. *Equal Opportunity Employer.* Contact: **Dr. Corey Largman, Research Room 140, Martinez VA Medical Center, 150 Muir Road, Martinez, CA 94553.**

POSTDOCTORAL POSITION available summer of 1986 to work with multidisciplinary group developing new anticancer drugs to block oncogene-encoded tyrosine kinases. We are seeking a highly motivated individual with expertise and interest in membrane protein isolation and molecular biology. Send curriculum vitae and references to: **Dr. Victor Levin, University of California, HSW 783, San Francisco, CA 94143-0520.**

TOXICOLOGY INITIATIVE UNIVERSITY OF ALBERTA FACULTY OF MEDICINE Senior Scientist in Toxicology

The University of Alberta is seeking a senior scientist to develop a basic toxicological research group with the Faculty of Medicine under the auspices of the Alberta Heritage Foundation for Medical Research. Applicants should have accomplished internationally recognized research in toxicology at a mechanistic level. The successful candidate will have an opportunity to recruit additional group members and technical staff and to design and equip a laboratory appropriate to the planned investigation. Access to the outstanding toxicology research facilities at the Alberta Environment Center in Vegreville (1 hour away) can be negotiated. The anticipated emphasis of the group will be mechanisms of toxicity and adaptations and their expressions as population incidence phenomena, including thresholds. The group is expected to maintain a science rather than a service orientation, but to be available for consultation and collaboration on a selective basis with other existing and developing groups interested in clinical applications, population studies, and biotechnology. Salary will be commensurate with qualifications and experience, and rank will be at full professor level. Academic unit to which the successful applicant will be appointed will depend on their credentials. The search will continue until an appropriate candidate is identified and a proposal is submitted to the Heritage Foundation. Candidates or nominators are invited to inquire in confidence before making formal application; a detailed curriculum vitae, bibliography (with selected reprints if available), statement of research interests, and names of several references who may be contacted easily in consideration of the application should be sent to: **Dr. T. L. Guidotti, Chairman, Toxicology Initiative Search Committee, Department HSA and Community Medicine, University of Alberta Faculty of Medicine, Edmonton, Alberta, Canada T6G 2G3.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS—Indiana University School of Medicine has been awarded a 5-year training grant by the NIAAA on "Genetic Aspects of Alcoholism." This is an interdisciplinary research program on alcohol and alcoholism encompassing metabolism, enzymology, molecular biology, neurochemistry, neuropharmacology, psychology, and behavioral genetics. The faculty includes: **Drs. Ting-Kai Li, Lawrence Lumeng, William F. Bosron, David Crabb, William J. McBride, Richard Rose, E. Jack Davis and Howard J. Edenberg.**

Postdoctoral (M.D. or Ph.D.) trainees who are U.S. citizens or permanent residents are being sought to fill 4 positions. Interested persons should apply by sending a letter stating research interest, curriculum vitae, and three letters of recommendation to:

**Dr. Lawrence Lumeng
Program Director
Indiana University School of Medicine
Emerson Hall, Room 421
Indianapolis, IN 46223
Telephone: 317-264-3505**

POSTDOCTORAL POSITION available immediately to study gene cloning and expression of a microbial leukotoxin. Experience in recombinant DNA methodology and prokaryotic gene expression required. Send curriculum vitae and three letters of reference to: **Dr. Joseph M. DiRienzo, Department of Microbiology, University of Pennsylvania School of Dental Medicine, 4001 Spruce Street, Philadelphia, PA 19104.** *An Equal Opportunity/Affirmative Action Institution.*

POSTDOCTORAL POSITION

Research project concerning molecular regulation and physiological significance of methylation reactions in developing mammalian sperm. Research experience in biochemistry and/or developmental biology preferred. Available immediately. Contact: **Dr. Clare O'Connor, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545.**

THE MAX-PLANCK-GESELLSCHAFT

invites applications for the position of a

RESEARCH GROUP LEADER

from young scientists who have achieved a degree of international recognition in

MOLECULAR PARASITOLOGY OR PARASITE IMMUNOLOGY.

Applicants will be expected to conduct a vigorous, original and independent research program at the

MAX-PLANCK-INSTITUT FÜR BIOLOGIE IN TÜBINGEN.

The position is for 5 years, carries a salary of DM 67,000–75,000 p.a. (BAT Ia/I) and is roughly equivalent to an Assistant Professorship (US) or University Lectureship (UK). There is no teaching commitment.

The group will have modern laboratory facilities, operating expenses, and funding for scientific and technical co-workers. Applications, including a tabular curriculum vitae, list of publications, and a description of major scientific achievements and future research plans, should be submitted to

**Max-Planck-Gesellschaft z.f.d.W.
—Generalverwaltung—
Postfach 647
D 8000 MÜNCHEN 1**

no later than March 31, 1986.

POSITIONS OPEN

POSTDOCTORAL POSITION REPRODUCTIVE BIOLOGY/ NEUROENDOCRINOLOGY

Position available immediately to study the biology and endocrinology of pregnancy in aging rats, autoradiographic analysis of folliculogenesis, automated hormone infusions, LHRH release and LH secretion in superfusions, electrophoresis, steroid and peptide RIA's. Send curriculum vitae to: **John K. Lu, Ph.D., Endocrinology Division, Department of Obstetrics/Gynecology, University of California, Los Angeles School of Medicine, Los Angeles, California 90024.**

POSTDOCTORAL POSITION available immediately to study the interactions between cancer chemotherapeutic agents and host antitumor immunity in an attempt to develop new approaches to exploit antitumor immunity therapeutically. Candidates should have a recent Ph.D. and a strong background in cellular immunology. Send curriculum vitae and names of three references to: **Dr. Margalit Moky, University of Illinois at Chicago, Department of Micro/Immunology E-703 MSA, 853 South Wolcott, Chicago, IL 60612. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately on molecular biological research of anion metabolic transporters of the mammalian inner mitochondrial membrane. The research program encompasses, among other aspects, selection and sequencing of cDNA and genomic clones, identification of tissue-specific genomic control sequences, and in vitro mutagenesis to identify catalytically and biosynthetically important partial protein sequences. Minimum salary: \$17,000, plus fringe benefits. Send curriculum vitae and names of references to: **Dr. Hartmut Wohlrab, Boston Biomedical Research Institute, 20 Staniford Street, Boston, MA 02114. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately. Funding till July 1987. Study roles of sensory receptors in host plant finding by *Heliothis*. Ph.D. in entomology, biology, neurophysiology, or related discipline with emphasis in insect behavior. Experience with electrophysiological techniques a must. Send curriculum vitae, transcripts, reprints, and three letters of recommendation to: **Dr. Sonny Ramaswamy, Department of Entomology, Mississippi State, MS 39762. Telephone: 601-325-2085.**

POSTDOCTORAL POSITION IN PLANT STABLE ISOTOPE. Available August 1986. Objectives are to determine basis for stable oxygen, hydrogen, and carbon isotope distribution in plants and to use natural abundances of these isotopes to study plant water and carbon metabolism. For examples, see [*Science* 220, 947 (1983)]; [*Plant Physiol.* 76, 68 (1984)]; [*Plant Physiol.* 77, 59 (1985)]. Requires strong background in either plant physiology or biochemistry. No experience with stable isotopes needed. Salary range \$18,000 to \$22,000. Send curriculum vitae and names of three references to: **Michael DeNiro, Department of Earth and Space Sciences, University of California, Los Angeles, CA 90024, before 1 April 1986. The University of California is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE, BIOLOGICAL ESR—Position available immediately for the study of the free radical reactions of catechols, catecholamines, and quinones. Experience in ESR spectroscopy and a Ph.D. in chemistry, physics, or related field is required. Send résumé and names of three references to: **Professor James S. Hyde, National Biomedical ESR Center, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226. An Equal Opportunity/Affirmative Action Employer, M/F/H.**

POSTDOCTORAL RESEARCH POSITION available April 1986 to study the MoFe protein of nitrogenase by characterizing the individual alpha and beta subunits synthesized by genetically engineered *nifD* and *nifK* deletion mutants of *Azotobacter vinelandii*. A strong background in biochemistry and previous experience with metalloenzymes is most desirable. Salary: \$19,000. Send curriculum vitae and three letters of recommendation to: **Professor B. K. Burgess, Department of Molecular Biology and Biochemistry, University of California, Irvine (UCI), CA 92717. UCI is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to study biochemical mechanisms of acquired resistance to platinating and alkylating agents in ovarian carcinoma. Experience in tissue culture, cellular pharmacology, and thiol biochemistry desirable. Salary: \$17,000. Send curriculum vitae and names of three references to: **Dr. Paul A. Andrews, Cancer Center, University of California, San Diego, (UCSD) T-012, La Jolla, CA 92093. An Equal Opportunity/Affirmative Action Employer.**

TWO POSTDOCTORAL RESEARCH ASSOCIATES and a research specialist to work on the development of microorganisms for enhanced degradation of xenobiotic compounds. Work involves characterization of pseudomonas promoters and DNA sequencing of 2,4,5-T degradative genes. Must have experience in molecular biological techniques such as northern hybridization; DNA sequencing, and so forth. Work also involves ecological risks associated with release of these organisms in conjunction with an established interdisciplinary research group at Environmental Protection Agency (EPA). Work will be conducted at EPA research laboratories in Cincinnati, Ohio, and in Gulf Breeze, Florida, under the direction of A. M. Chakrabarty under a 3-year contract. Please send a copy of your résumé to: **Mr. Kenneth E. Johnson, University of Illinois at Chicago, Department of Microbiology/Immunology E-703 MSA, 853 South Wolcott, Chicago, IL 60612. The University of Illinois is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE IN ZOOPLANKTON ECOLOGY is needed to participate in an integrated study of the freshwater tidal Potomac River. Research will focus on the trophic interactions of zooplankton with other components of the ecosystem. The successful applicant will also interact with the Ph.D. Program in Environmental Biology-Public Policy. 1 year appointment, potentially renewable. Available immediately. Send résumé, relevant publications, and names of three references by 1 March 1986 to: **Dr. R. Christian Jones, Department of Biology, George Mason University, Fairfax, VA 22030. George Mason University is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL/RESEARCH ASSOCIATE—Position available to study development and regulation of adrenal medulla. Ph.D. or equivalent degree required; background in electron microscopy and immunocytochemistry desirable. Send curriculum vitae and names of three references to: **Dr. Leonard L. Ross, Department of Anatomy, MEDICAL COLLEGE OF PENNSYLVANIA, 3200 Henry Avenue, Philadelphia, PA 19129. Equal Opportunity Employer, M/F.**

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately to study molecular mechanisms of autonomic regulation of cardiac function, with emphasis on adenylate cyclase, G-proteins, and so forth. The ideal candidate will have a recent Ph.D. in biochemistry, pharmacology, or related area and be experienced in the following areas: autonomic receptors, adenylate cyclase, protein purification, membrane biochemistry, and/or molecular biology. This laboratory is located in the Pharmacology Department of the Indiana University School of Medicine, and the position offers unique opportunities for interaction with other scientists interested in molecular mechanisms of cardiac regulation at the nearby Krannert Institute of Cardiology. Send curriculum vitae and the names of three references to: **John W. Fleming, Ph.D., Assistant Professor of Pharmacology and Medicine, 635 Barnhill Drive MS A-402, Indianapolis, IN 46223.**

POSTDOCTORAL RESEARCH POSITIONS

Several positions are available immediately for postdoctoral research fellows in the University of Florida Peridontal Disease Research Center. Salary is in the range of \$16,000 to \$20,000, depending on experience. Candidates may work in the areas of anaerobic microbiology, immunology, biochemistry, bacterial attachment, or pharmacology as it relates to the periodontal disease process. Interested applicants should send curriculum vitae, representative reprints, and three references to: **Drs. William Clark, William McArthur, or Clay Walker, Box J424, J. Hillis Miller Health Center, Gainesville, FL 32610. The University of Florida is an Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE—To study *Medicago* protoplast fusion and somatic hybrid production. Ph.D. required, preferably in the plant sciences. Twelve-month position starts 1 March 1986, at \$16,000 to \$18,000. Renewable. Send résumé, transcripts, and publications and have three letters of recommendation sent to: **Dr. L. B. Johnson, Department of Plant Pathology, Throckmorton Hall, Kansas State University, Manhattan, KS 66506. Telephone: 913-532-6176. Apply before 15 February 1986. Kansas State University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH POSITION available immediately to conduct investigation in immunogenetics of animal diseases. Candidate must possess Ph.D. or equivalent, be highly self-motivated, and have experience in cell culture, lymphocytotoxicity, assays, immunochimistry of MHC, and related immunology techniques. Send curriculum vitae and three letters of reference to: **Dr. William Donawick/Dr. Benjamin Wolf, School of Veterinary Medicine, University of Pennsylvania, New Bolton Center, 382 West Street Road, Kennett Square, PA 19348-1692. University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.**

The Department of Radiology has an opening at the research assistant professor level to support the research activities of the Biomedical Magnetic Resonance Center. The position involves responsibility for daily management of a Biotechnology Regional Resource NMR Facility. The successful candidate must interact with outside users and collaborators. Facilities will include a 1-meter, 1.8T supercon magnet unit and a 40-cm, 4.7T spectroscopy/imaging system. The successful candidate will have primary responsibility for a research project on ¹⁹F NMR imaging and spectroscopy studies in vivo for a number of potential contrast and metabolic markers.

Qualifications include a Ph.D. in a physical science or physics, with training in NMR spectroscopy and/or imaging, postdoctoral training in NMR imaging and NMR physics, research experience with in vitro and in vivo NMR imaging and spectroscopy. Experience with ¹⁹F and ¹H NMR imaging would be desirable.

LOCATION: The University of Texas Health Science Center at Dallas
5323 Harry Hines Boulevard
Dallas, Texas 75235

CONTACT: Ray L. Nunnally, Ph.D.
Assistant Professor
Department of Radiology

POSITION: Research Assistant Professor

The University of Texas Health Sciences Center at Dallas is an Equal Employment Opportunity/Affirmative Action Employer.

RESEARCH INVESTIGATOR to perform research on the physiology and molecular biology of corticosteroids and their metabolites. Must hold Ph.D. or equivalent degree. A background in organic chemistry or enzymology is desired. Salary is commensurate with qualifications and experience. Send curriculum vitae and the names and addresses of three persons who can be contacted for reference purposes. Send résumé to: **Dr. Carl Monder, The Population Council, Center for Biomedical Research, 1230 York Avenue, New York, New York 10021.**

NAVAL RESEARCH LABORATORY ACOUSTICS DIVISION

RESEARCH PHYSICIST to test and analyze phases of major ocean acoustic reverberation efforts. Primary work will be to design at-sea experiments, develop processing procedures, and analyze measured results in order to characterize mean and second-order spatial, temporal, and spectral features of the reverberation process. Work applies state of the art signal-processing techniques on a VAX-based multichannel data-processing facility. Bachelor's degree, plus 3 years of professional experience required. GS-12 salary up to \$41,105. ID number 51-193-11.1:JM.

Send résumé or SF-171 to:

Naval Research Laboratory
Civilian Personnel Office
4555 Overlook Avenue S.W., ID Number
Washington, DC 20375-5000

An Equal Opportunity Employer. U.S. citizenship required.

BIOCHEMIST Dallas, Texas

The Diagnostics Division of Abbott Laboratories is devoted to the design, development and manufacture of automated medical electronic instruments. We are a cash profit sharing and stock purchase company with outstanding benefits.

The successful candidate will have a BS in Physical or Life Sciences plus 5-7 years relevant experience, or, an MS plus 0-2 years experience. This position will require analytical methods development for clinical chemistry applications. Familiarity with analytical instrumentation, quantitative analysis and clinical chemistry required. Some experience in the use of microcomputers for data analysis or repair and maintenance of analytical instrumentation is desirable.

Qualified candidates who want to take pride in their careers are invited to send resume or letter of interest to: **PERSONNEL DEPARTMENT. PLEASE - No phone calls.**



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Diagnostics Division
Health Care World Wide
1921 Hurd Drive
P.O. Box 152020, M/S 2-1
Irving, Texas 75015

An Equal Opportunity Employer M/F

Postdoctoral Scientist Biochemist

The Molecular Pharmacology Department at Smith Kline & French Laboratories, located in suburban Philadelphia, Pennsylvania, is seeking a postdoctoral scientist to study mechanisms of ubiquitin-mediated protein turnover in mammalian or yeast systems.

The successful candidate will establish his/her own project in an expanding team of young scientists; apply biochemical and molecular biological techniques to study the enzymes involved in the ubiquitin cycle; and study the turnover of key regulatory proteins.

Candidates are required to have a Ph.D. in Biochemistry or related field with 0-2 years postdoctoral experience. Familiarity with protein purification is desirable.

Postdoctoral appointments are normally for two years.

We offer excellent compensation and benefits and an attractive relocation policy. For confidential consideration, send your curriculum vitae and names of three references to: Walter B. Flagg, Senior Employment Consultant, Smith Kline & French Laboratories, a division of SmithKline Beckman Corporation, 1574 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer, M/F/H/V.

A SmithKline Beckman Company

Senior Research Scientist

Cardiovascular/Neuroscience Research Section

CIBA-GEIGY Corporation, a world leader in the field of cardiovascular research, has an immediate opening in the Hemodynamics Group of the Cardiovascular/Neuroscience Research Section. Qualified applicants must possess a Ph.D. in cardiovascular physiology or pharmacology, with a minimum of 2 years' post-doctoral experience, and should have a strong background in the measurement of hemodynamic parameters in conscious and anesthetized animal preparations. You will have the opportunity to supervise a laboratory involved in the characterization and evaluation of antihypertensive drugs, utilizing state-of-the-art instrumentation. The successful candidate will be a primary participant in a multidisciplinary drug discovery program and will work creatively with other biologists, medicinal chemists, and clinical investigators.

CIBA-GEIGY's Pharmaceuticals Division offers a research environment which encourages collaboration and innovation. We offer an excellent salary and benefits package plus the resources and commitment of a multibillion dollar, multinational organization actively involved in research. Our location is in a convenient suburban area within one hour of New York City. For prompt and confidential consideration, please forward a resume with salary history and requirements to: Mr. Stephen Mitchell, The Pharmaceuticals Division, CIBA-GEIGY Corporation, Dept. 348, 556 Morris Avenue, Summit, NJ 07901. We Are An Equal Opportunity Employer m/f/h/v.

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POSITIONS OPEN

POSTDOCTORAL POSITION. Available immediately, to work in a research group studying the molecular basis of aromatic and chloroaromatic pollutant degradation in bacteria. Applicants should have experience in recombinant DNA technology, with knowledge of the applications of broad-host-range vectors. Salary in range of \$21,000 (CAN) per annum. Send detailed curriculum vitae, and arrange for three letters of reference addressed to: **Dr. R. C. Wyndham, Department of Botany, University of Toronto, Toronto, Ontario, Canada M5S 1A1.** Applications will be considered until the position is filled.

RESEARCH ASSISTANT PROFESSOR needed for artificial organ program. Requires M.D. degree and knowledge of biomaterials, controlled release of pharmaceutical agents from polymers, scanning electron microscope for hematological and pathological evaluation, and surgical procedures in clinical and research setting. Salary \$28,000.00 per year. Closing date 28 February 1986. Contact: **Utah Job Service, 1234 South Main Street, Post Office Box 11750, Salt Lake City, Utah 84147,** Job Order Number 43971.

RESEARCH ASSOCIATE position will be available 1 August 1986 for a neuroscientist. The person in this position will have primary responsibility for behavioral testing and recording single units in rhesus visual cortex. Experience is required in single-unit electrophysiological techniques. This minimum 2-year project will correlate behavioral, physiological, and anatomical results from monkeys reared under various conditions of aphakia. Salary will be \$23,600. Please send curriculum vitae and names of three references by 1 March 1986 to: **Dr. James R. Wilson, Yerkes Primate Center, Emory University, Atlanta, GA 30322.** *Equal Opportunity/Affirmative Action Employer.*

SCIENTIST-MOLECULAR IMMUNOLOGY/ALLERGY, Department of Molecular Biology of Genentech, Inc., seeks a scientist to participate in allergy research. Candidates must have at least 2 years of postdoctoral training and a record of research accomplishments in the areas of molecular or cellular immunology. Applicants should provide a curriculum vitae and a brief statement indicating research interests and names and addresses of three references.

We offer an excellent salary and benefits package. Please send résumé to: **Human Resources Department 4216, Genentech, Inc., 460 Point San Bruno Boulevard, South San Francisco, CA 94080.** *An Equal Opportunity Employer.*

SENIOR PROJECT COORDINATOR. The Solar Energy Research Institute in Golden, Colorado, is seeking a senior project coordinator for the Aquatic Species Program. This program supports research in aquatic biomass production for conversion to fuels. The successful candidate will be responsible for the management of this program through technical planning, reporting, and assessment and through oversight of subcontracted research activities. This position requires an advanced degree in the biological sciences, or equivalent experience, and strong written and verbal communications skills. Experience in the coordination of technical research programs for content and mix is highly desirable. Interested candidates should submit a letter of introduction and a detailed résumé to: **Mr. G. M. Serenyi, E231-018, Solar Energy Research Institute, 1617 Cole Boulevard, Golden, CO 80401.** *We are an Equal Opportunity Employer.*

GRADUATE STUDY

GRADUATE TRAINING PROGRAM IN THE BASIC MEDICAL SCIENCES

The University of South Alabama College of Medicine offers a program leading to the Ph.D. degree in anatomy, biochemistry, microbiology, pharmacology, and physiology. All students receive a tuition waiver and a \$6500-per-year stipend. Following a core curriculum that includes all of the basic science courses offered to medical students, in-depth research training is provided in a discipline and laboratory selected by the student. Interested candidates are invited to apply to: **Dr. Edwin R. Hughes, Director, University of South Alabama, MSB 1015, Mobile, Alabama 36688.** Telephone: 205-460-6153.

GRADUATE STUDY

GRADUATE STUDY in MOLECULAR BIOLOGY and BIOCHEMISTRY at Oregon Graduate Center. Research programs in microbial and plant enzymology and physiology, cloning and characterization of fungal and plant genes, plant tissue culture, mechanisms of plant hormone action fungal and plant genetics and biochemistry, extracellular enzymes, structure and function of heme enzymes, lignin biosynthesis, and biodegradation. Research assistantships of \$8600 with remission of tuition for qualified Ph.D. applicants. Write: **Chairman, Department of Chemical, Biological, and Environmental Sciences, Oregon Graduate Center, 1960 Northwest Von Neumann, Beaverton, OR 97006.** *Affirmative Action/Equal Opportunity Employer.*

AWARDS

SUMMER RESEARCH AWARDS IN ECOLOGY. The Pymatuning Laboratory of Ecology, University of Pittsburgh, has available research awards for the summer of 1986. Proposals are welcome at all academic levels for research in any area of ecology. Support will usually not exceed \$3500, and may include travel, equipment, supplies, assistants, and room and board at the laboratory. Inquiries or proposals should be sent by 15 March to: **Pymatuning Laboratory of Ecology, Route 1, Box 7, Linesville, PA 16424.**

REQUEST FOR PROPOSALS

The U.S. Department of Agriculture (USDA) Forest Service and the Environmental Protection Agency will issue a request for proposals in February 1986 for research on the effects of air pollutants and acid deposition on eastern hardwood species. Send written inquiries to: **USDA Forest Service, Room 308 (ASDPL), 370 Reed Road, Broomall, PA 19008.**

FELLOWSHIPS

UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA) ENVIRONMENTAL SCIENCE AND ENGINEERING FELLOWSHIPS AND ASSISTANTSHIPS. Funded positions are available immediately leading to the doctor of environmental science and engineering (D.Env.) degree or the Ph.D. in environmental and occupational health sciences. The D.Env. typically includes 2 years of course work and research at UCLA, plus a funded 18- to 24-month internship in industry or government. The Ph.D. is more focused; both degrees require a dissertation. Research includes risk assessment methodologies; ground-water monitoring and treatment; analysis of policy options re toxics; and environmental impacts of developing countries. For information write to: **William H. Glaze, School of Public Health, UCLA, Los Angeles, CA 90024** or telephone: 213-206-1278. *UCLA is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minority groups.*

SIX POSTDOCTORAL FELLOWSHIP positions are available in the fall of 1986 for research in estuarine lagoon and nearshore continental shelf waters. Research areas include physical oceanography, macroalgal botany, invertebrate larval biology, zooplankton biology, invertebrate reproduction and development, and fish ecology and behavior. Deadline for application is 1 April 1986. Request information brochure and application packet from:

Dr. Kevin J. Eckelbarger
Postdoctoral Program
Harbor Branch Institution, Inc.
R.R. 1, Box 196-A
Fort Pierce, Florida 33450
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POSTDOCTORAL FELLOWSHIPS FOR RESEARCH TRAINING IN HYPERTENSION AND CARDIOVASCULAR DISEASE. Postdoctoral fellowships available immediately to study the receptors for atrial natriuretic factor and angiotensin II. Work will involve purification of the receptor and preparation of monoclonal antibodies. Candidates should send curriculum vitae and names of three references to: **Dr. R. L. Soffer, Cardiovascular Center, Cornell University Medical College, 1300 York Avenue, New York, NY 10021.**

FELLOWSHIPS

INTERNATIONAL CANCER RESEARCH FELLOWSHIP

The Hayashibara and Mutual Aid Fund, a nonprofit making organization within the Hayashibara Group, announces a fellowship program. Two awards will be made annually. Fellowship will be taken up at the newly opened Fujisaki Cell Center, which is devoted to the basic and applied research related to the problems in human cancer. The fellowship is normally made for 1 year and is renewable for up to 5 years. The fellowship will be expected to commence within 6 months of the announcement of the awards. The awards are for high-quality research work in one of the three categories described below.

- 1) Fundamental leukemia-lymphoma research,
- 2) Cytokine-lymphokine research,
- 3) Hematopoietic cell cultures.

Qualified person who has a Ph.D., an M.D., or equivalent qualifications will be awarded on merit to suitably qualified research proposal and experiences. Additional information and application forms will be obtained from: **Jun Minowada, M.D., Director, Fujisaki Cell Center, 675-1, Fujisaki, Okayama 702, Japan.**

The Division of Biology, California Institute of Technology, invites applications for **Dr. Chaim Weizmann Postdoctoral Fellowship** for scientific research. The competitively awarded fellowships will be for 1 year initially but may be renewed. The annual stipend is \$27,000 to the awardee, plus small research and travel allowances. Applicants must be under 31 years of age and citizens of Israel or the United States. Work may be in association with any faculty member of the Division. Address inquiries to: **Dr. L. E. Hood, Chairman, Division of Biology, 156-29, California Institute of Technology, Pasadena 91125.** *The Institute is an Equal Opportunity/Affirmative Action Employer and welcomes applications from women and members of minority groups.*

POSTDOCTORAL FELLOWSHIPS IN CHEMISTRY OR BIOLOGY OF POLYPEPTIDE HORMONES (2 or 3 years), beginning July 1986.

Opportunities for Ph.D.'s in interdisciplinary group, studying polypeptides of human and animal pituitary, using HPLC, gas-phase microsequencing, peptide synthesis, GC/mass spectrometry, and RIA, bioassay, etc., to isolate, identify structurally, synthesize, and characterize function of hitherto unknown pituitary peptides. Individuals experienced in any of the above are invited to apply. Stipend: \$30,000 per annum plus relocation expenses. Send curriculum vitae and names of three references to: **Dr. A. F. Parlow, Harbor-UCLA Medical Center, 1000 West Carson Street, Torrance, CA 90509.**

POSTDOCTORAL FELLOWSHIP—Available for 2 years to study pathophysiological mechanisms of acute lung edema using unique microcirculatory techniques. Research will focus on the role of activated neutrophils, mononuclear cells, and cellular mediators using multidisciplinary approach. NIH-funded project with competitive salary. Send curriculum vitae and names of three references to: **Rodney A. Rhoades, Professor and Chairman of Physiology and Biophysics, Indiana University School of Medicine, 635 Barnhill Drive, Room 374, Indianapolis, IN 46223.** *An Equal Opportunity/Affirmative Action Employer.*

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DRUG DISPOSITION

The primary responsibilities involve conducting experiments which define the absorption, distribution, metabolism and excretion of new drug substances in animals. Working knowledge of HPLC, GC, and spectroscopic techniques is required. Knowledge of computerized data reduction is desirable. Experimental procedures will include *in vivo* studies, the development of analytical procedures for the analysis of drugs in biological fluids, and the structural elucidation of metabolites.

CARDIOVASCULAR PHARMACOLOGY

The primary responsibilities involve conducting experiments directed toward the discovery and evaluation of new cardiovascular agents. This research requires the application of surgical and experimental techniques in studies utilizing *in vitro*, *in situ* and *in vivo* models. Procedures will include the operation of instrumentation for measuring cardiac and vascular dynamics and the utilization of computer systems for data reduction.

Qualified applicants should send their resume to:



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to work as a *Project Manager* on the development of new products for *ectoparasite control*. The successful applicant will be responsible for the international development of these products, coordinating all technical activities in Switzerland and abroad both within the company and at Universities and Institutes. He is expected to become an international authority in the area of ectoparasite control and will be able to advise both the company and customers on trends and developments in this field as well as on our own products.

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We are looking for applicants who have had some practical experience since completing their academic training. The successful candidate will be a mature person who is looking for a challenging and responsible position. A sound knowledge of English or German and a willingness to learn languages and to travel is required.

Please send your application, marked "Science 1248", together with brief details of age, qualifications, practical experience, etc. to **Dr. W. Finck, CIBA-GEIGY Limited, Personnel Department, Postfach, CH-4002 Basel/Switzerland.**

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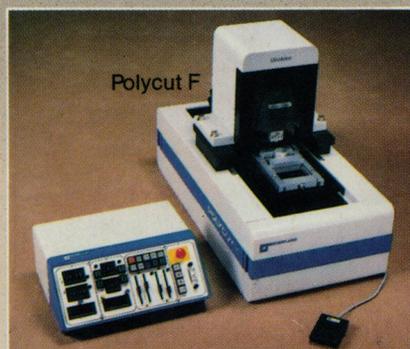
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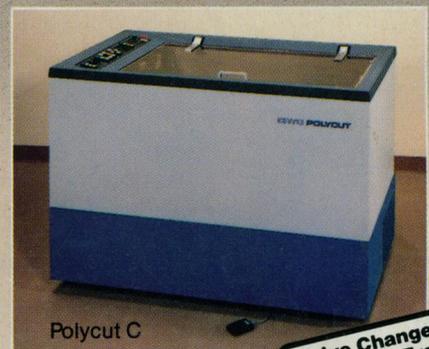
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