

membrane when the internal calcium goes up? The strength of *Neurotransmitter Vesicles* is the technical detail in which it discusses methodology. Some chapters, indeed, read like selections from a methods handbook, listing, for example, the 11 different ways of fixing and staining catecholamine-containing granules. Though rich in methodology, the book is not very deep in insight. No attempt is made, for example, to compare the synaptic vesicle with the homologous endocrine secretory granules. Nonetheless, if the book encourages new workers to plunge into this field, and equips them to do so with caution and competence, it will be a very worthwhile contribution. It may be hard work, but there is probably no better way to understand the molecular basis of synaptic activity.

R. B. KELLY

*Department of Biochemistry  
and Biophysics, University of  
California Medical Center,  
San Francisco 94143*

## Books Received

**Advances in Biochemical Engineering.** Vol. 23, Microbial Reactions. A. Fiechter, Ed. Springer-Verlag, New York, 1982. viii, 194 pp., illus. \$39.

**Advances in Epileptology.** The XIIIth Epilepsy International Symposium. Sept. 1981. Haruo Akimoto, Hajime Kazamatsuri, Masakazu Seino, and Arthur A. Ward, Jr., Eds. Raven, New York, 1982. xvi, 544 pp., illus. \$95.

**Advances in the Pathophysiology, Diagnosis, and Treatment of Sickle Cell Disease.** Proceedings of a conference, Washington, D.C., Sept. 1981. Roland B. Scott, Ed. Liss, New York, 1982. xii, 168 pp., illus. \$22. Progress in Clinical and Biological Research, vol. 98.

**Advances in Viral Oncology.** Vol. 1, Oncogene Studies. George Klein, Ed. Raven, New York, 1982. x, 262 pp., illus. \$55.

**Aging and Life Course Transitions.** An Interdisciplinary Perspective. Papers from a conference, Luxembourg, June 1979. Tamara K. Hareven and Kathleen J. Adams, Eds. Guildford Press, New York, 1982. xx, 282 pp. \$24.50. Adult Development and Aging.

**Air and Water Pollution Control.** A Benefit-Cost Assessment. A. Myrick Freeman, III. Wiley-Interscience, New York, 1982. xiv, 186 pp. \$32. Environmental Science and Technology.

**Analytical Profiles of Drug Substances.** Vol. 11. Klaus Florey, Ed. Academic Press, New York, 1982. x, 666 pp., illus. \$39.

**Annual Review of Birth Defects, 1981.** Papers from a meeting, San Diego, June 1981. William L. Nyhan, Kenneth Lyons Jones, Natalie W. Paul, Florence Dickman, and Elizabeth O'Brien Eakin, Eds. Liss, New York, 1982. Two volumes. Part A. Prenatal Diagnosis and Mechanisms of Teratogenesis. xvi, 216 pp., illus. \$36. Part B. Dysmorphology. xx, 328 pp., illus. \$56. Birth Defects: Original Articles Series, vol. 18, No. 3.

**Annual Review of Microbiology.** Vol. 36. Mortimer P. Starr, Albert Balows, and Jean M. Schmidt, Eds. Annual Reviews, Palo Alto, Calif., 1982. xii, 564 pp., illus. \$22.

**Annual Review of Nutrition.** Vol. 2. William J. Darby, Harry P. Broquist, and Robert E. Olson, Eds. Annual Reviews, Palo Alto, Calif., 1982. xiv, 498 pp., illus. \$22.

**Application of Pharmacokinetics to Patient Care.** Papers from a symposium, Tallahassee, Fla. Charles A. Walker and Lambros P. Tterlikkis, Eds. Praeger, New York, 1982. xvi, 176 pp., illus. \$26.50.

**The Boole-De Morgan Correspondence, 1842-1864.** G. C. Smith. Clarendon (Oxford University Press), New York, 1982. viii, 156 pp. \$44. Oxford Logic Guides.

**Borderline Problems in Otorhinolaryngology.** Proceedings of a congress, Budapest, June 1981. L. Surján and Gy. Bodó, Eds. Excerpta Medica, Amsterdam, 1982 (U.S. distributor, Elsevier North-Holland, New York). xxviii, 724 pp., illus. \$121. International Congress Series, 582.

**Breaking the Barriers.** Kuni Sadamoto, Ed. Survey Japan, Tokyo, 1982 (U.S. distributor, ISBS, Beaverton, Ore.). 264 pp. Paper, \$50.

**Building for Tomorrow.** Putting Waste to Work. Martin Pawley. Sierra Club Books, San Francisco, 1982 (trade distributor, Random House, New York). x, 192 pp., illus. \$17.95.

**The Cambridge Photographic Atlas of the Planets.** Geoffrey Briggs and Fredric Taylor. Cambridge University Press, New York, 1982. 256 pp. \$24.95.

**Cancer Mortality by Occupation and Social Class, 1851-1971.** W. P. D. Logan. Her Majesty's Stationery Office, London, and International Agency for Research on Cancer, Lyon, 1982 (U.S. distributor, WHO Publications Centre USA, Albany, N.Y.). vi, 254 pp., illus. Paper, \$30. IARC Scientific Publications, No. 36. Studies on Medical and Population Subjects, No. 44.

**Cell Biology of Physarum and Didymium.** Vol. 2, Differentiation, Metabolism, and Methodology. Henry C. Aldrich and John W. Daniel, Eds. Academic Press, New York, 1982. xviii, 376 pp., illus. \$52. Cell Biology.

**Cellular Recognition.** Proceedings of a symposium, Keystone, Colo., Mar. 1981. William A. Frazier, Luis Glaser, and David I. Gottlieb, Eds. Liss, New York, 1982. xxvi, 936 pp., illus. \$152. UCLA Symposia on Molecular and Cellular Biology, New Series, vol. 3. Reprinted from the *Journal of Supramolecular Structure and Cellular Biochemistry*, vols. 15-17, and the *Journal of Cellular Biochemistry*, vol. 18.

**The Chemical Scythe.** Lessons of 2,4,5-T and Dioxin. Alastair Hay. Plenum, New York, 1982. xii, 264 pp., illus. \$27.50. Disaster Research in Practice.

**Chinese Medical Modernization.** Comparative Policy Continuities, 1930s-1980s. An Elissa Lucas. Praeger, New York, 1982. xvi, 190 pp. \$24.95.

**Dynamical Systems II.** Proceedings of a symposium, Gainesville, Fla., Feb. 1981. A. R. Bednarek and L. Cesari, Eds. Academic Press, New York, 1982. xvi, 664 pp., illus. \$49.

**Effects of Air Pollution on Farm Commodities.** Proceedings of a symposium, Washington, D.C., Feb. 1982. Izaak Walton League of America, Arlington, Va., 1982. xii, 176 pp., illus. Paper, \$10.

**Electrical and Electronic Safety.** John A. Allocca and Harold E. Levenson. Reston (Prentice-Hall), Reston, Va., 1982. xviii, 380 pp., illus. \$24.95.

**Electromagnetic Surface Modes.** A. D. Boardman, Ed. Wiley-Interscience, New York, 1982. x, 776 pp., illus. \$83.

**Endocrine Aspects of Aging.** Stanley G. Korenman, Ed. Elsevier, New York, 1982. xii, 276 pp., illus. \$39.95. Current Endocrinology.

**Energy Deskbook.** Samuel Glasstone. U.S. Department of Energy Technical Information Center, Oak Ridge, Tenn., 1982 (available as DE82013966 from the National Technical Information Service, Springfield, Va.). viii, 454 pp., illus. Paper, \$12.50. DOE/IR/05114-1.

**Engineering a Compiler.** VAX-11 Code Generation and Optimization. Patricia Anklam, David Cutler, Roger Heinen, Jr., and M. Donald MacLaren. Digital Press, Bedford, Mass., 1982. xvi, 270 pp., illus. \$24.

**Environmental Factors in Human Growth and Development.** Papers from a meeting, Nov. 1981. Vilma R. Hunt, M. Kate Smith, and Dorothy Worth, Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y., 1982. xx, 570 pp., illus. \$62.50. Banbury Report 11.

**Environmental Science Methods.** Robin Haynes, Ed. Chapman and Hall, London, 1982 (U.S. distributor, Methuen, New York). x, 404 pp., illus. Cloth, \$39.95; paper, \$19.95.

**Essays in Nuclear Astrophysics.** Presented to William A. Fowler on the Occasion of His Seventieth Birthday. C. A. Barnes, D. D. Clayton, and D. N. Schramm, Eds. Cambridge University Press, New York, 1982. xiv, 562 pp., illus. Cloth, \$75; paper, \$29.95.

**The Eukaryotic Ribosome.** Heinz Bielka, Ed. Springer-Verlag, New York, 1982. 338 pp., illus. \$35.

**Euro-ökologischer Führer.** Euro-Ecological Guide. Udo Halbach and Heinz B. Müller. Edition Erbrich, Frankfurt am Main, 1982. 576 pp. Paper, DM 36.80.

**Evaluation of Methods of Treatment and Diagnostic Procedures in Cancer.** T. B. Grage and nine others. International Union Against Cancer, Geneva, 1982 (distributor, Hans Huber, Bern). vi, 146 pp. Paper, \$12. UICC Technical Report Series, vol. 70. Studies Conducted by the Project on Controlled Therapeutic Trials (1978-1982).

**Hormonally Active Brain Peptides.** Structure and Function. Kenneth W. McKerns and Vladimir Pantić, Eds. Plenum, New York, 1982. xviii, 640 pp., illus. \$75. Biochemical Endocrinology.

**Human Variation.** Races, Types, and Ethnic Groups. Stephen Molnar. Prentice-Hall, Englewood Cliffs, N.J., ed. 2, 1983. xviii, 254 pp., illus. Paper, \$15.95.

**Immunological Tolerance to Self and Non-Self.** Papers from a conference, New York, Oct. 1981. Jack R. Battisto, Henry N. Claman, and David W. Scott, Eds. New York Academy of Sciences, New York, 1982. xii, 436 pp., illus. Cloth or paper, \$80. Annals of the New York Academy of Sciences, vol. 392.

**Immunology.** The Science of Self-Nonself Discrimination. Jan Klein. Wiley-Interscience, New York, 1982. xii, 688 p., illus. \$70.

**Infective Endocarditis and Other Intravascular Infections.** Lawrence R. Freedman. Plenum, New York, 1982. xvi, 244 pp., illus. \$35. Current Topics in Infectious Disease.

**Inorganic Syntheses.** Vol. 21. John P. Fackler, Jr. Wiley-Interscience, New York, 1982. xx, 216 pp., illus. \$37.50.

**In Search of a Unified Physics.** Robert Hayward Parker. Hayward Investments Ltd., Willowdale, Ontario, Canada, 1982. xxxii, 240 pp., illus. C\$100.

**Integrated Optics.** Theory and Technology. Robert G. Hunsperger. Springer-Verlag, New York, 1982. xiv, 300 pp., illus. \$34. Springer Series in Optical Sciences, 33.

**Intense Atmospheric Vortices.** Proceedings of a symposium, Reading, England, July 1981. L. Bengtsson and J. Lighthill, Eds. Springer-Verlag, New York, 1982. xii, 326 pp., illus. Paper, \$25. Topics in Atmospheric and Oceanographic Sciences.

**International Handbook of Behavior Modification and Therapy.** Alan S. Bellack, Michel Hersen, and Alan E. Kazdin, Eds. Plenum, New York, 1982. xxx, 1022 pp., illus. \$95.

**Introduction to Field Theory.** Iain T. Adamson. Cambridge University Press, New York, ed. 2, 1982. viii, 182 pp. Cloth, \$19.95; paper, \$9.95.

**Introduction to Insect Pest Management.** Robert L. Metcalf and William H. Luckmann, Eds. Wiley-Interscience, New York, ed. 2, 1982. xiv, 578 pp., illus. \$32.50. Environmental Science and Technology.

**An Introduction to Plant Taxonomy.** C. Jeffrey. Cambridge University Press, New York, ed. 2, 1982. x, 154 pp., illus. Cloth, \$24.95; paper, \$12.50.

**Introduction to Special Relativity.** Wolfgang Rindler. Clarendon (Oxford University Press), New York, 1982. x, 186 pp. Cloth, \$39; paper, \$13.95.

**Japanese Technology.** Getting the Best for the Least. Masanori Moritani. Translated from the Japanese. Simul Press, Tokyo, 1982 (U.S. distributor, ISBS, Beaverton, Ore.). xiv, 238 pp. + plates. Paper, \$19.95.

**Mathematical Models for Planning and Controlling Air Quality.** Proceedings of a workshop, Oct. 1979. Giorgio Fronza and Piero Melli, Eds. Pergamon, New York, 1982. viii, 248 pp., illus. \$50. IIASA Proceedings Series, 17.

**Matrix Algebra Useful for Statistics.** Shayle R. Searle. Wiley, New York, 1982. xxiv, 438 pp. \$29.95. Wiley Series in Probability and Mathematical Statistics.

**Methods of Experimental Physics.** C. Marton, Ed. Vol. 20, Biophysics. Gerald Ehrenstein and Harold Lecar, Eds. Academic Press, New York, 1982. xxviii, 568 pp., illus. \$74.50.

**Methods of Information Integration Theory.** Norman H. Anderson. Academic Press, New York, 1982. xviii, 444 pp. \$39.50.

**Micromolecular Evolution, Systematics and Ecology.** An Essay into a Novel Botanical Discipline. Otto Richard Gottlieb. Springer-Verlag, New York, 1982, xii, 170 pp., illus. Paper, \$29.80.

**Minnesota's Geology.** Richard W. Ojakangas and Charles L. Matsch. Drawings, charts, and graphs by Dan Beedy. University of Minnesota Press, Minneapolis, 1982. x, 256 pp. Cloth, \$39.50; paper, \$16.95.

**Modern Astronomy.** An Activities Approach. R. Robert Robbins and Mary Kay Hemenway. University of Texas Press, Austin, 1982. Various pages, illus. Paper, \$17.50.

**Molten Salt Technology.** David G. Lovering, Ed. Plenum, New York, 1982. xvi, 534 pp., illus. \$65.

**Monoclonal Hybridoma Antibodies.** Techniques and Applications. John G. R. Hurrell, Ed. CRC Press, Boca Raton, Fla., 1982. viii, 232 pp., illus. \$74.50.

**More than Enough?** An Optimistic Assessment of World Energy. Robin Clarke, Ed. Unesco Press, Paris, 1982. 184 pp., illus. Paper, 48 F. Sextant 1.

**Physics of Semiconductor Devices.** Proceedings of a workshop, New Delhi, Nov. 1981. S. C. Jain and S. Radhakrishna, Eds. Halsted (Wiley), New York, 1982. xvi, 804 pp., illus. \$54.95.

(Continued on page 1136)



#### Hemoglobin Buffer

Glyco-Phore is a temperature-independent glycosylated hemoglobin buffer. Glyco-Phore produces sharp electrophoretic separations of HbA and HbA<sub>1</sub> with no interference from hemoglobin variants. Eight to 24 samples may be processed in 2 hours. This technique is useful for long-term control in diabetics in conjunction with measured concentrations of glucose. Densitometry is routine; no special filters are required. Gelman Sciences. Circle 580.

#### Blood Chemistry Analyzer

The VersaChem analyzer features a shaker-incubator that mixes serum with reagents while it warms to a selected temperature. A programmable photometer-microprocessor is thermostatically coupled to the shaker-incubator to monitor, display, and print results. Up to 24 end-point and kinetic chemistries may be stored in memory. Harleco Diagnostics, EM Science. Circle 581.

#### Flameless Sterilizer

The Bacti-Cinerator III sterilizes inoculation loops, needles, and culture tube mouths with infrared heat. Organic material is safely incinerated deep in a ceramic funnel tube in 5 to 7 seconds at 1500°F without the hazards of splattering, cross-contamination, and open flame. The device requires no oxygen and may be used in anaerobic chambers. It is also not affected by air mixtures or drafts. Lancer Division, Sherwood Medical. Circle 585.

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 1034A and 1130A) and placing it in a mailbox. Postage is free.

—RICHARD G. SOMMER

#### Sterilization Filter Unit

A small sterilization filter unit has a capacity of 30 milliliters. The device sterilizes, clarifies, or filters small volumes of such liquids as buffers, enzyme solutions, reagents, media, and media components. It is made of transparent nontoxic polystyrene. It comes assembled and sterilized and is disposable. Each unit contains a 25-millimeter cellulose acetate membrane with low content of extractables and a low binding rate. The membrane is triton-free and resists methanol and ethanol. Pore size, either 0.20 or 0.45 micrometer, is stamped on each unit. The upper chamber and the receiver are sterilized. Nalge. Circle 587.

#### Test for Manual WBC

The Unopette Test 5856 is designed for collection and preparation of blood samples in 1:20 dilution ratio for manual leukocyte counting. The test is used to verify results obtained with automated counters. It offers measured and filled reagents for accurate dilutions with minimum handling and a capillary pipette that draws a correct sample without mouth pipetting. Unopette 5856 has an extended expiration date of 18 months. Becton Dickinson Vacutainer Systems. Circle 579.

#### Plasma Separator

The Statsep plasma separator uses membrane filtration to separate plasma from whole blood. The device uses a disposable cartridge with a membrane that has 0.6-micrometer pores. The operator fills the cartridge with anticoagulated blood, places the cartridge on a benchtop unit, and presses a button. In 1 minute, the Statsep will yield up to 500 microliters of plasma from 2.5 milliliters of blood. A Cycle-Extend feature increases the separation time to increase the yield. Instrumentation Laboratory. Circle 584.

#### Air Scrubber

The Mystaire HS-7CM scrubber is mounted on a cart. This portable self-contained device removes solvent vapors, odors, bacteria, aerosols, and viruses from laboratory air. When used with a small hood, the scrubber will prevent contamination of laboratory air by procedures such as spraying TLC plates. The scrubber removes the contaminant from the exhaust stream and allows the clean air to be handled by the laboratory's standard exhaust system. The heart of the Mystaire scrubber is the Waterweb mesh, a multilayered PVC, or polypropylene mesh compressed into a block. Heat Systems-Ultrasonics. Circle 583.

#### Plasma Coagulation Timer

The Electra 700 is fully automated to perform routine coagulation tests. One setup is all that is required to perform PT's and APTT's simultaneously. Factor assays, thrombin times, and fibrinogen assays are similarly easy to do. Upon photooptical detection of the color-coded test cuvette, the machine adds reagents, selects activation and incubation times, and performs the test. Stat tests may be introduced at any time without interfering with automatic operation. Medical Laboratory Automation. Circle 586.

#### Literature

*Safety* is devoted to over 3500 items of safety equipment for science. Lab Safety Supply. Circle 565.

*Antimicrobial Susceptibility* features the Sceptor system for biochemical identification of bacteria from clinical specimens. BBL Microbiology Systems. Circle 570.

*Automated Pipetting Station* describes the Micromedic instrument for sample diluting and dispensing. Micromedic Systems. Circle 588.

*Microscopy—Off the Shelf* offers equipment and accessories for all phases of laboratory microscopy. McCrone Accessories & Components. Circle 589.

*Electrode Technology Handbook* treats ion selective electrodes exhaustively (\$10 per copy). Orion Research. Circle 591.

*Carbohydrates* ranges from simple sugars to complex diagnostic chemicals, pharmaceutical intermediates, and research biochemicals. Pfanstiehl Laboratories. Circle 592.

## THE ULTIMATE IN ION-SELECTIVE MEASUREMENTS

### WPI'S FD 223 DUAL/DIFFERENTIAL ELECTROMETER



- input resistance  $10^{15} \Omega$
- input capacitance 0.1 pF
- differential readings
- leakage current  $10^{-14}$  A
- LCD readout
- independent, simultaneous readings

**FD223** puts first-stage amplification close to the source with an active probe headstage minimizing noise pick up and signal loss.

**FD223 DUAL/DIFFERENTIAL ELECTROMETER**  
... the ultimate for precision measurements from ion-selective and pH macro- and microelectrodes.

Only offered by



**W·P INSTRUMENTS, INC.**

60 Fitch Street • P.O. Box 3110 • New Haven, Conn.  
06515 U.S.A. Tel.: (203) 389-2183 • Cables: WPINSTR •  
TWX: 710-465-2638

Circle No. 282 on Readers' Service Card

## PUBLIC FORUM ON NUCLEAR POWER

Sponsored by the Three Mile Island  
Public Health Fund\*

March 28, 29 and 30, 1983

Penn State University Capitol Campus  
Middletown, Pennsylvania

Free and open to the general public. Registration not required. All sessions include a period of open discussion in which questions may be asked.

### Monday, March 28th

Welcoming Address by David Berger, Liaison Counsel  
8:45 a.m.

Session I—Concerns Related to Nuclear Power

9:00 a.m. to 12:30 p.m.

Dean Abrahamson, M.D. Ph.D., *University of Minnesota,*  
*Moderator*

Roger Kasperson, Ph.D., *Clark University*

"Public Perceptions of Nuclear Power"

Bernd Franke, Ph.D., *Senior Research Scientist, Heidelberg*  
*Germany*

"Power Plant Siting Criteria"

Karl Z. Morgan, Ph.D., *Appalachian State University*

"Radiation Exposures in the Nuclear Cycle"

Session II—Health Effects of Low Level Radiation Exposure

1:45 to 5:30 p.m.

Edward P. Radford, M.D., *U. of Pittsburgh, Moderator*

Arthur Upton, M.D., *New York University*

"Experimental Evidence of Low-Dose Effects"

Alice M. Stewart, M.D., *Birmingham University, England*

"Factors Modifying Cancer Risks At Low Doses"

Hiro Kato, M.D., *Radiation Effects Research Foundation, Japan*

"Current Evidence in A-Bomb Survivors"

### Tuesday, March 29th

Session III—Problems in Occupation Exposure to Radiation

8:45 a.m. to 12:15 p.m.

Karl Z. Morgan, Ph.D., *Appalachian State University,*  
*Moderator*

Bo Lindell, Ph.D., *Past President Int'l. Commission of*  
*Radiation Protection*

"Current Concepts of Occupational Exposure Limits"

David Gee, *General and Municipal Workers Union,*  
*England*

"Occupational Radiation Risks from Workers Point of  
View"

Edward P. Radford, M.D., *U. of Pittsburgh*

"Radiation Risks in Workers"

Session IV—Expert Credibility and Public Concerns

1:45 p.m. to 6:00 p.m.

Ian McHarg, *Professor, U. of Pennsylvania, Moderator*

Robert Holt, Ph.D., *New York University*

"Human Stress at TMI and Other Reactor Regions"

James Hurst, *resident of Middletown, Pa.*

"Public Concerns in TMI Area"

Frank von Hippel, Ph.D., *Princeton University*

"Scientific Credibility and Public Policy"

### Wednesday, March 30th

Session V—Planning for Nuclear Emergencies

6:00 p.m. to 9:00 p.m.

Frank von Hippel, Ph.D., *Princeton University, Moderator*

Lee Thomas, *Deputy Administrator, FEMA*

"Regulatory Requirements"

Jan Beyea, Ph.D., *National Audubon Society*

"Public Involvement in Planning"

George Woodwell, Ph.D., *Ecosystems Center, Marine*  
*Biological Lab*

"Lessons from TMI Episode"

\*The Three Mile Island Public Health Fund was established as part of a class-action settlement in behalf of persons who live, work and do business within a 25-mile radius of the site of the 1979 nuclear accident. The purpose of the Health Fund is to help protect those persons from detrimental consequences as a result of the accident and the continued operation of the nuclear power facility. The fund is administered by David Berger, plaintiff's liaison counsel, subject to the supervision of Judge Sylvia H. Rambo of the U.S. District Court, Middle District, Pennsylvania. For further information, write to Mr. Jonathan Berger, Executive Secretary, Three Mile Island Public Health Fund, 1622 Locust St., Philadelphia, Pa. 19103.

## BOOKS RECEIVED

(Continued from page 1062)

**Physiochemical Principles of Pharmacy.** A. T. Florence and D. Attwood. Chapman and Hall, New York, 1982 (distributor, Methuen, New York). xii, 510 pp., illus. Paper, \$29.95.

**Planning Future Land Uses.** Papers from a conference. Gary Peterson and five others, Eds. American Society of Agronomy/Crop Science Society of America/Soil Science Society of America, Madison, Wis., 1981. viii, 72 pp. Paper, \$5.50. ASA Special Publication No. 42.

**Plastics Materials.** Properties and Applications. Arthur W. Birley and Martyn J. Scott. Leonard Hill, Glasgow, 1982 (U.S. distributor, Chapman and Hall, New York). viii, 168 pp., illus. Cloth, \$43; paper, \$21.

**Plastics Polymer Science and Technology.** Mahen-

dra D. Bajjal, Ed. Wiley-Interscience, New York, 1982. xiv, 946 pp., illus. \$150. SPE Monographs.

**Platelets.** Pathophysiology and Antiplatelet Drug Therapy. Harvey J. Weiss. Liss, New York, 1982. xii, 166 pp. \$22.

**Politics and History in Band Societies.** Eleanor Leacock and Richard Lee, Eds. Cambridge University Press, New York, and Editions de la Maison des Sciences de l'Homme, Paris, 1982. xiv, 500 pp., illus. Cloth, \$44.50; paper, \$17.95.

**The Politics of Agricultural Research.** Don F. Hadwiger. University of Nebraska Press, Lincoln, 1982. x, 230 pp. \$16.95.

**The Power of Steam.** An Illustrated History of the World's Steam Age. Asa Briggs. University of Chicago Press, Chicago, 1982. 208 pp. \$22.50.

**Probability and Random Processes.** Geoffrey Grimmett and David Stirzaker. Clarendon (Oxford University Press), New York, 1982. x, 354 pp. Cloth, \$45; paper, \$16.95.

**The Problematic Science.** Psychology in Nine-

teenth-Century Thought. William R. Woodward and Mitchell G. Ash, Eds. Praeger, New York, 1982. xx, 390 pp. \$35.

**The Regulation of Air Pollutant Emissions from Motor Vehicles.** Lawrence J. White. American Enterprise Institute for Public Policy Research, Washington, D.C., 1982. viii, 112 pp. Cloth, \$13.95; paper, \$4.95. AEI Studies 356

**Relativistic Models of Extended Hadrons Obeying a Mass-Spin Trajectory Constraint.** N. Mukunda, H. van Dam, and L. C. Biedenharn. Springer-Verlag, New York, 1982. vi, 164 pp. Paper, \$9. Lecture Notes in Physics, vol. 165.

**Reproduction.** The Cycle of Life. Karen Jensen and the editors of U.S. News Books. U.S. News Books, Washington, D.C., 1982 (distributor, Scribner, New York). 166 pp., illus. \$15.95. The Human Body.

**Review Questions in Analytical Toxicology.** Jack E. Wallace and eight others. Biomedical Publications, Davis, Calif., 1982. vi, 188 pp. Spiral bound. \$17.50.

**Safe Use of Solvents.** Proceedings of a symposium, Brighton, England, Mar. 1982. A. J. Collings and S. G. Luxon, Eds. Academic Press, New York, 1982. xiv, 316 pp., illus. \$37.

**Science and Technology Centers.** Victor J. Danilov. MIT Press, Cambridge, Mass., 1982. x, 356 pp., illus. \$40.

**Scientists, the Arms Race and Disarmament.** Papers from a symposium, Ajaccio, France, Feb. 1982. Joseph Rotblat, Ed. Taylor and Francis, London, and Unesco, Paris, 1982 (U.S. distributor, Unipub, New York). viii, 324 pp. \$24.95.

**The Scrubber Strategy.** Mary Ann Baviello with Alexandra S. Bowie and Lillian E. Beerman. Richard C. Allen, Ed. Ballinger (Harper and Row), Cambridge, Mass., 1982. xii, 180 pp. \$37.50. An INFORM Book.

**Short- and Long-Term Changes in Climate.** Felix G. Sulman. CRC Press, Boca Raton, Fla., 1982. Two volumes. xiv, 164 pp. illus., and xvi, 168 pp., illus. \$59.50.

**Shrimps, Lobsters and Crabs.** Dorothy E. Bliss. New Century, Piscataway, N.J., 1982. xii, 242 pp., illus. \$14.95.

**Singularities of Smooth Functions and Maps.** Jean Martinet. Translated by Carl P. Simon. Cambridge University Press, New York, 1982. xiv, 256 pp. Paper, \$19.95. London Mathematical Society Lecture Note Series, 58.

**The Skeleton.** Fantastic Framework. Kathy E. Goldberg and the editors of U.S. News Books. U.S. News Books, Washington, D.C., 1982 (distributor, Scribner, New York). 166 pp., illus. \$15.95. The Human Body.

**Social Structure and Behavior.** Essays in Honor of William Hamilton Sewell. Robert M. Hauser, David Mechanic, Archibald O. Haller, and Taissa S. Hauser, Eds. Academic Press, New York, 1982. xxxiv, 462 pp. \$46.

**Spacecraft Dynamics.** Thomas R. Kane, Peter W. Likins, and David A. Levinson. McGraw-Hill, New York, 1982. xii, 436 pp., illus. \$49.50.

**A Study of Mammalia and Geology Across the Cretaceous-Tertiary Boundary in Garfield County, Montana.** J. David Archibald. University of California Press, Berkeley, 1982. xvi, 286 pp., illus. Paper, \$32. University of California Publications in Geological Sciences, vol. 122.

**Targeting of Drugs.** Proceedings of an institute, Cape Sounion, Greece, June 1981. Gregory Gregoriadis, Judith Senior, and André Trouet, Eds. Plenum, New York, 1982. x, 430 pp., illus. \$52.50. NATO Advanced Study Institutes Series A, vol. 47.

**A Time to Be Born.** An Almanac of Animal Courtship and Parenting. Lorus and Margery Milne. Illustrations by Sarah Landry. Sierra Club Books, San Francisco, 1982 (trade distributor, Random House, New York). vi, 218 pp. \$15.95.

**Tools of the Mind.** Techniques and Methods for Intellectual Work. V. Stibic. North-Holland, Amsterdam, 1982 (U.S. distributor, Elsevier, New York). xiv, 298 pp., illus. \$35.

**Transport in Biomembranes.** Model Systems and Reconstitution. Papers from a school. Renzo Antonini, Alessandra Gliozzi, and Alfredo Gorio, Eds. Raven, New York, 1982. xvi, 272 pp., illus. \$32.

**Tulips.** Taxonomy, Morphology, Cytology, Phytogeography and Physiology. Z. P. Botschantzeva. Translated from the Russian edition (Tashkent, 1962) by H. Q. Varekamp. Balkema, Rotterdam, 1982 (U.S. distributor, Merrimack Book Service, Salem, N.H.). x, 230 pp., illus., + plates. \$70.

**Understanding and Treating Tardive Dyskinesia.** Dilip V. Jeste and Richard Jed Wyatt. Guilford Press, New York, 1982. xviii, 364 pp., \$29.50. Foundations of Modern Psychiatry.

**The Use and Abuse of Medicine.** Marten W. de Vries, Robert L. Berg, and Mack Lipkin, Jr., Eds. Praeger, New York, 1982. xx, 296 pp. \$34.50.

**Vectors and Tensors in Crystallography.** Donald E. Sands. Addison-Wesley Advanced Book Program, Reading, Mass., 1982. xviii, 228 pp., illus. \$26.50.

# VIRTIS ANNOUNCES A NEW WORLD SERIES WITH 65 WINNERS



no.15:



the bench top  
with big league  
capability

The brilliant new 6 liter performer benchtop fans have been waiting for! This one takes any VirTis manifold or changeable chamber — like the superb 600SL stoppering set up shown here — and actually lets you bench process with greater precision than most large pharmaceutical production dryers!

SuperSix is also the first benchtop with the exclusive VirTis smooth-sided stainless steel cylindrical condenser that lets you slide out the entire ice plug for quick defrost — a convenience you will never want to be without again. Let us tell you more . . . send for our 48 page full color catalog!

see the whole series—65 superstar performers  
**WORLD LEADER IN FREEZE DRYING**



THE VIRTIS COMPANY, INC. GARDINER, N.Y. 12525

# FILMS IN THE SCIENCES

Reviews and Recommendations

Compiled and edited by  
Michele M. Newman and  
Madelyn A. McRae

This indispensable reference reviews nearly 1,000 films from all areas of science. It provides detailed summaries, evaluations, and complete ordering information for films appropriate to students, teachers, professionals, and general audiences. The reviews are grouped by Dewey decimal category. Subject-title and film distributor indexes also make them easy to use. A must for the librarian, the science teacher, or the curious browser.

182 pages 1980  
Cloth: ISBN 87168-304-7 \$14.00

American Association for the Advancement of Science, Dept.  
FL3S, 1515 Massachusetts Avenue, N.W., Washington, D.C.  
20005

## Senior Research Fellowships

**THE BURROUGHS WELLCOME FUND**, in collaboration with The Foundation for Advanced Education in the Sciences, are soliciting candidates for Senior Research Fellowships at the National Institutes of Health beginning July 1, 1984. An initial stipend of \$30,000 will be offered with a two year tenure and optional third year.

Applicants must have completed a minimum of three years of post-doctoral research training and be U.S. citizens or permanent residents.

The deadline for receipt of applications is August 1, 1983. For information and application please write: Lois Kochanski, FAES, 9101 Old Georgetown Road, Bethesda, Maryland 20814.

Equal Opportunity Employers

## The heart of Wisconsin— UNSPOILED for business.

Work hard. Expand. Diversify. That's the free enterprise opportunity. But it's not as predictable anymore. Except in the heart of Wisconsin: where the natural and business environment is still fertile ground for the American ethic. Forward-thinking companies are moving to Wisconsin because of friendly support from local officials. Bankers. Residents. And the nationally acclaimed University of Wisconsin. A leader in R & D, technological innovation, and information sharing. Discover the "unspoiled" business advantage in the heart of Wisconsin. For your Potential for Profit Kit, send your business card to Paul Bergmann, Wisconsin Power & Light, P.O. Box 192, Madison, Wisconsin 53701. Or call 608/252-3251 or 608/252-3252.

 Wisconsin Power  
& Light Company

## Get your hands on the world's finest bioscience catalog.

Please send a free copy of the new Harvard BIOSCIENCE CATALOG.

Name \_\_\_\_\_ Title \_\_\_\_\_  
Organization \_\_\_\_\_ Tel. \_\_\_\_\_  
Address \_\_\_\_\_  
City, State, Zip \_\_\_\_\_



**Harvard**

Harvard Apparatus Company  
An Ealing Company  
22 Pleasant Street  
South Natick, MA 01760  
(617) 655-7000



# Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. 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.

**CLASSIFIED ADVERTISING DEADLINES:**  
25 March issue (mailed 18 March): **4 March**  
1 April issue (mailed 25 March): **11 March**  
8 April issue (mailed 1 April): **18 March**  
15 April issue (mailed 8 April): **25 March**

**POSITIONS WANTED:** 40¢ per word, plus \$4 for use of box number, per insertion. \$10 minimum, per insertion. Prepayment required. This rate is available only to individuals seeking jobs.

**DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth):** \$9.80 per millimeter; \$245 minimum, per insertion (minimum charge covers 25 millimeters on a single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing information required for all other advertising.

Send copy for all **Positions Wanted** ads and **Display** ads less than 1/6 page in size (125 millimeters) to:

SCIENCE, Room 107  
1515 Massachusetts Avenue, NW  
Washington, D.C. 20005  
Telephone: 202-467-4456

Send copy for **Display** ads 1/6 page and larger and all **Marketplace** ads to:

Scherago Associates, Inc.  
1515 Broadway  
New York, N.Y. 10036  
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

Box (give number)  
SCIENCE  
1515 Massachusetts Avenue, NW  
Washington, D.C. 20005

## POSITIONS WANTED

**Biochemist/Microbiologist.** Ph.D. 1972. Academic, industrial experience; enzymology; protein, carbohydrate chemistry; food biochemistry; microbial, metazoan physiology; fungal toxicology; biochemical method development; wide range of analytical and separation techniques. Personnel training. Good verbal, written communication skills; patent, research proposal preparation; publications. Versatile, motivated, hard-working. Salary, availability negotiable. Will relocate. Academia, industry, government, research institute. No postdoctorals. Box 52, SCIENCE. X

**Statistically Oriented Botanist.** Ph.D. (1983) in plant ecology. Extensive experience in project design and statistical data analysis. Broad training in both univariate and multivariate statistics. Programming experience in SAS, BMDP, SPSS, and FORTRAN. Exceptionally diverse background includes both field and laboratory research. B.S. degree in zoology. Publications. Graduate teaching experience in botany and ecology. Seeks position in industry, government, consulting, or academia that will take advantage of quantitative skills. Box 45, SCIENCE. 3/4, 11, 18

**Cell Biologist.** Ph.D. 1973. Research interests and experience in biochemistry and organization of structural proteins of the cytoskeleton and extracellular matrix; cell motility; immunology and immunocytochemistry; control of cell growth and differentiation; endothelial and smooth muscle cell biology; development of medical devices. Seeks R & D position. Box 53, SCIENCE. X

**Natural Systems Analysis.** Self-educated man with reputable food technology Ph.D., computer modeling, and ecological information analysis experience, including publications, looking to work with others who have found managed natural system productive potential to be greater than monocultural agriculture. Box 58, SCIENCE. X

## POSITIONS WANTED

**Collagen/ Connective Tissue Biochemist.** Ph.D. Extensive research experience in soft and hard tissue collagen types, glycoproteins, phosphoproteins, and proteoglycans. Preparative, analytical, and HPLC methods development. Publications. Box 54, SCIENCE. X

**Human Cytogeneticist/Geneticist.** Ph.D. More than 20 years of experience in hands-on and administrative positions. Experienced in attracting funding and in developing innovative cytogenetic and medical genetic programs. Seeks senior level position in medical school to initiate, develop, and/or administer human cytogenetic and medical genetic programs involving service, teaching, and research activities. Box 55, SCIENCE. 3/4, 11

**Immunochemist-Bacteriologist.** Ph.D.; 10 years of immunodiagnoses: antibody systems associated with immunoassays, radiolabeling, regulatory affairs, methods in protein chemistry technologic transfer to production. Three years of immunology of autoimmune systems, including nuclear antigens, rheumatoid factors, serology in thyroiditis; microbiology toxins, prokaryotic antigen isolation and characterization; detection antigenemic factors; available any time; no geographic preference; salary negotiable. Box 56, SCIENCE. X

**Immunochemist/Serologist (Ph.D.).** Seeks association/position with research group studying thymic factors and immunoregulation. Expertise in molecular labeling techniques and membranology. Box 57, SCIENCE. X

**Pathologist** with research interests in apheresis therapy and the transfusion-dependent hemoglobinopathies available July 1983. Large metropolitan area preferred. Box 38, SCIENCE. X

**Multidisciplinary Physicist** (biophysics, polymer physics, medical physics) **Theoretician**, Ph.D. (1973, Polish Academy of Sciences, Warsaw). Good science popularizer (book and articles). Recently professor in a great French-speaking African university. Fluent in Russian. Currently in a leading West German institute. Seeks research and/or academic position. Willingly in theoretical biophysics or in medical and neurobiological unit. Telephone (West Germany): 0551-23969. Write: Box 59, SCIENCE. X

**Mature Scientist** desires partnership—employment possibility with small product-service oriented fermentation, wastewater treatment company. Box 46, SCIENCE. 3/4, 11

**Steroid Chemist:** Ph.D., extensive experience in chemical synthesis and microbiological transformations, would like to join academic, industrial, or government interdisciplinary research team. Box 60, SCIENCE. X

**Veterinary Immunologist;** 25 years of teaching, extension, and research experience in the infectious diseases of ruminants; seeks position working with sheep in a research or extension position or with an international agency. Excellent qualifications and references. Box 61, SCIENCE. X

**Virologist/Cell Biologist,** postdoctoral experience in cell culture, avian and tumor virology; seeks position in Indiana after August 1983. Box 62, SCIENCE. 3/4, 11, 18, 25

## POSITIONS OPEN

### ANTICIPATED POSITION ANIMAL PHYSIOLOGIST

Applications are invited for a tenure-track position starting September 1983. Ph.D. and undergraduate teaching experience required by date of appointment. Rank and salary commensurate with training and experience.

Duties include teaching a two-semester human anatomy-physiology course to undergraduate majors and directing undergraduate research. Successful applicant is also expected to develop courses in introductory, cellular, and/or organismal biology. Preference given to individual with broad background in physiology; computer experience desirable.

Send curriculum vitae, undergraduate and graduate transcripts, three letters of reference, salary history, and a statement of teaching and professional goals before 18 March 1983 to: **Dr. Phillip F. Elliott, Biology Department, Eastern Connecticut State University, Willimantic, Connecticut 06226.**

*Eastern Connecticut State University is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

**ANATOMIST.** Applications are being accepted for a tenure-track position in the discipline of anatomy, available 1 July 1983. Applicants should possess a Ph.D. degree and the ability to teach gross anatomy and assist in the neuroanatomy laboratory. Salary is competitive and commensurate with experience. Send curriculum vitae to: **Dr. James F. May, Chairman, Anatomy Search Committee, College of Osteopathic Medicine of the Pacific, 309 Pomona Mall East, Pomona, Calif. 91766.** *Affirmative Action/Equal Opportunity Employer.*

### ANIMAL ECOLOGIST

The Department of Biological Sciences of Rutgers University seeks a theoretical animal ecologist at the assistant professor level (tenure-track) for 1 September 1983; with expertise in the community or ecosystem level of organization, preferably with postdoctoral or equivalent experience. The successful applicant is expected to develop a strong, fundable, research program, and to participate in both graduate and undergraduate teaching. Send curriculum vitae and names of three references by 31 March to: **Dr. Edmund W. Stiles, Chairman, Search Committee, Department of Biological Sciences, P.O. Box 1059, Rutgers University, Piscataway, New Jersey 08854.** *An Equal Opportunity/Affirmative Action Employer.*

**APPLIED ENTOMOLOGIST.** Full-time, 11-month, tenure-track appointment at assistant professor level, beginning 1 July 1983 or as soon thereafter as possible. Research to emphasize biology, ecology, and integrated control of arthropod pests of orchard crops. Teaching involves annual undergraduate and graduate courses in agricultural entomology and pest management. Qualifications include a Ph.D. degree and evidence of outstanding potential for teaching and research in orchard pest management. Applications should include: (i) curriculum vitae, academic transcripts, and evidence of teaching skills and experience, (ii) bibliography and reprints of significant publications or manuscripts, (iii) a statement outlining research areas and approaches used, and (iv) names and addresses of at least three people who can provide recommendations. All materials should be submitted by 30 April 1983 to: **E. S. Sylvester, Chair, Department of Entomological Sciences, 201 Wellman Hall, University of California, Berkeley, Calif. 94720.** *The University of California is an Affirmative Action Employer.*

### ASSISTANT PROFESSOR

The Section of Biochemistry, Molecular and Cell Biology Division of Biological Sciences, Cornell University, seeks applicants for a tenure-track assistant professorship in cell or molecular biology. Candidates who have demonstrated a high potential for research using molecular approaches to problems in the biology of plant or animal cells will be given preference. A Ph.D. degree is required, and the successful candidate probably will have several years of postdoctoral experience. Participation in teaching at the undergraduate and graduate level is an important part of the position. Send curriculum vitae and statement of research interests to: **Dr. Jeffrey W. Roberts, Chairman, Search Committee, Section of Biochemistry, Molecular and Cell Biology, Wing Hall, Cornell University, Ithaca, N.Y. 14853.** Arrange to have three letters of reference sent to this address as well. The closing date for applications is 5 April 1983. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

The **Department of Anatomy** is seeking applicants for a tenure-track position at the rank of **ASSISTANT OR ASSOCIATE PROFESSOR.** Candidates for this position will be expected to teach gross anatomy in the first year, with the possible added teaching responsibility of neuroanatomy in the second year. Experience and an interest in teaching gross anatomy to medical students are essential. Candidates shall demonstrate research productivity commensurate with the rank sought, although no specific research focus is preferred of candidates. The department has strength in developmental biology, reproductive biology, neurobiology, radiobiology, and ultrasound and cardiovascular research. A Ph.D. or M.D. degree is essential; postdoctoral research experience is preferred, but not essential. The starting date for this position is 1 July 1983. Qualified applicants are encouraged to send their curriculum vitae and references to: **J. Robert Troyer, Ph.D., Professor and Chairman, Department of Anatomy, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, Pa. 19140.** *An Equal Opportunity Employer.*

# CSIRO

FISHERIES BIOLOGIST  
A\$23,340 to A\$34,330 PER ANNUM  
DIVISION OF FISHERIES RESEARCH  
MARINE LABORATORIES  
CRONULLA, NSW, AUSTRALIA

CSIRO has a broad charter for research into primary and secondary industry areas. The Organization has approximately 7,400 employees, 2,900 of whom are research and professional scientists, located in divisions and sections throughout Australia.

**GENERAL:** The CSIRO Marine Laboratories, which include the Divisions of Fisheries Research and Oceanography, is Australia's principal marine research institution, employing about 200 scientists and support staff to investigate the physical, chemical, and biological features, including fisheries, of the oceans around Australia. The main laboratory is at Cronulla in Sydney, with smaller laboratories in Brisbane, Hobart, and Perth. On line access to a Cyber 76 computer is available. Two well-equipped chartered vessels (53m and 43m) are available for research use and a modern oceanographic ship is being acquired to replace the 43m ship.

The Sydney activities will be transferred to new laboratories being constructed in Hobart, Tasmania, and appointees must be prepared to transfer to Hobart in 1984.

The interests of the Division of Fisheries Research encompass marine biology and ecology, ocean productivity and the population dynamics of commercial and potentially commercial fish, crustaceans, and molluscs.

The fish resources of the Australian 200-mile fishing zone receive special attention. Emphasis has been on the multi-species demersal trawl fishery and it is likely that attention will be given to investigations of Skipjack tuna and a number of potential pelagic species. The 53m stern trawler *Soela*, which is equipped with advanced sonar, echo sounders, satellite navigator, winches and gear for long-lining, mid-water and demersal trawling, and sampling gear for plankton, larvae, and young fish, is used by the Division for carrying out fisheries investigations.

**DUTIES:** As a member of a team of scientists investigating the fish resources of the temperate waters of southeastern Australia, the appointee will develop a research program on the biology and ecology of commercially important species of fish. It is expected that studies on pelagic species will be undertaken by this team.

**QUALIFICATIONS:** A Ph.D. degree, or equivalent, in fisheries biology or ecology with at least 3 years of research experience in temperate pelagic fisheries and a working knowledge of population dynamics. Experience in the use of acoustics for quantitative fishery resource evaluation an advantage.

**TENURE:** A fixed term appointment of 3 or 5 years. Superannuation (pension) benefits available.

**APPLICATIONS:** In writing, stating full personal particulars, including details of qualifications and experience, copy of academic transcript, and the names of at least two professional referees, and quoting reference number A2405, should reach:

The Acting Chief  
Division of Fisheries Research  
CSIRO  
P.O. Box 21  
Cronulla, NSW 2230, Australia

By 18 April 1983.



## KING SAUD UNIVERSITY RIYADH, SAUDI ARABIA

King Saud University, College of Science, is seeking highly qualified and experienced technical candidates to work as a team to develop technician training, a technical support service and an equipment maintenance service.

**SUPERINTENDENT TECHNICIAN:** Responsibilities include operations of a complete technical maintenance, repair and construction service for teaching and research laboratories.

**ELECTRONICS TECHNICIAN:** Duties include supervision/carrying out of fault diagnosis testing, calibrations of electronic equipment and analytical instrumentations.

**MECHANICAL ENGINEERING TECHNICIAN:** Responsibilities include testing, fault diagnosis and repair of instruments and precision equipment.

**GENERAL MAINTENANCE TECHNICIAN:** Duties include fault diagnosis, repair and maintenance of various instrumentations used in teaching and research labs.

**QUALIFICATIONS:** Applicants must have a university degree or equivalent and five years of experience in their field.

Position offers competitive salary and benefits package. Please send via airmail a detailed resume including salary history before April 30, 1983 to:

The Dean, College of Science  
King Saud University Office  
P.O. Box 2455  
Riyadh, Saudi Arabia

A second copy of the above information should be sent to:

King Saud University Office  
2425 West Loop South, Suite 450  
Houston, Texas 77027  
Attn: Mrs. Norma Carbonari

## Massachusetts Institute of Technology Center for Advanced Engineering Study

is now accepting applications for the  
Advanced Study Program—Fall 1983.

The Advanced Study Program is:

a Program of continuing education for experienced engineers, applied scientists, technical managers, and educators;

a unique opportunity to enhance professional capabilities through increased technical competence, and to broaden perspective and understanding of emerging technologies;

an intensive experience, individually tailored to the background of each participant.

Resources throughout MIT are available to the Fellows of the Center.

The Program combines classroom study, seminars, guided independent study, and research. The Program is divided into fifteen week segments which coincide with the MIT fall and spring terms. Participants normally start at the beginning of the fall term, or at the beginning of special review subjects offered during the summer.

For more information, and an application form, please fill out the coupon below and send it to:

Advanced Study Program  
Center for Advanced Engineering  
Study  
Room 9-435  
Massachusetts Institute of  
Technology  
Cambridge, Massachusetts 02139

Name \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Field of interest \_\_\_\_\_

# Pharmaceutical Research

**Ph.D. LEVEL**  
Ann Arbor, Michigan

Continuing expansion at the Warner-Lambert/Parke-Davis Pharmaceutical Research Division has resulted in the establishment of the following employment opportunities. All positions are located in Ann Arbor, Michigan at our modern research facilities, adjacent to the University of Michigan campus, which are exclusively devoted to the discovery and development of new drugs.

Qualified applicants will have the equivalent of a Ph.D. and up to five years postdoctoral experience.

## IMMUNOPHARMACOLOGY

The successful candidate will be trained in immunopharmacology or cellular biology with experience in the regulation of allergic responses. Preferred training includes knowledge of mechanisms of cellular activation and degranulation/release of inflammatory mediators and enzymes. Experience with tissue culture techniques and enzymatic assays is also desirable.

## BEHAVIORAL PHARMACOLOGY

Qualified applicants will be trained in behavioral pharmacology and have expertise in the area of anxiolytic and/or sedative-hypnotic drugs. Working familiarity with neuropharmacology and electrophysiology is desired.

## NEUROPHARMACOLOGY

This position requires a degree in neuropharmacology and a thorough understanding of neurotransmitter systems. Experience in functional neuroanatomical or neurochemical techniques is desirable. The candidate should have a strong interest in neurological diseases.

Interested, qualified applicants should forward curriculum vitae together with references and salary requirements to: Ms. D. Love, Human Resources Supervisor, Dept. #110-83, WARNER-LAMBERT/PARKE-DAVIS, PHARMACEUTICAL RESEARCH DIVISION, 2800 Plymouth Road, Ann Arbor, Michigan 48105. Alternatively, these may be delivered in person at the April 1983 FASEB meeting. An Equal Opportunity Employer M/F/H.

**WARNER  
LAMBERT**

## POSITIONS OPEN

**VISITING ASSISTANT PROFESSOR**—One-year position in molecular biology to teach virology, biochemical genetics, and a course in candidate's area of specialization, and to participate in a freshman level course (genetics and development). Ph.D. preferred, A.B.D. considered. Applicants should submit letter of application, résumé, undergraduate and graduate transcripts, and names of three referees to: **Chairman, Biology Department, Bucknell University, Lewisburg, Pa. 17837**, by 18 March 1983. *Affirmative Action/Equal Opportunity Employer.*

## ASSISTANT PROFESSOR

University of California, Irvine, Department of Pathology, is recruiting for a faculty position at the assistant professor level. Required: M.D., must be Board-certified or -eligible in anatomic pathology and eligible for licensure in California. Duties: assist the division chief in such administrative activities as the functioning of the histology laboratory, maintenance of clerical support and the Residency Teaching Program; instructing medical students and residents in pathology; and presenting conferences for the clinical staff and the community. Basic science research background and experience desirable. Send curriculum vitae and references to: **Henry Simpkins, M.D., Ph.D., University of California, Irvine, Department of Pathology, 101 City Drive South, Orange, California 92668**, by 11 April 1983. *Affirmative Action Employer.*

The Department of Pathology and Laboratory Medicine is seeking an M.D. at the **ASSISTANT OR ASSOCIATE PROFESSOR** level (tenure-track) with an active research program in polymorphonuclear/monocyte cell functions. Initial research funds, space, and technical support are available. Close collaboration with the Infectious Disease and Immunology Divisions of Internal Medicine in clinical research areas and development of diagnostic testing for leukocyte dysfunction are expected. Interested applicants send curriculum vitae to:

**Chairman, Search Committee (Leukocytes)  
Department of Pathology and Laboratory Medicine  
University of Cincinnati Hospitals  
234 Goodman Street, M.L. Number 714  
Cincinnati, Ohio 45267  
An Equal Opportunity Employer**

Position open: **ASSISTANT PROFESSOR, ANATOMY**, Purdue University; tenure-track; research and teaching. Must possess Ph.D.; preference to those also having D.V.M. or M.D. Send résumé and references to: **Dr. E. Hinsman, School of Veterinary Medicine, West Lafayette, Ind. 47907**, by 15 April 1983.

*An Equal Opportunity/Affirmative Action Employer*

**ASSISTANT PROFESSOR, Department of Biochemistry**, State University of New York at Buffalo, Schools of Medicine, Dentistry and Pharmacy. A tenure-track position requiring a positive, long-term commitment to teaching, a demonstrated proficiency in research, and interest in training Ph.D. candidates. Complete applications must include curriculum vitae, a statement of long-term research objectives, and reprints or preprints of publications. Applicants should also have three letters of reference sent to:

**Dr. Alexander C. Brownie, Chairman  
Department of Biochemistry  
State University of New York at Buffalo  
102 Cary Hall  
Buffalo, N.Y. 14214**

Applications should be postmarked by 1 April 1983. *An Equal Opportunity/Affirmative Action Employer*

## UNIVERSITY OF ILLINOIS AT CHICAGO HEALTH SCIENCES CENTER

Applications or nominations are invited for tenure-track positions at **ASSISTANT PROFESSOR** in the **Department of Microbiology and Immunology**. Preferred disciplines are molecular virology, molecular bacteriology, or molecular immunology. Applicants should have demonstrated ability to perform important original research and show promise of excellence in teaching. Candidates should submit curriculum vitae, including a list of publications, a description of research interests, and the names of at least three individuals who can serve as references.

Send material to: **Head, Department of Microbiology and Immunology, University of Illinois at Chicago, Health Sciences Center, Room E-703, 835 South Wolcott Avenue, Chicago, Ill. 60612**. *The University of Illinois is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR, ANATOMY**. Tenure-track position available in August 1983. Ph.D. or equivalent required. Primary responsibilities include teaching comparative anatomy of chordates, human anatomy for nonbiology majors, and general biology for freshman biology majors. Development of an active research program will also be expected. Please send letter of application, curriculum vitae, and three letters of recommendation to: **Dr. William D. Hillis, Chairman, Department of Biology, Baylor University, Waco, Texas 76798**. Closing date for receipt of application is 31 March 1983. *An Equal Opportunity Employer.*

## ASSISTANT PROFESSOR—MICROBIOLOGY

A tenure-track position in the Department of Biology is available beginning September 1983. The successful applicant must be able to teach general microbiology and cell biology and be willing to develop upper division courses in molecular genetics and/or medical microbiology. Ph.D. required. Dedication to excellence in undergraduate teaching and scholarship and a willingness to involve undergraduates in research activities are essential. Send curriculum vitae, all transcripts, and three letters of recommendation by 25 March 1983 to: **Dr. Dennis McNair, Division of Natural Sciences, University of Pittsburgh at Johnstown, Johnstown, Pa. 15904**. *An Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR OF PATHOLOGY**. The Pritzker School of Medicine, Department of Pathology, The University of Chicago, is seeking an assistant professor to participate in its diagnostic service, teaching, and research activities. Specialists in cardiovascular pathophysiology will be given preference. Requirements include: diagnostic training in anatomic and surgical pathology, research training in cell or molecular biology, and willingness to launch an active research program with opportunities for the training of graduate students and fellows. Send curriculum vitae, a description of research interests, and bibliography to: **Dr. Godfrey Getz, Department of Pathology, Pritzker School of Medicine, The University of Chicago, Box 414, 950 East 59 Street, Chicago, Ill. 60637**. Deadline is 10 April 1983. *The University of Chicago is an Affirmative Action/Equal Opportunity Employer.*

Applications are invited for a tenure-track position as an **ASSISTANT PROFESSOR OF PLANT PATHOLOGY** beginning 1 October 1983. Experience beyond a Ph.D. in plant nematology preferred. Position will involve teaching and research in plant nematology. Send résumé, transcripts, and three letters of recommendation by 15 May 1983 to:

**Dr. D. P. Maxwell  
Department of Plant Pathology  
1630 Linden Drive  
University of Wisconsin-Madison  
Madison, Wisconsin 53706**

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

## ASSISTANT/PROFESSOR OF RADIATION ONCOLOGY DEPARTMENT OF RADIATION MEDICINE

M.D. or M.D./Ph.D. clinical, teaching, and research in academic radiation medicine for Board-eligible or -certified person. University of Kentucky position in tenure-track. Research interests and experience in hyperthermia desirable. Active research programs ongoing. Send curriculum vitae, bibliography, and names of three references to: **Chairman, Department of Radiation Medicine, University of Kentucky Medical Center, Lexington, Kentucky 40536-0084**. *An Equal Opportunity Employer.*

**ASSISTANT RESEARCH ENGINEER IN EXPERIMENTAL AND THEORETICAL PLASMA RESEARCH** (level commensurate with education and experience), Electronics Research Laboratory, University of California, Berkeley. Temporary, full-time position available immediately for 12 months, with possibility of extension contingent upon funding. Perform experiments on a multiple-mirror plasma containment device to determine stability and containment properties. Design and operate the required diagnostics. Perform analytic and computer calculations as required for design and interpretation of results. Ph.D. with experimental, theoretical, and computational experience in plasmas required. Send résumés by 15 May 1983 to: **Professor A. J. Lichtenberg, Department of Electrical Engineering and Computer Sciences, University of California, Berkeley, Calif. 94720**. *The University of California is an Affirmative Action Employer.*



## POSITIONS OPEN

### ASSISTANT PROFESSOR SHELLFISH BIOLOGY AND MARICULTURE

We anticipate an opening for an assistant professor for September 1983 in shellfish biology and mariculture. Candidates must have a Ph.D. and a demonstrated competency in basic and applied research on intensive and extensive culture of shellfish, particularly bivalve molluscs. Candidates must have thorough knowledge of appropriate technology; have demonstrated an ability to communicate with industry, government, and the scientific community; and have demonstrated the ability to generate sponsored research support. Initial appointment will be for 3 years on a tenure-track line.

By 15 April 1983, candidate should send a résumé and have three letters of reference sent directly to: **Dr. Robert E. Malouf, Chair, Shellfish Biology Search Committee, Marine Sciences Research Center, State University of New York (SUNY) at Stony Brook, Stony Brook, N.Y. 11794. SUNY Stony Brook is an Equal Opportunity/Affirmative Action Employer. AK number 524.**

**ASSISTANT/ASSOCIATE PROFESSOR OF SOILS**—The Department of Agronomy and Soils seeks a Ph.D. to teach undergraduate and graduate courses in soil physics and to conduct a research program in fundamental and applied soil physics. Salary open; application review begins 1 April 1983. Submit résumé, statement of career interests, academic transcripts, and names of five personal/program evaluators to:

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

*An Equal Opportunity/Affirmative Action Employer*

**ASSISTANT RESEARCH PHYSIOLOGIST** available 1 August 1983 for a recent Ph.D. in biophysics or physiology. Research projects involve recording with voltage-sensitive and ion-specific microelectrode from intact vertebrate eye preparations. Background in intracellular recording and eye physiology required. Previous postdoctoral experience desirable. Send curriculum vitae to: **Dr. Roy H. Steinberg, Department of Physiology, University of California, San Francisco, Calif. 94143.**

*University of California, San Francisco, is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

**ASSISTANT SCIENTIST (Ph.D.) or RESEARCH ASSOCIATE (M.S.)**. The Lovelace Medical Foundation has an opening for an individual with training in immunology to produce monoclonal antibodies in our hybridoma facility. Applicants with cell culture experience will be given preference. Send résumé to: **Lovelace Medical Foundation, Human Resources Department, 5400 Gibson, SE, Albuquerque, New Mexico 87108. An Equal Opportunity/Affirmative Action Employer, M/F/H/V.**

### WEST VIRGINIA UNIVERSITY DEPARTMENT OF BIOLOGY

Two tenure-track appointments at the rank of assistant professor begin 15 August 1983, contingent upon funding, in the areas of (i) **vascular plant population genetics and evolution**, and (ii) **cellular/molecular biology** with emphasis on invertebrates. Applicant is expected to teach in the general biology program as well as in his/her area of specialization. Evidence for establishing a strong research program is essential. Please submit, before 10 April 1983, curriculum vitae, copies of recent publications, names (no letters) of three references, and a description of future research plans to: **Dr. Gerald E. Lang, Chairman, Search Committee, Department of Biology, West Virginia University, Morgantown, West Virginia 26506. An Equal Opportunity/Affirmative Action Employer.**

**RESEARCH SCIENTIST**. The Lovelace Medical Foundation has an opening for a Ph.D. level immunologist. We are seeking an individual with broad training in immunology and experience with monoclonal antibody, immunochemical and cell culture techniques. Send résumé to: **Lovelace Medical Foundation, Human Resources Department, 5400 Gibson, SE, Albuquerque, New Mexico 87108. An Equal Opportunity/Affirmative Action Employer, M/F/H/V.**

## POSITIONS OPEN

**ASSOCIATE OR FULL PROFESSOR**: The Departments of Health Care Organization and International Programs in the School of Public Health, University of Alabama in Birmingham, are seeking a medical sociologist (Ph.D.) with an M.P.H. or Dr.P.H. degree for a position of either associate or full professor, depending on academic experience. Priority will be given to individuals fluent in Spanish with field experience in Latin America. Candidates should be willing to participate in overseas activities of the Sparkman Center for International Public Health Education. Candidates should submit curriculum vitae, including a list of publications, before 1 April 1983. Letters of reference (three to five) should also be sent to: **Dr. Juan M. Navia, Chairperson of the Search Committee, School of Public Health, University of Alabama in Birmingham, University Station, Birmingham, Alabama 35294.** The projected starting date for this position is 1 June 1983. *The University of Alabama in Birmingham is an Equal Opportunity/Affirmative Action Employer.*

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

**BIOENGINEERING FACULTY POSITIONS**—The Center for Bioengineering at the University of Washington invites applications for tenure-track openings at the assistant/associate level beginning September 1983. Particular areas of interest include bioinstrumentation, biomaterials, biomedical optics, and biotechnology. Applicants should have an earned doctorate. Send curriculum vitae, recent publications, and the names of three or more references by 1 May 1983 to: **Lee L. Huntsman, Center for Bioengineering WD-12, University of Washington, Seattle, Wash. 98195. Affirmative Action/Equal Opportunity Employer.**

**BIOLOGY—ASSISTANT PROFESSOR**, tenure-track. Fall 1983. The Biology Department is seeking a raptor biologist with course work and/or experience enabling the individual to teach vertebrate natural history, mammalogy, and ornithology, and assist in other introductory biology laboratories. Curation of the vertebrate collection will also be a part of the assigned duties. Since Boise State University is located approximately 60 kilometers from the Birds of Prey Natural Area (BPNA), a raptor biologist with a strong field orientation is very desirable. The BPNA has the most diverse and abundant assemblage of breeding raptors in the United States. A completed doctorate in either zoology or biology is required. Salary range: \$16,000 to \$18,000 for 9 months. Applicants are asked to submit a current résumé, copies of college transcripts, three letters of reference, and other supporting material to: **Dr. Robert C. Rychert, Chairman, Department of Biology, Boise State University, Boise, Idaho 83725.** Closing date: 15 April 1983. Position is contingent upon available funding. *Affirmative Action/Equal Opportunity Employer.*

**CELL BIOLOGIST** (two positions available): Assistant to full professor with duties including research, teaching and administration in the Department of Ophthalmology, University of California, San Diego (UCSD) School of Medicine. Appointment and salary commensurate with qualifications and experience. Candidates must have an M.D. or Ph.D. and strong experience in protein biochemistry. Experience in ophthalmic research and funding for research preferred. Dual appointment in basic science department possible. Associate and full professor levels require evidence of outstanding abilities in teaching and research. Reply by 8 April 1983 to: **Stuart I. Brown, M.D., Chairman, Department of Ophthalmology (H-898), University of California, San Diego Medical Center, University Hospital, 225 Dickinson Street, San Diego, Calif. 92103. UCSD is an Equal Opportunity/Affirmative Action Employer.**

## Pharmaceutical Research

### BS/MS LEVEL Ann Arbor, Michigan

The Warner-Lambert/Parke-Davis Pharmaceutical Research Division continues to undergo expansion, resulting in the availability of several positions at the Assistant Scientist level.

Candidates for the positions below should possess a Bachelor's or Master's Degree equivalency and the requisite specified experience. Also required are excellent written and oral communication skills as well as knowledge of statistical analysis and computerized data reduction.

### BIOCHEMICAL PHARMACOLOGY

These positions require training in biochemical techniques in areas such as receptor binding, chromatographic techniques, enzyme assays and tissue cultures: these being used in the determination of biochemical mechanism of drug action in small laboratory animals.

### IMMUNOPHARMACOLOGY

The successful candidates will possess experience in tissue culture techniques and enzymatic assays as well as with *in vitro* and *in vivo* test models. Familiarity with asthma and allergy experimental systems is highly desirable.

### NEUROPHARMACOLOGY

Several positions in our Neuroscience Section require experience with one or more of the following techniques: stereotaxic and microvascular surgery, autoradiography, histology, electroencephalography and single-unit recording in small laboratory animals. Previous experience in the evaluation of drugs for neurological or psychiatric disorders or cognition is preferred.

Interested, qualified candidates should forward resume together with references, transcripts and salary requirements to: Ms. D. Love, Human Resources Supervisor, Dept. #106-83, WARNER-LAMBERT/PARKE-DAVIS, PHARMACEUTICAL RESEARCH DIVISION, 2800 Plymouth Road, Ann Arbor, Michigan 48105. An Equal Opportunity Employer M/F/H.

**WARNER  
LAMBERT**

## POSITIONS OPEN

**BIOLOGY: GENETICS.** One-year appointment; (target level) instructor or assistant professor. M.S. in genetics required; Ph.D. preferred; college teaching experience preferred. Teaching assignments in upper division courses in genetics and general biology. Send curriculum vitae, three letters of reference, and copies of transcripts by an April 1983 deadline to: **Dr. R. G. Johnson, Chairperson, Department of Biology, Southeast Missouri State University, Cape Girardeau, Mo. 63701. An Equal Opportunity/Affirmative Action Employer, M/F.**

### COLLEGE OF NATURAL SCIENCES AND MATHEMATICS BIOLOGY DEPARTMENT

Indiana University of Pennsylvania (IUP) invites applications for a temporary, 1-year, full-time position in the Biology Department beginning September 1983. Primary teaching responsibility is in animal biology (major course) and human physiology (nonmajors service course). Secondary teaching responsibility is in general biology (nonmajors service course).

Ph.D. is preferred. Teaching experience preferred. Applications must be received by 30 March 1983. Send to: **Dr. Walter W. Gallati, Biology Department, IUP, Indiana, Pa. 15705.**

*IUP is an Affirmative Action/Equal Opportunity Employer.*

**CARCINOGENESIS RESEARCH ASSOCIATE.** GS-401/405-11—Investigate the mode of action of tumor promoters. Research involves receptor isolation and purification and elucidation of gene activation by promoting substances. Strong background in biochemistry and interest in genetic toxicology desirable.

Temporary, not to exceed 2 years. Salary: \$24,508 per annum. Send résumé and references by 18 March 1983 to: **Dr. D. L. Berry, U.S. Department of Agriculture, Western Regional Research Center, 800 Buchanan Street, Berkeley, Calif. 94710. An Equal Opportunity/Affirmative Action Employer.**

### CELL BIOLOGY OR DEVELOPMENTAL BIOLOGY

The Department of Anatomy at Georgetown University invites applications for a tenure-track faculty position at the assistant/associate professor level, starting 1 July 1983. Applicants must have a Ph.D., M.D., or D.D.S. degree, 2 or 3 years of postdoctoral experience, and demonstrated excellence in their fields. The area of research is not as important as excellence. Successful candidates will be expected to pursue a vigorous research program capable of attracting extramural funding and to participate in teaching medical, dental, and graduate students. Teaching experience in gross anatomy is desirable.

Persons interested in this position should send a copy of their curriculum vitae, copies of two or three important publications, names of three referees, and a brief statement outlining their research objectives to:

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

Deadline for application receipt is 15 April 1983; anticipated starting date is 1 July 1983. *Georgetown University is an Affirmative Action/Equal Opportunity Employer.*

### CHAIRPERSON, DEPARTMENT OF ANATOMY

The University of Colorado School of Medicine is seeking candidates to fill the position of chair of anatomy. Candidates should have a demonstrated record of significant accomplishment in research and a commitment to maintenance of high teaching standards in the department. Prior administrative experience is desirable, but not essential. This is a leadership position. Deadline for receipt of applications is 22 April 1983. Applicants should send curriculum vitae along with the names of at least three individuals to whom the search committee could write to: **Dr. C. H. Werner Hirs, Search Committee for the Chair of Anatomy, University of Colorado School of Medicine, Department of Biochemistry, Biophysics and Genetics, 4200 East Ninth Avenue, Denver, Colorado 80262.**

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

## POSITIONS OPEN

**PEDODONTICS CHAIRMAN** available 1 July 1983; screening will begin immediately. Certification or eligibility for certification by the American Board of Pedodontics required. Rank and salary commensurate with qualifications and experience. Send curriculum vitae to: **Dr. Daniel Hall, Head, Department of Family Dentistry, College of Dentistry, Iowa City, Iowa 52242. Equal Opportunity/Affirmative Action Employer.**

### CHEMIST (MASS SPECTROMETRY)

The Food Safety and Inspection Service (FSIS) of the Department of Agriculture (USDA) has a chemist vacancy requiring background in GC/MS and/or MS/MS at the GS-11 or 12 grade level (\$24,508 to \$38,185 per annum, depending upon selected individual's qualifications) located in Beltsville, Maryland.

**Qualifications:** Bachelor's degree which included 30 semester hours in chemistry and 3 years of professional experience. Graduate education may be substituted for the required professional experience. Applicants should have experience in: (i) applying GC/MS and/or MS/MS to trace level contaminants or residue problems, and (ii) extracting and isolating drug or pesticide residues or environmental contaminants from a wide variety of matrices.

Applicants (U.S. citizenship required) should submit SF-171, OPM form 1170-17, and copies of college transcripts to: **Jody Nyers, USDA, FSIS, Personnel Division, Room 3438-South Building, 14th Street and Independence Avenue, SW, Washington, D.C. 20250 (telephone: 202-447-4815), by 1 April 1983.** All applicants must request the vacancy announcement to obtain additional information and respond to evaluation criteria. Indicate announcement number *FSIS-83-245* on SF-171. *Non-status applicants* should also request required forms in order to receive a rating from the Office of Personnel Management (OPM). *USDA is an Equal Opportunity Employer.*

### JOHNS HOPKINS UNIVERSITY Wellcome Laboratory for the Study of Schistosomiasis

The Johns Hopkins University School of Hygiene and Public Health invites applications for the position of **Director of The Wellcome Laboratory**. We seek a relatively senior and established investigator to provide academic leadership for a major program. Although past scientific emphasis has been on schistosomiasis, the study of other parasitic/tropical diseases is considered suitable. Appropriate academic rank, laboratory facilities, and other resources are available.

Respond by 1 April 1983 to the chairman of the Advisory Committee:

**Dr. Paul Talalay  
Department of Pharmacology  
Johns Hopkins University  
School of Medicine  
Baltimore, Maryland 21205**

*Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

**DIRECTOR, FAMILY PRACTICE RESIDENCY PROGRAM.** Opportunity for family physician at a newly established School of Medicine mandated to emphasize family medicine. Residency program has 36 residents with facilities that include a modern Family Practice Center. Responsibilities include residency program curriculum development, evaluation, clinical teaching, and administration. ABFP certification required. Experience in practice, teaching, administration, and research is preferred. Address inquiries and curriculum vitae to: **James G. Jones, M.D., Professor and Chairman, Department of Family Medicine, East Carolina University School of Medicine, P.O. Box 1846, Greenville, N.C. 27834. An Equal Opportunity/Affirmative Action Employer.**

### FAMILY MEDICINE FACULTY POSITIONS

Opportunities for family physicians and community/preventive medicine physicians to significantly influence the design and implementation of an integrated 4-year undergraduate family medicine curriculum in a School of Medicine mandated to emphasize family medicine. Positions involve medical student teaching, patient care, and research in a well-established Department of Family Medicine. Send inquiries/curriculum vitae to: **James G. Jones, M.D., Professor and Chairman, Department of Family Medicine, School of Medicine, East Carolina University, P.O. Box 1846, Greenville, N.C. 27834. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### CHEMIST BIO-ORGANIC SYNTHESIS

Immediate opening for a chemist with a M.S. degree or Ph.D. in organic chemistry with experience in the synthesis of labeled and nonlabeled bio-organic molecules. This position involves the synthesis of biologically active molecules, metabolites, nucleoside adducts, and close collaborative interactions with other biological scientists at a large biomedical facility internationally recognized for its studies of the causes, defenses, detection, and treatment of cancer.

Please send curriculum vitae, salary requirement, names of three references, and complete publication list to:

**NCI—Frederick Cancer Research Facility  
Program Resources, Inc.  
Personnel Department  
P.O. Box B  
Frederick, Md. 21701**

*Equal Opportunity Employer, M/F*

**DEAN, COLLEGE OF VETERINARY MEDICINE.** Washington State University invites nominations and applications for the position of Dean, College of Veterinary Medicine. The dean is the chief executive officer of the college, responsible to the University president for its administration, and agent of the faculty for execution of educational, research, and service policy. Available 1 September 1983; application review begins 15 April. Candidates must have D.V.M. degree and appropriate scholarly and administrative credentials. Complete job description and requirements available on request. Contact: **Dr. Ghery D. Pettit, Chairman, Search Committee, 134 McCoy Hall, Washington State University, Pullman, Wash. 99164-6610. Telephone: 509-335-1581.**

*Washington State University is an Equal Opportunity/Affirmative Action Employer.*

### DIRECTOR OF ANIMAL RESOURCES

Brandeis University seeks an individual who will have overall supervisory responsibility for the Foster Biomedical Research Laboratories and animal facility. The incumbent will also carry out research as a member of the Biomedical Research Team and can become a co-investigator on collaborative grant proposals. Teaching is also expected. ACLAM certification or eligibility is required. The Director will report to the Dean of Faculty. Position is contingent on funding. Apply to: **Dr. Helen Van Vunakis, Department of Biochemistry, Brandeis University, Waltham, MA 02254.**

*An equal opportunity/affirmative action employer.*

**BRANDEIS  
UNIVERSITY**

**FACULTY POSITIONS IN BIOMEDICAL ENGINEERING, BOSTON UNIVERSITY COLLEGE OF ENGINEERING.** at the assistant/associate/full professor levels in expanding Department of Biomedical Engineering for September 1983 or January 1984. Applicants should have an earned doctorate, be committed to quality teaching at both undergraduate and graduate levels, and have the desire to develop strong research programs. Collaboration with the Boston University School of Medicine or other engineering departments may be facilitated through a joint faculty appointment. Candidates with backgrounds in chemical engineering, mechanical design, electronics, computer engineering, biomechanics and materials, image processing, or robotics are especially welcome. Opportunities for part-time (adjunct) faculty positions and for collaborative arrangements with nearby institutions involved in biomedical research and development are also available. There may also be an opportunity for a visiting appointment of 1 or 2 years duration to replace faculty on sabbatic leave. Candidates should send résumé, list of publications, names and addresses of at least three references, and a brief statement of teaching and research interests to: **Dr. Henry D'Angelo, Chairman, Engineering Search Committee, College of Engineering, Boston University, 110 Commonwealth Street, Boston, Mass. 02215. Boston University is an Equal Opportunity/Affirmative Action Employer.**

## SCIENTIFIC ASSISTANT

The Department of Vertebrate Paleontology of the American Museum of Natural History has an opening for a Scientific Assistant with a BA/BS degree in Biology, Anthropology, Geology or related area. Responsibilities of the position include the management of a large collection of fossil mammals, i.e. loan processing, exchanges, specimen identification, and cataloguing; assisting visiting scientists and the public, and related functions.

In addition to a degree, the successful candidate must have experience in mammalian osteology, systematics and paleontology. Experience in bibliographic research, geologic and topographic map reading, stratigraphy and field geology is desirable. Your training also should include basic computer skills.

Starting salary is \$13,878 per annum. Benefits include paid medical/dental coverage and 4 weeks vacation. Interested parties should submit a resume to:

Jerome Williams  
Personnel Department

### THE AMERICAN MUSEUM OF NATURAL HISTORY

Central Park West at 79th Street  
New York, New York 10024

An equal opportunity (M/F/H) affirmative action employer

## ORNITHOLOGY CURATOR

Edmonton—If you have a knowledge of Western Canadian avifauna and experience in collection management, preferably computerized records management, then this position will interest you. Your responsibilities will encompass collection management, research, exhibit and interpretation, in addition to administration of the Ornithology program. Your interpersonal skills will be important as you work with other professional staff to realize common goals, particularly with respect to exhibit development and other interpretative activities. Qualifications: M.Sc. with specialization in Ornithology; postgraduate study should include museum technique. Experience in curatorial and exhibition work is required; supervisory experience is an asset. Equivalencies will be considered. Ph.D. preferred.

Salary: \$25,176–\$31,740 (currently under review)  
Competition #CU0712-3-SC Closing Date: OPEN  
**Culture**

Please send an application form or resume quoting competition number to:

Alberta Government  
Employment Office  
5th Floor, Melton Building  
10310 Jasper Avenue  
Edmonton, Alberta  
T5J 2W4

**Alberta**

## ATHEROSCLEROSIS RESEARCH SCIENTIST

The Upjohn Company, a leading pharmaceutical company dedicated to the development of new therapeutic agents through basic research, is seeking a Ph.D. scientist to conduct independent research in primates (and other animal models), to develop methods and to discover and evaluate drugs for treatment of atherosclerosis, and to carry out studies to evaluate lipoprotein changes in atherosclerosis.

Candidates should have a Ph.D./D.V.M. in pathology, biochemistry, physiology or pharmacology with at least two years of postdoctoral research experience in the study of atherosclerosis in animal models, especially primates. In-depth experience in lipoprotein analysis is required. Experience in drug evaluation and knowledge of diabetes and hematology is desirable. Must have demonstrated good written and oral communication skills and have the ability to independently conceive, design, conduct, and interpret research.

The Upjohn Company offers excellent salary, benefits, and research atmosphere in a city which provides an outstanding cultural, educational, and recreational environment. Please send your curriculum vitae and resume in confidence to:

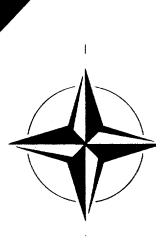
Gerald L. Potratz  
Department 14322

### THE UPJOHN COMPANY

7000 Portage Road • Kalamazoo, MI 49001

An Equal Opportunity Employer M/F

**Upjohn**



**NORTH  
ATLANTIC  
TREATY  
ORGANIZATION**

**SACLANT  
ASW  
RESEARCH  
CENTRE**

The NATO Supreme Allied Command, Atlantic Anti-Submarine Warfare Research Centre is seeking qualified candidates in the research fields of underwater acoustics, signal processing, operations research, geophysics, oceanography and sonar system development.

The Centre, located in La Spezia, on the Italian Riviera, near the Apuanian Alps, offers advanced facilities, including two research vessels, modern computing and electronic equipment and excellent support groups, and a stimulating international environment. English is the working language.

Scientific appointments at the Centre are normally three-year rotational tours. As a result, there is a continuing need for candidates. Interested citizens of NATO countries should send curriculum vitae and details of experience to the Personnel Office at one of the following addresses:

- **From Europe:** SACLANT ASW Research Centre, Viale San Bartolomeo 400, 19026 San Bartolomeo (SP), La Spezia, Italy
- **From the U.S. and Canada:** SACLANT ASW Research Centre, APO New York, NY 09019

U.S. citizens can obtain additional information about terms of service and entitlements by contacting:

U.S. National Liaison Officer to SACLANTCEN  
Code 102D • Office of Naval Research  
800 North Quincy Street • Arlington, Virginia 22217

## PH.D. SENIOR PHARMACOLOGIST

Lilly Research Laboratories has an immediate need for a Cardiovascular Pharmacologist to join an expanding research effort aimed toward the development of novel therapeutic agents for the treatment and prevention of cardiovascular disease.

The candidate should have experience in evaluating drug effects on systemic hemodynamics as well as a demonstrated ability to conceive and execute novel research. Experience with animal models of cardiovascular disease states would be particularly appropriate for this position. Candidates should have a Ph.D. degree with postdoctoral experience in pharmacology or physiology.

Send resume with salary requirements to:

John W. Crooks  
Manager, College Relations  
Eli Lilly and Company  
307 E. McCarty Street  
Indianapolis, Indiana 46285



An Equal Opportunity Employer M/F



## FACULTY POSITIONS OPEN IN CARDIOVASCULAR PHYSIOLOGY RESPIRATORY PHYSIOLOGY

The Physiology Department, College of Medicine and Medical Sciences, King Faisal University, Dammam, Saudi Arabia invites applications from qualified men and women for the 1983/84 academic year.

Prerequisites include a Ph.D. degree and minimum of two years teaching experience at the University level. Instruction is in English. Salaries are competitive and negotiable. Contracts are for one year and renewable.

Benefits include free furnished housing, air tickets for a family of four to and from Saudi Arabia annually, 60-days paid vacation, generous overweight baggage allowance, and educational allowance for children. No Saudi income taxes.

Please send your curriculum vitae and contact address and telephone numbers along with the names and addresses of three references to:

Dr. Tawfik Tamimi, Dean  
College of Medicine and Medical Sciences  
c/o U.S. Recruiting Office  
2425 West Loop South, Suite 540  
Houston, Texas 77027

or

c/o U.K. Recruiting Office  
29 Belgrave Square  
London SW1 8QB, ENGLAND

## POSITIONS OPEN

**THE DEPARTMENT OF ELECTRICAL ENGINEERING, STANFORD UNIVERSITY**, invites applications for faculty positions in the general area of statistical signal processing and system identification, with interests in applications in telecommunications, including hardware and/or software aspects, especially as related to efficient VLSI or other practical circuit implementation. One position is available at the (tenure-track) assistant professor level. Candidates for the more senior position of research professor are also sought. Interested persons should apply before 1 May 1983, including a résumé, statement of interests, copies of publications, and names and addresses of references, to:

Professor Joseph W. Goodman  
Chairman, Search Committee  
Department of Electrical Engineering  
Stanford University  
Stanford, California 94305  
Telephone: 415-497-3304

*Stanford University is an Equal Opportunity/Affirmative Action Employer and welcomes nominations of women and minority group members and applications from them.*

**ELECTRON MICROSCOPIST**—Applications are invited for a tenure-track faculty position of **Director of Electron Microscopy**. Primary responsibilities include supervising a modern, well-equipped research/service EM facility and developing an independent research program in the Department of Veterinary Science. The primary mission of the department is in the area of food animal health and disease research. Participation in ongoing research projects, teaching and advising M.Sc. and Ph.D. students in veterinary science are encouraged. Doctoral degree or equivalent and research experience preferred. Salary and rank are negotiable. Send curriculum vitae and names of three references before 15 April 1983 to: **Dr. Paul Baker, Department of Veterinary Science, Montana State University, Bozeman, Montana 59717.** *Affirmative Action/Equal Opportunity Employer.*

### FACULTY POSITION

**ENGINEERING MATERIALS PROGRAM** tenure-track position now open for teaching and research in polymer science/engineering. Background in theory required. Prefer candidates with experience after Ph.D. Send résumé to: **Dr. John D. Hoffman, Director, Engineering Materials Program, Department of Chemical and Nuclear Engineering, University of Maryland, College Park, Md. 20742.** *An Equal Opportunity/Affirmative Action Employer.*

Comprehensive Cancer Center and Division of Hematology-Oncology—**FACULTY POSITIONS** available in large research-oriented division for both Board-certified hematologists and oncologists. Send inquiries and curriculum vitae to: **Albert F. LoBuglio, M.D., Director, Comprehensive Cancer Center, University of Alabama in Birmingham, University Station, Birmingham, Alabama 35294.** *Affirmative Action Employer.*

### MAYO MEDICAL SCHOOL/ MAYO FOUNDATION

#### FACULTY POSITION IN BIOCHEMISTRY

This position can be filled either at a junior or a senior level. The preferred area is eukaryotic molecular biology, but other areas will be considered. An impressive record or great promise in biochemistry research is essential. A strong chemistry background is desirable. Teaching ability is important although teaching duties are not extensive. An unusually attractive research opportunity can be offered; this may include new laboratory facilities, ample setup funds, and significant research support over several years. Submit curriculum vitae and bibliography, and have three referees write to: **Dr. John Penniston, Section of Biochemistry, Mayo Clinic, Rochester, Minnesota 55905.** *An Affirmative Action/Equal Opportunity Institution.*

University of Michigan Medical School, **DEPARTMENT OF INTERNAL MEDICINE**, Nephrology Division, has a position available. The appointee will be expected either to commit a significant effort to research and also participate in the clinical and education program or alternatively have primary responsibilities in the clinical area. An M.D. degree or equivalent is required. Board-qualifications in internal medicine and nephrology, and research training in nephrology are preferred; however, individuals with exceptional research who do not meet these criteria will be considered. Please send inquiries to: **Richard Tannen, M.D., University Hospital, Division of Nephrology, D3239 SACB, Box 19, Ann Arbor, Mich. 48109.** *The University of Michigan is a non-discriminatory, Affirmative Action Employer. Code 135FO.*

## POSITIONS OPEN

**FACULTY POSITION IN BIOCHEMISTRY**, tenure-track, assistant or associate professor, January 1984. Candidates should show promise and/or evidence of excellence in teaching and research. Postdoctoral training is required. Submit résumé, a one-page summary of research goals, three references, and a recent reprint by 15 April 1983 to: **Dr. George C. Tremblay, Department of Biochemistry and Biophysics, University of Rhode Island, Kingston, Rhode Island 02881.** *An Affirmative Action/Equal Opportunity Employer, M/F.*

### FACULTY POSITION IN MICROBIOLOGY

Applications are being sought for a tenure-track position in the Department of Microbiology, School of Medicine, Texas Tech University Health Sciences Center. Primary consideration will be given to those candidates who show some evidence of expertise in immunology. Duties will include participation in the teaching program for sophomore medical students, the tutelage of graduate students, and a research program in the individual's area of interest. Salary and rank will be commensurate with qualifications and experience. We anticipate filling the position by fall 1983. Please send curriculum vitae and the names of at least three individuals who will supply references by 1 June 1983 to: **Dr. John McKenna, Chairman, Faculty Search Committee, Department of Microbiology, School of Medicine, Texas Tech University Health Sciences Center, Lubbock, Texas 79430.**

*Texas Tech is an Affirmative Action/Equal Opportunity Employer.*

### FACULTY POSITIONS AVAILABLE IN MOLECULAR CELL BIOLOGY AND PHYSIOLOGY

The Division of Life Sciences, The University of Texas at San Antonio (UTSA), will hire six tenure-track faculty members by June 1983. Applications are invited for assistant professor in the field of **developmental neurobiology** with expertise in electron microscopy, **molecular virology**, **neurophysiology**, and **molecular genetics** with interests in recombinant DNA; and for assistant and associate professorships in **molecular cell biology** with specialization in the regulation of RNA synthesis, neurochemistry, or membrane function at the molecular level. Candidates must show demonstrated research productivity and substantial ability and interest in teaching. Responsibilities will include teaching, research, and supervision of undergraduate and graduate student research. A Ph.D. with postdoctoral experience is desired. Submit curriculum vitae, names of at least three professional references, and representative publications to: **Matthew J. Wayner, Director, Division of Life Sciences, The University of Texas at San Antonio, San Antonio, Texas 78285**, prior to 15 April 1983. *The University of Texas at San Antonio is an Affirmative Action/Equal Opportunity Employer.*

### FACULTY POSITION

Department of Poultry Science seeks faculty member with interest in research and teaching in avian sciences. Research should be in discipline relevant to improving reproductive efficiency in poultry. Applicant must have Ph.D. Position available 1 July 1983; closing date for application: 25 March 1983. Apply to: **Head, Department of Poultry Science, Box BB, The Pennsylvania State University, 213 Animal Industries Building, University Park, Pa. 16802.** *An Affirmative Action/Equal Opportunity Employer.*

**FIELD BOTANIST.** Assistant professor level beginning September 1983; Ph.D. required. Duties include teaching a course in general botany, a course in field botany, and guiding students in independent study and research. Applicant must have advanced training and research interests in field botany and taxonomy. Send curriculum vitae and letters of recommendations to: **Dr. James R. Vaughan, Department of Biology, Muhlenberg College, Allentown, Pa. 18104.** *An Equal Opportunity Employer.*

**HEMATOLOGY/ONCOLOGY FACULTY POSITIONS AVAILABLE**—Department of Internal Medicine, University of Michigan Medical Center. Candidates should have an M.D. degree, be Board-certified in internal medicine, and be Board-certified or -eligible in hematology and/or oncology. Responsibilities to include patient care, teaching, and involvement in a basic or clinical research program. Please send inquiries along with curriculum vitae to: **Beverly Mitchell, M.D., Director, Simpson Memorial Research Institute, 102 Observatory Drive, Ann Arbor, Michigan 48109.** *The University of Michigan is a non-discriminatory, Affirmative Action Employer. Codes 322, 129, 127.*

## POSITIONS OPEN

### FACULTY POSITION IN ANALYTICAL CHEMISTRY

The Chemistry Department, Université du Québec à Montréal, invites applications for a full-time tenure-track position as professor, beginning 1 June 1983.

Position requires teaching at the graduate and postgraduate levels, and development of a research program involving M.Sc. students. Working language is French and the working permit is compulsory.

Candidates with a Ph.D. in chemistry or biochemistry must have a proven research experience in analytical chemistry and the ability to direct graduate students. Candidates with research interests in the industrial or environmental field will be given preference.

Applicants should submit their résumés with a detailed description of research programs and names and addresses of three references to:

**Chairman, Department of Chemistry**  
Université du Québec à Montréal  
P.O. Box 8888, "A"  
Montreal, Québec, Canada H3C 3P8

Closing date for receipt of applications is 1 April 1983.

University of Michigan Medical School, Department of Anesthesiology, may have from time to time, several positions available at the **INSTRUCTOR THROUGH PROFESSOR** level. Board-certified or -eligible anesthesiologist qualified to obtain Michigan licensure. Research, clinical, and didactic experience necessary. Reply to: **Box 50, SCIENCE**. A nondiscriminatory, Affirmative Action/Equal Opportunity Employer. Codes 11FO 27HO, 23HO, 46HO.

University of Michigan Medical School, Department of Anesthesiology, may have from time to time, several positions available at the **INSTRUCTOR THROUGH PROFESSOR** level. Board-certified or -eligible anesthesiologist qualified to obtain Michigan licensure. Research, clinical, and didactic experience necessary. Reply to: **Box 51, SCIENCE**. A nondiscriminatory, Affirmative Action/Equal Opportunity Employer. Codes 14FO, 13HO.

**INSTRUCTOR** in the Division of Hypertension, Department of Internal Medicine. Qualifications: Boards in internal medicine and at least 1 year of fellowship experience in hypertension. Appointment renewable annually, dependent on available external support to the Division of Hypertension. Send inquiries to: **Stevio Julius, M.D., University Hospital, Division of Hypertension, R6669 Kresge II, Ann Arbor, Mich. 48109**. The University of Michigan is a nondiscriminatory, Affirmative Action Employer. Code 324HO.

### MARKETING EXECUTIVE

A new international genetic engineering company (offices in New York, operations in Jerusalem, Israel) is interviewing for a marketing executive position in New York. Applicant should have scientific background and business experience with related industries. Please send résumé and recommendations to:

**International Genetic Sciences Partnership**  
155-25 Styler Road  
Jamaica, New York 11433

### MOLECULAR BIOLOGISTS/ISRAEL

International Genetic Sciences Partnership, a new scientific company being established in Jerusalem, is seeking molecular biologists with experience in tissue culture of plant cells and plant protoplasts. Please send curriculum vitae, list of publications, and recommendations to:

**International Genetic Sciences Partnership**  
155-25 Styler Road  
Jamaica, New York 11433

**PULMONARY STAFF PHYSICIAN**. Academic rank dependent on credentials. Must have an M.D. degree and meet qualifications of the American Board of Internal Medicine and have subspecialty training in pulmonary diseases. Duties include: teaching medical students, house staff, and fellows. Patient care and research in pulmonary disease. Must have proven research potential. Please reply to: **John Weg, M.D., Division of Pulmonary, Box 55, University Hospital, Ann Arbor, Mich. 48109**. The University of Michigan is a nondiscriminatory, Affirmative Action Employer. Code 250FO.

## POSITIONS OPEN

**IMMUNOLOGIST**. Recent Ph.D. with at least 2 years of postdoctoral experience. Full-time laboratory research in cellular immunology, 1 July 1983. Junior faculty level at Evanston Hospital, McGaw Medical Center, Northwestern University. Contact: **Peter C. Dau, M.D., Division of Allergy/Immunology, Evanston Hospital, 2650 Ridge Avenue, Evanston, Ill. 60201**. Telephone: 312-492-3996.

The University of Michigan Medical School, The Department of Dermatology, is searching for an **INSTRUCTOR OR ASSISTANT PROFESSOR** with a dermatologic surgery experience. The responsibilities of this position will include the teaching of surgery to residents and the integration of surgical material from several hospitals. The individual must have experiences in cell and molecular dermatology and have a documented subspecialty in dermatologic surgery. Must have interest in prospective clinical research as it pertains to surgery and cutaneous oncology. Demonstrated interpersonal skills and good judgement in dealing effectively with patients and all levels of personnel. Address applications including curriculum vitae, to: **John Voorhees, M.D., Professor and Chairman, Department of Dermatology, The University of Michigan Medical School, Room C 2064 Outpatient Building, Ann Arbor, Mich. 48109**. A nondiscriminatory, Affirmative Action Employer. Code 40.

### MICROBIOLOGIST

An established biotechnology company is looking for a **project leader** in the Corporate Research Division. The project leader will be responsible for developing immunological reagents for the diagnosis of bacterial and mycotic infections in man. Candidates must have a Ph.D. in microbiology, biochemistry, or immunology with two or more years of postdoctoral experience with clinically relevant microorganisms. Applicants should send a statement of career goals, curriculum vitae, and three references to: **Dennis Murray, Director, Corporate Research Division, Kallestad Laboratories, Inc., 2101 East Ben White Boulevard, Austin, Texas 78741**.

**MICROBIOLOGY POSITION**. Starting 1 September 1983, a 1-year replacement position will be available to teach each semester an introductory course in molecular (cell) biology or a non-major introductory biology course. In addition, each semester an advanced undergraduate course will be taught, preferably immunology and some other area of microbiology. Also, weekly participation in a senior seminar is expected. Please send curriculum vitae and three letters of recommendation by 25 March to: **Dr. R. K. Pettigrew, Chairman, Biology Department, Denison University, Granville, Ohio 43023**. Denison is an Equal Opportunity/Affirmative Action Employer.

**MICROBIOLOGIST**—A tenure-track faculty position will be available 1 July 1983. Applicants should have postdoctoral experience and demonstrated excellence in conducting research in molecular virology, molecular genetics, or microbial physiology, including mechanisms of pathogenesis (preference will be given to applicants who can interface with several of these broad categories). The appointee will be expected to develop an independent research program and to participate in teaching medical, dental, and graduate students. Rank and salary commensurate with qualifications. Send curriculum vitae and the names of three references by 15 April 1983 to: **Dr. L. William Clem, Department of Microbiology, University of Mississippi Medical Center, Jackson, Miss. 39216**. Equal Opportunity Employer, M/F/V/H.

**MOLECULAR BIOLOGIST**. A tenure-track University of Southern California faculty position is open at the **ASSISTANT or ASSOCIATE PROFESSOR LEVEL**. Full salary, technical support, and a considerable supply and equipment budget is available from a major private foundation for a minimum of 5 years with likely renewal for a second 5-year period. A strong interest in the molecular biology of human cancer is preferred. A prime initial goal of the program will be attempts to clone the human retinoblastoma gene (see *Science*, 25 February 1983, pages 971 to 975). Applications, including curriculum vitae, representative publications, a statement of research interests, and the names of three references should be sent by 15 April 1983 to: **William F. Benedict, M.D., Co-Director, Clayton Ocular Oncology Center, Childrens Hospital of Los Angeles, 4650 Sunset Boulevard, Los Angeles, Calif. 90027**. Salary is negotiable and dependent on qualifications and experience.

An Equal Opportunity/Affirmative Action Employer

Looking for  
the Best . . .

## PLANNING & PROJECT MANAGEMENT

Look to **Allergan** — look to the future and join a winning team. We are forming a R&D Planning Management Group to manage R&D programs and projects. Significant growth and an environment that promotes creative thinking makes **Allergan** a serious choice for the future growth of your career.

We are currently seeking:

### Head of Department - Planning & Project Management

Ideal candidate will have M.D. or Ph.D. in biological science with MBA or equivalent business experience, and at least 5 years experience specifically in R&D project management in the pharmaceutical industry. Proficiency in application or PERT/CPM and related techniques and broad knowledge of the drug development process are essential as are proven management skills.

### Project Manager

Ideal candidate will have solid biological science background (Ph.D. or equivalent) and MBA or strong business experience. Familiarity with computerized project management tools (PERT/CPM, etc.) and broad knowledge of the drug development process are a plus.

**Allergan** offers a substantial salary and benefits package and an atmosphere that encourages both personal and professional growth — plus the sunshine and lifestyle available in Southern California. For professional consideration, please send resume to **Jean Child** (no phone calls please) at:

**ALLERGAN**  
PHARMACEUTICALS  
A SmithKline  
Beckman Co.  
2525 DuPont Dr.  
Irvine,  
CA 92713



Equal Opportunity Employer M/F/H



## POSITIONS OPEN

### MICROBIOLOGY

The Department of Botany and Bacteriology at Ohio Wesleyan University invites applications for a tenure-track position in microbiology-virology at the assistant professor level beginning September 1983. Ph.D. required. Teaching duties will include courses in general microbiology, infections and immunity, virology, and an advanced course in a specialty area (preferably microbial or molecular genetics). The department works in close cooperation with the Departments of Zoology and Chemistry in an undergraduate college emphasizing the liberal arts and sciences.

The candidate chosen will be expected to demonstrate effective teaching of undergraduates and to maintain an active research program. Curriculum vitae, transcripts, and three letters of recommendation should be sent by 1 April 1983 to:

**Dr. Jon E. Sanger, Chairperson**  
Department of Botany and Bacteriology  
Ohio Wesleyan University  
Delaware, Ohio 43015

*Ohio Wesleyan University is an Affirmative Action/Equal Opportunity Employer.*

### MOTOR PHYSIOLOGIST

Motor physiologist on a postdoctoral or assistant professor level to join an active motor control group investigation spasticity. A background in human or animal motor physiology is necessary. The 2-year position is joint between neurosurgery and physiology.

Send your curriculum vitae and names of references to:

**Richard D. Penn, M.D.**  
Associate Professor  
Department of Neurosurgery  
Rush Medical College  
or

**Gerald Gottlieb, Ph.D.**  
Department of Physiology  
Rush-Presbyterian-St. Luke's  
Medical Center  
1725 West Harrison Street  
Chicago, Ill. 60612

*An Equal Opportunity Employer, M/F*

**PHARMACEUTICS FACULTY POSITION.** The University of Southern California (USC), School of Pharmacy, has a tenure position (assistant/associate professor) in physical pharmacy/pharmaceutics. A Ph.D. degree in pharmaceuticals, physical, or polymer chemistry is required with research interests in drug delivery systems design or biomaterials. The candidate will be expected to develop fundable research programs and teach pharmaceuticals courses in professional and graduate curricula. Send curriculum vitae and statement of research goals by 15 April 1983 to: **Jordan L. Cohen, Ph.D., USC School of Pharmacy, 1985 Zonal Avenue, Los Angeles, Calif. 90033-1086.**

### PLANT PHYSIOLOGIST OR RESEARCH CHEMIST

One Federal Career Civil Service position with Agricultural Research Service in Weslaco, Texas, for plant physiologist or research chemist at GS-11 (\$24,508), GS-12 (\$29,374), or GS-13 (\$34,930) level to conduct basic research in postharvest physiology and biochemistry of subtropical horticultural products. Research objectives include the effect of biotic and abiotic stress, biochemistry and physiology of senescence, and pathogen metabolites. Strong background in both plant physiology and biochemistry preferred. Ph.D. or equivalent education/experience required. *Equal Opportunity Employer.* For application procedures, contact: **L. G. Burkes, USDA-ARSSRAO, S-1, P.O. Box 53326, New Orleans, La. 70153. Telephone: 504-589-4271.**

### POSTDOCTORAL ASSOCIATES

Openings for postdoctoral research associates or research scientists performing electrophysiological or cell biological research of acetylcholine receptors. Backgrounds in advanced microelectrophysiology such as patch-clamp, voltage clamp, and internal perfusion methods are preferred. Send curriculum vitae to: **Y. Nakajima or S. Nakajima, Department of Biological Sciences, Purdue University, West Lafayette, Ind. 47907.**

*Purdue University is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### MOLECULAR BIOLOGY—BIOCHEMISTRY

Applications are invited for two tenure-track positions at the rank of assistant or associate professor in the Departments of Biology and Chemistry. These positions are considered core appointments in a developing program in molecular biology and biochemistry. Appointees in both departments will be expected to maintain research programs in recombinant DNA technology and to contribute to graduate and undergraduate education. In Biology, the candidate's particular interests should be gene expression and regulation in animal, plant, or microbial systems. In Chemistry, the applicant's research interests should be directed toward some aspect of structural and biochemical properties of macromolecules. All candidates are expected to have postdoctoral experience. Interested candidates should send a résumé, a statement of research plans, and the names of three references to:

**Molecular Biology Search Committee**  
Biology Department  
Temple University  
Philadelphia, Pa. 19122

Deadline: 15 April.

*The University is an Equal Opportunity/Affirmative Action Employer.*

### PLANT MOLECULAR BIOLOGIST

The Department of Molecular Biology and Biochemistry, University of California, Irvine, invites applications for a tenure-track position at the assistant professor level beginning fall 1983. Preference will be given to candidates with a molecular or developmental orientation working in any of the following areas: nitrogen fixation, regulation of gene expression, transposable elements, or any other molecular aspect of plant biology. Responsibilities of the successful candidate include teaching in the undergraduate and graduate molecular biology courses of the department along with the development of a research program.

Please submit curriculum vitae, recent reprints, a statement of research interests, and names of three references by 1 June 1983 to: **Dr. K. K. Tewari, Chairman, Department of Molecular Biology and Biochemistry, University of California, Irvine, Calif. 92717.**

*The University of California is an Equal Opportunity/Affirmative Action Employer (SC number 00286).*

**POSTDOCTORAL FELLOW**, preferably with experience in molecular spectroscopy, is wanted to collaborate in high-resolution laboratory measurements of the ultraviolet absorption cross section of molecular oxygen. The appointment is initially for 9 months beginning not later than 3 April 1983, and is renewable for a further 12 months. Starting salary is \$20,000 per year. Send résumé and names of three references to: **Dr. W. H. Parkinson, Harvard College Observatory, 60 Garden Street, Cambridge, Mass. 02138. Harvard University is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available. Seeking person to initiate studies in cellular toxicology and metabolism of cardiovascular tissues. Experience in cell culture techniques, especially of smooth muscle and endothelial cells, and an interest in basic biochemistry and metabolism required. Send curriculum vitae and three references to: **Dr. Paul J. Boor, Department of Pathology, University of Texas Medical Branch, Galveston, Texas 77550. Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** available to study DNA Alkylation by N-nitrosamines. The project involves determination of alkylated bases by HPLC and/or RIA. Ph.D. with interest in production and purification of polyclonal and monoclonal antibodies, ELISA, DNA biochemistry. Send curriculum vitae and names of three references to: **Dr. Andre Castonguay, American Health Foundation, Dana Road, Valhalla, N.Y. 10595. An Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** available immediately for research aimed at cloning and characterizing the mammalian and yeast genes encoding adenylate cyclase and cyclic nucleotide phosphodiesterase. Expertise in recombinant DNA techniques, yeast genetics and/or membrane biochemistry required. Send curriculum vitae and names and addresses of three references to: **Dr. Henry R. Bourne, 1288 Health Sciences East, University of California, San Francisco, Calif. 94143.**

*An Affirmative Action/Equal Opportunity Employer*

## POSITIONS OPEN

**POSTDOCTORAL ASSOCIATE** position available immediately to collaborate in the investigation of **SULFATE REDUCTION AND METHANOGENESIS** in Sphagnum wetlands. Graduate assistantships in biogeochemistry and plant ecology also available. Send curriculum vitae and the names of three references to: **Dr. Gerald Lang, Department of Biology, West Virginia University, Morgantown, W. Va. 26506. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available now for ongoing neurophysiological studies of cutaneous receptors in primate and psychophysical studies of cutaneous sensation in humans. U.S. citizenship required. Send curriculum vitae and names of three references to: **Robert H. LaMotte, Ph.D., Department of Anesthesiology, Yale University School of Medicine, New Haven, Conn. 06510. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available now to study the function of cyclic GMP. Opportunities exist to explore the system from an enzymological as well as molecular genetic approach. Send curriculum vitae and the names of two professional references to: **Dr. David L. Garbers, Vanderbilt University Medical Center, 707 Light Hall, Nashville, Tenn. 37232. Vanderbilt University is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available (1 May) on studies of molecular mechanism of anion metabolite transporters (phosphate, pyruvate, glutamate) of the mitochondrial inner membrane. Research program encompasses the identification and isolation of transport proteins, studies of their structure (including preparation and sequencing of cDNA) and function in mitochondrial and artificial membranes, and of processes related to the biosynthesis of these membrane proteins. Minimum salary: \$15,238. Send curriculum vitae and two references to: **Dr. Hartmut Wohlrab, Boston Biomedical Research Institute, 20 Stanford Street, Boston, Mass. 02114. Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available for program aimed at examining the biochemical, pharmacological, and functional properties of CNS transmitter receptors. Experience in neurochemistry, behavioral pharmacology, or endocrinology desirable. Have curriculum vitae and three letters of reference sent to: **Dr. S. J. Enna, Department of Pharmacology, The University of Texas Medical School, P.O. Box 20708, Houston, Texas 77025. An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.**

**POSTDOCTORAL POSITION** available IMMEDIATELY for an individual with a Ph.D. in biochemistry or physiology to study cardiac and hepatic intermediate metabolism in endotoxic shock. Basic biochemical background and skills are essential. Send curriculum vitae and names (including telephone number) of three references to:

**Dr. Maw-Shung Liu**  
Professor of Physiology  
St. Louis University School of Medicine  
1402 South Grand Boulevard  
St. Louis, Missouri 63104  
Telephone: 314-664-9800, extension 259

*An Equal Opportunity/Affirmative Action Employer*

**POSTDOCTORAL POSITION IN IMMUNOCHEMISTRY** to develop tissue-specific immunochromatological cancer markers. Experience with monoclonal antibodies, cell culture, and protein purification is desirable. Children's Hospital Medical Center, Research Laboratory, is seeking an individual to work with Dr. Stuart Smith. Salary: \$20,000. Send résumé with either names and telephone numbers of three references or three letters of recommendation to: **Children's Hospital Medical Center, Personnel Department, 51st and Grove Streets, Oakland, Calif. 94609. Equal Opportunity Employer, M/F.**

**University of Erlangen-Nürnberg, West Germany**

**POSTDOCTORAL POSITION** for recent Ph.D. or M.D. available, starting around 1 May 1983. Research program will be in the molecular biology of oncogenic/pathogenic herpesviruses. Experience in nucleic acids biochemistry (DNA-cloning and sequencing, transcription analysis, and so forth) desirable. Proficiency in German is not required. Send curriculum vitae, list of publications, and letters of reference to: **Dr. Bernhard Fleckenstein, Professor and Chairman, Institut für Klinische Virologie, Loschgestrasse 7, D-8520 Erlangen, West Germany. Telephone: 49-9131-853563.**

## RESEARCH MICROBIOLOGISTS

International Minerals & Chemical Corporation, a leading supplier to agricultural, industrial, and chemical markets worldwide is presently seeking additional aggressive personnel in the following areas of their Research & Development Center.

### MOLECULAR BIOLOGIST

Applicants should have a Ph.D. with postdoctoral experience in regulating the expression of heterologous genes cloned in microorganisms. A working knowledge of DNA sequencing techniques would be beneficial. The successful candidate will propose, direct and conduct basic and applied research in the areas of animal health and nutrition.

### MICROBIAL PHYSIOLOGIST

The position requires a Ph.D. with experience in the regulation of microbial biosynthesis. Skills in bench scale fermentation development, using current technology, are required in programs directed toward strain improvement and process development for products from bacteria, yeast and fungi.

The positions represent an outstanding opportunity for a scientist with the above qualifications to join an aggressive and dynamic team. In addition to an excellent salary, commensurate with your experience, this position includes an outstanding fringe benefit package including relocation assistance, life, health, and dental insurance.

Individuals interested in a challenging position conducting original and applied research should submit in confidence a description of their research experience, publications and training along with references to:

**M. G. Ray**  
International Minerals &  
Chemical Corporation  
P.O. Box 207  
Terre Haute, IN 47808



An Equal Opportunity/Affirmative Action Employer

## CLINICAL RESEARCH OPPORTUNITIES

1. **M.D.—Board certified or eligible in internal medicine and medical oncology.**
2. **M.D.—With some clinical research experience preferred.**

Due to company growth two new clinical research positions have been created. The positions are responsible to plan and implement the clinical studies required for Phases I, II and III investigations of developmental drug compounds. Also responsible for inquiries from medical personnel and evaluation of monographs and literature.

Competitive salary and bonus. Excellent benefits including life, medical, pension, dental and company contribution savings plan. Relocation assistance also available.

Send resume to Professional Employment

### ADRIA LABORATORIES

P.O. Box 16529  
Columbus, Ohio 43216  
(614) 764-8103

(NO AGENCIES PLEASE)  
An Equal Opportunity Employer M/F

## NEUROBIOPHYSICS PROFESSOR OF BIOPHYSICS DEPARTMENT OF BIOPHYSICS AND MEDICAL PHYSICS UNIVERSITY OF CALIFORNIA, BERKELEY

The Department of Biophysics and Medical Physics is seeking applications from senior neurobiophysicists for a newly-authorized tenure appointment at the professor level. We wish to fill this appointment by the beginning of the 1984-85 academic year. Applicant should hold the Ph.D. degree, have a strong background in the physical sciences and in neurobiology, and currently be acknowledged as an internationally-known leader in molecular or cellular aspects of neurobiophysics. Particular areas of research interest include: factors governing the movement of charges across neurobiological membranes, molecular interactions in active neuromembranes, or synaptic transmission and modulation. It is important that the applicant's work show a strong linkage of physical methods to biophysical application. The duties of this position include: continuing important research in neurobiophysics, supervision of graduate student and postdoctoral fellow research, and innovative course design and teaching at the undergraduate and graduate levels. At the graduate level, this professor would be expected to be involved in the activities of interdepartmental graduate groups in biophysics and medical physics and in neurobiology. Applications should include: a letter specifying qualifications and current research interests, curriculum vitae, a list of publications, representative reprints of scientific publications, and the names and addresses of four persons whom we may contact for letters of recommendation. Applications should arrive no later than 15 May 1983 and be addressed to: **Professor Alan Bearden, Chairman, Department of Biophysics and Medical Physics, University of California, Berkeley, Calif. 94720.**

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

## KING FAHD RESEARCH INSTITUTE JEDDAH, SAUDI ARABIA

NEEDED ARE RESEARCHERS AND RESEARCH TECHNICIANS

As a result of continuing expansion of research activities, we can offer challenging opportunities at both Research Fellows and medical technology levels in the areas of:

**Haematology** — haemoglobinopathies, leukemia

**Cancer** — Epidemiology

**Immunoassay methodology**

**Chemical Analysis**

**Physiology** — respiratory and determination of normal physiological parameters in Saudis

**Pharmacology** — isolation and characterization of certain plant extracts.

Primary consideration will be given to applicants with research experience in the specified fields.

Salary will depend upon experience and qualifications. There is no income tax in the Kingdom and no restrictions on transfer of exchange.

Forty-five days paid annual leave with airline tickets for appointee and up to three dependants, furnished housing also free medical care will be provided.

Applicants are to include detailed curriculum vitae, credentials and two references with addresses.

Applications should be sent to:

Director  
King Fahd Medical Research Center  
King Abdulaziz University  
P.O. Box 6615  
Jeddah, Saudi Arabia

## COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES UNIVERSITY OF CALIFORNIA, DAVIS

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

**Professorial position** (open at all ranks). Research, teaching, and advising in the areas of plant genetics, plant pathology, and international agricultural programs. Apply to: **S. K. Jain, Department of Agronomy and Range Science**, by 1 June 1983. Position available 1 July 1983.

**Assistant or associate professor in plant pathology.** Research, teaching and advising in the areas of nonviral diseases of grapes, quantitative epidemiology, and integrated pest management. Apply to: **R. N. Campbell, Department of Plant Pathology**, by 15 April 1983. Position available 1 July 1983.

**Assistant professor and assistant nutritionist.** Ruminant nutrition and livestock production, dairy cattle interest and emphasis preferred. Apply to: **W. N. Garrett, Department of Animal Science**, by 1 June 1983. Position available 1 July 1983.

**Assistant professor, assistant enologist** to do research in biochemistry/physical chemistry of macromolecules in grapes and wine. Apply to: **R. E. Kunkee, Department of Viticulture and Enology**, by 1 June 1983. Position available 1 October 1983.

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

## POSITIONS OPEN

**TWO POSTDOCTORAL POSITIONS** are available immediately for the study of (i) tRNA structure, tRNA modification enzymes and the role of tRNA in the regulation of cell proliferation, or (ii) the mechanism of action of proteinases and inhibitors and the control of proteolysis during aging and cataract formation. Applicants with a Ph.D. in biochemistry or cell biology with experience in nucleic acid sequencing, tissue culture, protein chemistry, or enzymology will be considered. Salary: \$15,000 to \$17,000, depending upon qualifications and experience. Applicants should send résumé and references to: **Beryl J. Ortwerth, Ph.D., Eye Research Institute, University of Missouri, Health Sciences Center, Columbia, Mo. 65211.**

*An Affirmative Action/Equal Opportunity Employer*

**POSTDOCTORAL RESEARCH ASSOCIATE** position is available immediately. Research in the hormonal control of development, growth, differentiation, and tumorigenesis of human breast tissues maintained in athymic mice. Contact: **Dr. Clifford W. Welsch, College of Human Medicine, Michigan State University, East Lansing, Mich. 48824. Telephone: 517-353-4549.**

Scripps Institution of Oceanography invites applications for **two openings of POSTGRADUATE RESEARCHER THROUGH ASSISTANT RESEARCHER**. Appointment as assistant researcher requires publication record. Candidates should have a Ph.D. in oceanography, physics, or engineering and should have experience in and/or a desire to participate in ocean-related research. Principal research areas include physical oceanography, acoustic remote sensing and signal processing, ocean acoustics, and hydrodynamics. One of the openings requires experience in theoretical research. Salary range: \$15,936 to \$26,800. Send curriculum vitae and names of references to: **Professor K. M. Watson, Director, Marine Physical Laboratory, Scripps Institution of Oceanography, University of California, San Diego, Calif. 92152.** Closing date: 18 March 1983. *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

### PROFESSOR AND CHAIRMAN DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY COLLEGE OF MEDICINE UNIVERSITY OF FLORIDA

The department is seeking applicants having an M.D. or Ph.D. degree and a distinguished record of creative research in any area of biochemistry and molecular biology. Candidates should have a commitment to excellence in teaching as well as research and should have previous administrative experience. The Department of Biochemistry and Molecular Biology has teaching responsibilities to professional medical, dental, and veterinary medicine students as well as at the undergraduate and graduate level. The department has an internationally recognized research program and maintains a dynamic graduate training program. The department's location in the College of Medicine encourages scientific interaction with the clinical research departments as well as with programs in the other branches of the University. Salary negotiable; anticipated start date: 1 July 1983. Interested individuals should send their curriculum vitae by 1 March 1983 to:

**Richard T. Smith, M.D.,  
Chairman, Biochemistry and Molecular Biology  
Search Committee  
Box J-275, J. Hillis Miller Health Center  
University of Florida College of Medicine  
Gainesville, Florida 32610**

*An Affirmative Action/Equal Opportunity Employer*

### NATIONAL SCIENCE FOUNDATION

National Science Foundation (NSF), Division of International Programs (U.S.-Latin America Cooperative Science Programs), is seeking applicants for **PROGRAM ASSOCIATE** with the Latin America and Pacific Section. The assignment is for 1 or 2 years under the Intergovernmental Personnel Act (from state and local government agencies or institutions of higher education) starting August 1983. A Ph.D. or its equivalent in science or engineering is required. Latin America area and language knowledge highly desirable. The individual selected will remain an employee of his/her institution which may be reimbursed by NSF for a portion of his/her salary and other costs related to the assignment. Institutions should forward nominations by 15 March 1983 to: **Dr. J. Elbert O'Connell, Latin America and Pacific Section, Division of International Programs, National Science Foundation, Washington, D.C. 20550. Telephone: 202-357-9558.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION** is available immediately for Ph.D., M.D., or D.P.M. experienced or interested in the study of hepatic disposition and interaction of drugs using isolated hepatocytes and perfused liver. Send curriculum vitae and two letters of recommendation to: **Dr. Chi-Po Chen, Division of Basic Sciences, Ohio College of Podiatric Medicine, 10515 Carnegie Avenue, Cleveland, Ohio 44106. Equal Opportunity Employer.**

**POSTDOCTORAL RESEARCH FELLOW** position in oceanography is now available, for studies of rare earth distributions and isotopic composition of Nd in marine environments, in the Division of Geological and Planetary Sciences, California Institute of Technology.

**Research fellowships** in geology, geophysics, geochemistry, geobiology, and planetary sciences are available from time to time. Interested persons are asked to write to: **Dr. Barclay Kamb, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, California 91125. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL SCIENTIST.** Position available for participation in studies of the effect of a specific protein-DNA interaction at the initiating end of transcribed genes on gene regulation and/or chromatin structure. Recombinant techniques will be employed with the cloned rat albumin, alpha-fetoprotein, or the 5'-adenosyl-L-methionine decarboxylase gene system. The project is under the supervision of Dr. J. Sanders Sevall in a Genetic Biology Program in the Department of Cellular and Molecular Biology. The initial appointment is for 1 year with possible extension for an additional 1 or 2 years. Salary is commensurate with experience. Interested candidates should respond to: **The Personnel Manager, Southwest Foundation for Research and Education, P.O. Box 28147, San Antonio, Texas 78284.** Include curriculum vitae, description of research interests, and names of three references, including major professor, in initial correspondence. *An Equal Opportunity/Affirmative Action Employer*

**RESEARCH ASSOCIATE** to study structure of physiologically identified neurons in the cat's visual system. Minimum requirement: Ph.D. or equivalent degree plus training in anatomy (LM or EM) or physiology. Salary negotiable. Send curriculum vitae plus three references to: **Dr. S. M. Sherman, Department of Neurobiology and Behavior, State University of New York (SUNY) at Stony Brook, Stony Brook, NY 11794. SUNY Stony Brook is an Equal Opportunity/Affirmative Action Employer. AK number 547A.**

**RESEARCH ASSOCIATE POSITION.** Ph.D., M.D., or D.V.M. with training in muscle electrophysiology and mechanics to investigate cellular basis of drug and hormone action in smooth muscle. Experience in microelectrode or sucrose gap techniques desirable. NIH-funded for 3 years beginning late summer/autumn 1983. Closing date for applications: 1 July 1983. Salary commensurate with qualifications. Send curriculum vitae and three letters of reference to: **Dr. J. M. Marshall, Section of Neuroscience, Box G, Brown University, Providence, R.I. 02912. An Equal Opportunity/Affirmative Action Employer.**

**RESEARCH ASSOCIATE** in the Department of Pediatrics and The Laboratories for Reproductive Biology to study the influence of hormones and cell-cell interaction on gene expression. Ph.D. and postdoctoral research experience required in cellular and molecular aspects of reproductive steroid hormone action. Experience in receptor-binding methods, cell separation, and cell cycle kinetics is desired. Salary will be commensurate with experience. Send curriculum vitae and names of three references to: **Dr. Frank S. French, Director, The Laboratories for Reproductive Biology, 361 Medical Sciences Research Building 206H, University of North Carolina Medical School, Chapel Hill, N.C. 27514-7231.**

### RESEARCH ASSOCIATE

Postdoctoral position available immediately to study viruses transmitted by blood transfusion. Background in virology, immunology, and tissue culture required. Preference will be given to candidates familiar with recombinant DNA technology and/or having expertise in preparing monoclonal antibodies. Send résumé and two letters of recommendation to: **Dr. A. R. Neurath, The Lindsley F. Kimball Research Institute of the New York Blood Center, 310 East 67 Street, New York, N.Y. 10021. An Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

### RESEARCH ASSOCIATE

Postdoctoral position available involving research on mRNA-protein interactions and role of the cytoskeleton in translation. Requirements: recent Ph.D. in cellular or molecular biology. Send curriculum vitae and three letters of recommendation to: **Dr. Jay R. Greenberg, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

*An Equal Opportunity/Affirmative Action Employer*

### UNIVERSITY OF MINNESOTA RESEARCH ASSOCIATE Salary: \$27,076

Applications are invited from individuals with a Ph.D. in physics or mathematics with 3 years of postdoctoral training and 3 years of experience in signal processing, programming, and background in frequency standards.

Duties include developing new methods for chronobiologic data analysis and applying these and existing methods to data on biological rhythms; responsibility for computer system (program library and data analysis), involvement in study design, grant application, summarizing experimental results, training students and visitors in chronobiologic data analysis, and teaching methods at special workshops; and work on the development of both physical and biological frequency standards.

Applications, including curriculum vitae, should be sent to: **Marilyn Green, Box 198 Mayo, Department of Laboratory Medicine and Pathology, University of Minnesota Medical School, Minneapolis, Minn. 55455.**

*The University of Minnesota is an Affirmative Action Employer and specifically invites and encourages applications from women and minorities.*

Applications for **RESEARCH ASSOCIATE** are invited from individuals with a Ph.D. in physics or mathematics with 3 years of postdoctoral training and 3 years of experience to include signal processing, programming, and background in frequency standards. Salary: \$27,076.

Duties include developing new methods for chronobiologic data analysis and applying these and existing methods to data on biological rhythms; responsibility for computer system (program library and data analysis), involvement in study design, grant application, summarizing experimental results, training students and visitors in chronobiologic data analysis, and teaching methods at special workshops; and work on development of both physical and biological frequency standards.

Applications, including curriculum vitae, should be sent to: **Nancy Thompson (Control Number 2-37), Minnesota Department of Economic Security, 309 Second Avenue South, Minneapolis, Minn. 55401.**

**RESEARCH ASSOCIATE** position is available to study the structure and regulation of two genes encoding for two subunits of pyruvate dehydrogenase component of the complex. Experiments will include construction, isolation, and characterization of cDNA clones and analysis of gene structure. Experience in recombinant DNA research or background with molecular biology is desirable. Please send curriculum vitae and names of three referees to: **Dr. M. S. Patel, Department of Biochemistry, Case Western Reserve University School of Medicine, Cleveland, Ohio 44106. Affirmative Action/Equal Opportunity Employer.**

### RESEARCH POSITION

To initiate a program of study of molecular aspects of ionizing radiation in DNA repair-deficient human cell lines. Requirements: Ph.D. in biochemistry and 2 years of postdoctoral experience with a strong background in radiation, DNA repair, and poly (ADP-ribose) metabolism. Position is nontenure; salary negotiable. Apply: **Dr. A. Dritschilo, Department of Radiation Oncology, Georgetown University Hospital, 3800 Reservoir Road, NW, Washington, D.C. 20007.**

**RESEARCH TECHNICIAN** to work in the area of bacterial growth regulation using microbiological, genetical, and biophysical approaches. Applicants please send curriculum vitae and letters of support before 15 March 1983 to: **N. H. Mendelson, Professor and Head, Department of Cellular and Developmental Biology, University of Arizona, Tucson, Arizona 85721. Equal Opportunity/Affirmative Action Employer.**

# The MX Missile and the Strategic Balance of Power

A collection of recent articles from *SCIENCE* on contemporary strategic ideology is now available for use by professionals, teachers, and researchers interested in the nuclear arms race.

"Anyone seeking a better understanding of the MX debate would do well to look at [this] series of brief, clearly written analyses."

— *The Boston Globe*

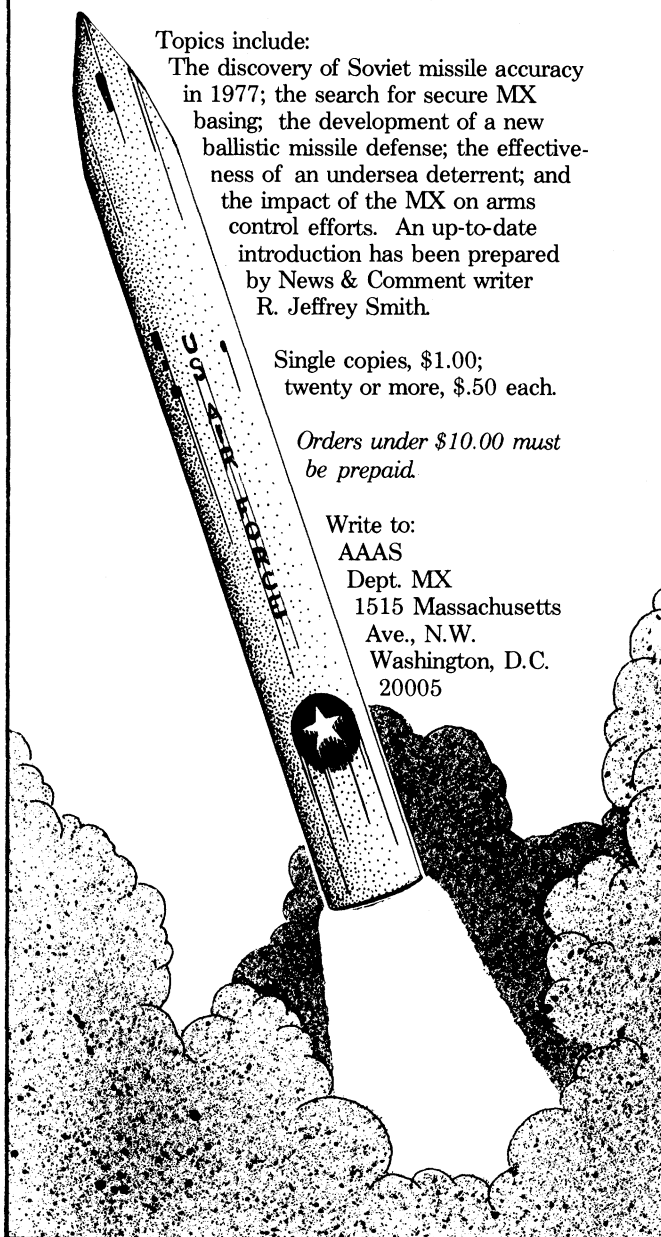
Topics include:

The discovery of Soviet missile accuracy in 1977; the search for secure MX basing; the development of a new ballistic missile defense; the effectiveness of an undersea deterrent; and the impact of the MX on arms control efforts. An up-to-date introduction has been prepared by News & Comment writer R. Jeffrey Smith.

Single copies, \$1.00;  
twenty or more, \$.50 each.

Orders under \$10.00 must  
be prepaid.

Write to:  
AAAS  
Dept. MX  
1515 Massachusetts  
Ave., N.W.  
Washington, D.C.  
20005



## LABORATORY SECTION HEAD — QUALITY CONTROL

Abbott Laboratories, one of the most advanced manufacturers of health care products, is seeking an experienced scientist to direct, coordinate and implement quality control activities for selected diagnostic products.

The individual selected will provide technical leadership and support for our professional Q.C. staff, evaluate test results, and review and approve new product test methods and specifications. Qualified candidates will have a Ph.D or MS in Analytical Biochemistry or Analytical Chemistry, with 5-10 years administrative and/or supervisory experience in laboratory testing methods and statistical evaluation of data. A working knowledge of HPLC and similar analytical techniques is required, and previous experience in the field of immunodiagnostics is highly desirable.

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

**ABBOTT**  
ABBOTT PARK ILL. 60064  
"HEALTH CARE WORLDWIDE"

Abbott is an Affirmative Action Employer

# SCIENCE

## SCIENCE Introduces "The Four-Day Close"

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

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

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

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

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

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

\*At a 15% premium.

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH ASSOCIATE IN BIOGEOCHEMISTRY OR FOREST ECOLOGY** to quantify (i) the effects of plant nutrient uptake on acid-base chemistry in forest soils and (ii) the effects of variable precipitation acidity on productivity, fertility, and element cycling in natural forest plots. Position available 1 April at \$17,000 per year. Send résumé and three letters of reference to: **Dr. Christopher S. Cronan, Department of Botany, University of Maine, Orono, Maine 04469. Equal Opportunity/Affirmative Action Employer.**

**RESEARCH/TEACHING POSITION** available July/September 1983; 3 years; non-tenure track. To work on research project on molecular basis of cytoplasmic male sterility in plants in collaboration with Dr. Maureen Hanson. Opportunity for biochemist, physiologist, geneticist, or molecular biologist to gain experience in plant biology. Previous experience with plants not essential for research or teaching. Teaching duties are one one-semester advanced-level course per year. Send résumé and names of three references to: **RT Search Committee, Department of Biology, University of Virginia, Charlottesville, Va. 22903. Affirmative Action/Equal Opportunity Employer.**

### SENSORY PHYSIOLOGY/NEUROANATOMY

Postdoctoral research associate and predoctoral graduate student (anatomy, stipend and tuition waiver). Research program investigating the anatomy and physiology of the central auditory pathways. Experience with computer programming, 3-D graphics, and electrophysiology or neuroanatomy desired. Positions available 1 April 1983. Submit curriculum vitae and list of references to or request more information from: **Dr. David Harris, Department of Otolaryngology, University of Illinois at Chicago, 1855 West Taylor Street, Chicago, Ill. 60612. Telephone: 312-996-6525.**

**SOIL MICROBIOLOGIST**—Postdoctoral position, 2-year term appointment available 1 May 1983, to study physiological and ecological interactions between plants, mycorrhizal fungi, and symbiotic and associative diazotrophs. Background in VA mycorrhiza and NE fixation preferred. Training in biochemistry and soil science is desirable. Send résumé, three letters of reference, and transcripts to: **G. J. Bethlenfalvai, U.S. Department of Agriculture, Western Regional Research Center, 800 Buchanan Street, Berkeley, Calif. 94710. Application deadline: 24 March 1983. An Equal Opportunity/Affirmative Action Employer.**

### STAFF VETERINARIAN

D.V.M. plus 4 to 5 years of general experience, preferably in a research environment; certified or eligible for certification in laboratory animal medicine, toxicology, and primate experience desirable but not required. **Duties:** Responsibility for veterinarian care of all animals with the Institute; interface with scientific staff and become involved in ongoing research. Salary: \$25,000 plus. Complete résumés, including salary requirements, should be submitted in confidence to:

**Donna Perron, Personnel Manager  
EG&G Mason Research Institute  
57 Union Street  
Worcester, Mass. 01608**

*An Equal Opportunity Employer, M/F*

**VECTOR/VIROLOGIST.** Full-time, 11-month, tenure-track appointment at assistant professor level beginning 1 September 1983, or thereafter. Research to emphasize molecular and cellular characteristics of circulative and propagative arthropod-borne plant viruses (*habdoviridae*), within the context of comparative virology. Teaching responsibilities at both the undergraduate and graduate levels in vectored viruses and their biological and ecological characteristics. Qualifications include a Ph.D. degree and evidence of outstanding potential for teaching and research in comparative vector/virology. Applications should include (i) curriculum vitae, academic transcripts, and evidence of teaching skills and experience; (ii) bibliography and reprints of significant publications or manuscripts; (iii) a statement outlining research areas and approaches used; and (iv) names and addresses of at least three people who can provide recommendations. All material should be submitted by 1 June 1983 to: **E. S. Sylvester, Chair, Department of Entomological Sciences, 201 Wellman Hall, University of California, Berkeley, Calif. 94720. The University of California is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**RETINA SPECIALIST**—University of Michigan; full-time faculty position; assistant, associate, or full professor level. Training in ophthalmology and fellowship in vitreo-retinal diseases and surgery required. Opportunity for clinical and laboratory research, resident and student teaching, clinical practice. Contact: **Paul R. Lichter, M.D., Department of Ophthalmology, University Hospital, Parkview 004, Ann Arbor, Michigan 48109. The University of Michigan is a nondiscriminatory, Affirmative Action Employer. Code 09.**

**SENIOR EDITORIAL STAFF** to serve as chief deputy editor of *Technology Review*, the Massachusetts Institute of Technology (MIT) magazine of science, engineering, and policy for semitechnical and professional audience.

Candidates should have strong background in science and/or technology plus 3 to 5 years of journalistic writing and editing experience; magazine background preferred.

Please submit two copies of résumé along with writing samples, referencing Job Number A263, to: **MIT Personnel Office, E19-239, 77 Massachusetts Avenue, Cambridge, Mass. 02139. MIT is an Equal Opportunity/Affirmative Action Employer.**

**THYROID IMMUNOLOGY**—Postdoctoral research fellow/associate. Thyroid immunology group requires enthusiast with experience in basic immunology and/or cell biology to work in areas of in vitro antibody control and human monoclonal antibody production. Opportunity for independent work and career development. Two-year position available summer 1983. Send résumé to: **Dr. T. F. Davies, Division of Endocrinology, THE MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, N.Y. 10029. An Equal Opportunity Employer.**

## GRADUATE STUDY

### GRADUATE TRAINING IN BIOMEDICAL RESEARCH

Several openings for outstanding graduate students will become available in September 1983. Advanced medically oriented research training is offered in the following areas: cell biology, embryology, reproductive endocrinology, and calcified tissue biology. The department is located within the new Health Sciences Center facility on the Texas Tech campus. Minimum entry requirements are a GRE score of 1100 and a GPA of 3.0. Teaching assistantships are available at \$7000 per year. Application materials and further information can be obtained by contacting: **Dr. James C. Hutson, Department of Anatomy, Texas Tech University Health Sciences Center, Lubbock, Texas 79430. An Equal Opportunity/Affirmative Action Employer.**

## PROGRAMS

**PREDOCTORAL:** Research-oriented **TRAINING PROGRAM** in molecular and tumor virology. Faculty emphasis on genetic engineering approaches to problems in gene organization and expression, cell transformation, membrane assembly, transposition, and molecular mechanisms of virus links to cancer. Tuition payment and stipend available. Degree granted under St. Louis University Cell and Molecular Biology Graduate Training Program. Apply to: **Predocutorial Training Program, Institute for Molecular Virology, St. Louis University Medical Center, 3681 Park Avenue, St. Louis, Missouri 63110. Equal Opportunity/Affirmative Action Employer, M/F/H.**

### DOCTORAL PROGRAM IN CELLULAR/MOLECULAR PATHOLOGY

The Department of Pathology of the Mount Sinai School of Medicine now offers a graduate program leading to a Ph.D. degree in cellular and molecular pathology as part of the Biomedical Sciences Program of the City University of New York. Applications being accepted for fall 1983. Financial aid for tuition and living expenses available for qualified students. This degree offers unlimited opportunities for professional careers in schools of medicine, hospitals, academic research, and the private sector. For information and a complete brochure, write: **Dr. Jerome Kleiner, Chairman, Department of Pathology, Mount Sinai School of Medicine, Fifth Avenue and 100th Street, New York, N.Y. 10029, or telephone: 212-650-5636.**

## FELLOWSHIPS

### FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIP IN NEURAL CONTROL OF THE CARDIOVASCULAR SYSTEM.** A limited number of fellowship positions are available, funded by an NIH training grant. Clinical and basic scientists participate in the program with major emphasis on neural pathways, hypertension, cardiovascular pharmacology, exercise, alcoholic heart muscle disease and exercise, electrophysiology, cardiac biochemistry, and biofeedback. The positions are open to U.S. citizens and permanent residents who have Ph.D., M.D., or equivalent degrees in a basic biomedical discipline.

Applicants should send curriculum vitae with three references and specific area of interest to: **Dr. H. Lowell Stone, Department of Physiology and Biophysics, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, Oklahoma 73190.**

*We are an Equal Opportunity Employer.*

**NASA Planetary Biology Summer Internships.** The Marine Biological Laboratory, Woods Hole, Massachusetts, invites applications from graduate students and seniors accepted in graduate programs for \$1600 awards to participate in research during the summer. Deadline: 15 April 1983. For information and applications, contact: **John Stolz, Planetary Biology Intern Program, Department of Biology, Boston University, 2 Cummings Street, Boston, Mass. 02115. Equal Opportunity/Affirmative Action Institution.**

**THREE POSTDOCTORAL FELLOWSHIPS** are available in protein crystallography, biochemical studies in relation to structures of allosteric enzymes, and theoretical studies related to reaction mechanisms in enzymes and other molecules.

Applicants may write to: **Professor William N. Lipscomb, Gibbs Chemical Laboratory, Harvard University, Cambridge, Mass. 02138. Harvard University is an Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL FELLOWSHIPS** are available immediately at the University of Toronto in the field of molecular biology. Previous experience in molecular genetics, cloning, and sequencing techniques is preferred. A Ph.D. and three letters of reference are required. Write to:

**Professor M. C. Ganoza  
Banting and Best Department of Medical Research  
112 College Street  
Toronto, Ontario, Canada M5G 1L6**

**POSTDOCTORAL FELLOWSHIPS IN REPRODUCTIVE BIOLOGY, BIOCHEMISTRY, AND PHYSIOLOGY.** NIH-supported interdisciplinary training program emphasizing research in mechanisms of ovulation, GnRH effects on ovary, prostaglandin synthesis, steroid effects on cancers of the reproductive system, proteinases of the involuting uterus, mammary lactose biosynthesis, placental iron transport, electrical and ionic changes at fertilization, and activation of egg membrane enzymes. Positions open immediately and July 1983. Applicants (U.S. citizens or permanent residents) should submit résumé, graduate transcript, and two letters of recommendation to: **Dr. J. F. Woessner, R-127, University of Miami School of Medicine, P.O. Box 016960, Miami, Florida 33101. An Affirmative Action/Equal Opportunity Employer.**

## MARKETPLACE

**SUPER RAPID PUBLICATION** of Brief Scientific Papers on Cell Physiology, Biochemistry, Biophysics, Molecular Biology, NMR Imaging, and Related Subjects. Limited to 2 printed pages or 1000 words, no illustrations or tables. Expected time between MS receipt and publication: 2 months or less. *Physiological, Chemistry and Physics and Medical NMR*, P.O. Box 7319, Phila., Pa. 19101.

### CUVETTE STIRRING IN MINIATURE

• Fits standard cuvettes • Low profile  
• 200-5000 r.p.m. • Mixes in 1 sec.  
• For suspension or reaction kinetics  
Call or write today for price and delivery  
**INSTECH LABORATORIES**  
434 Virginia Drive, Fort Washington  
PA 19034 • Phone: (215) 641-1150

Circle No. 287 on Readers' Service Card



# RESEARCH SCIENTISTS

## Setting a new pace in research and career development **AYERST RESEARCH CENTER** Opening this fall in Princeton

Through 59 consecutive years of growth, Ayerst Laboratories, Division of Fortune 100 American Home Products, has maintained its commitment to research as the basis for increasing its product line and business volume.

Today more than ever, we view research as the key to the future, the cornerstone for enhancing our strong position. To accommodate greatly expanded research activity, we will open a state-of-the-art facility in Princeton, New Jersey in the late fall of this year.

With expected advances in the development of marketable drugs, new paths to career advancement will open to professionals at every level in many disciplines. Both those coming into the industry and experienced scientists who may lack promotional opportunity will find the vitality and growth potential associated with the start-up of a major new facility.

### SCIENTIFIC MEETINGS

Ayerst representatives will be at the ACS meeting in Seattle, March 20-25, the FASEB meeting in Chicago, April 10-14, and San Francisco, June 5-9. Send your curriculum vitae today and we will consider your background in relation to possible discussions at one of these meetings.

### PHARMACOLOGY

Positions available for senior and entry level candidates in neuropharmacology, cardiovascular, renal and gastrointestinal pharmacology. Entry level positions require a PhD with some related postdoctoral experience. Candidates for senior positions should have a PhD plus at least 5 years' academic or industrial experience.

*Located in Princeton, New Jersey, on a 136-acre tract, new Ayerst facility will support technological achievement for over 500 scientists and technicians.*

### CHEMISTRY

Positions are available for senior and entry level organic chemists with experience in the synthesis of complex molecules. Entry level positions require a PhD with or without related postdoctoral experience. Senior positions on the section head level require a thorough understanding of physiological-pharmacological phenomena. Analytical chemists with experience in chromatography or mass spectroscopy are also encouraged to apply.

### BIOCHEMISTRY

Entry level and senior research positions available in areas of pharmacokinetics, drug metabolism, receptor and enzyme interaction studies, carbohydrate as well as lipid metabolism and analytical biochemistry. Entry level candidates should have a PhD with some postdoctoral experience. Senior positions will require a PhD with at least 5 years' industrial or academic experience.

### MICROBIOLOGY

Entry and senior level positions are available for PhDs with postdoctoral or industrial experience in the areas of virology and immunology.

Our Princeton facility will offer the ideal combination of an attractive suburban location with access to a variety of cultural activities. Excellent salaries and comprehensive benefits package. If you are interested in being considered for any of these opportunities, send your curriculum vitae, with current earnings to:

**Mr. Richard Groben, Director of Research Administration**

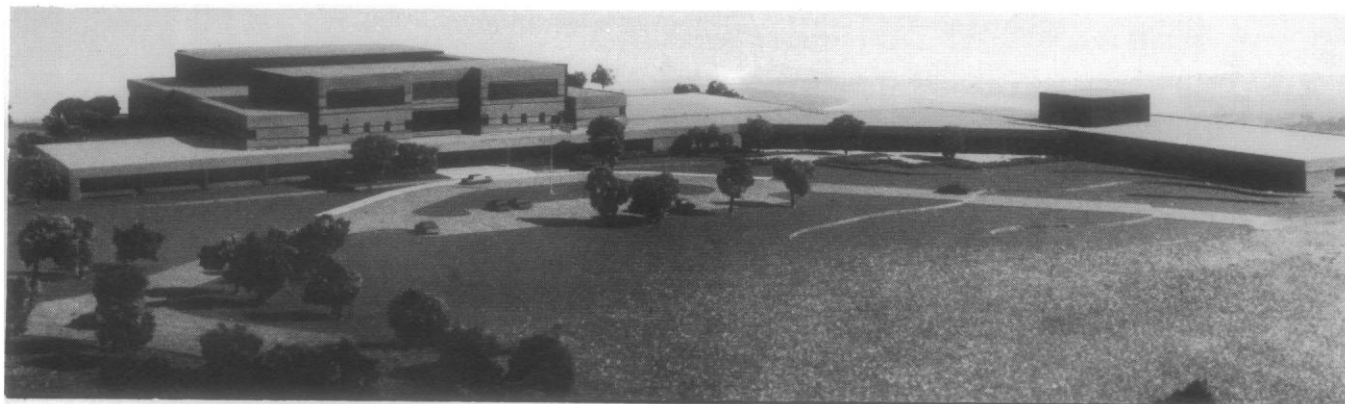
**Ayerst®**

**AYERST  
LABORATORIES**

**Division of  
American Home Products  
Corporation**

685 Third Avenue  
New York, New York 10017

An equal opportunity employer M/F/H





**TEK** 4113A COMPUTER DISPLAY TERMINAL  
4691 COLOR GRAPHICS COPIER

THE GRAPHICS  
STANDARD

## Tek color: Now on-screen. On-paper. And off-line.



Introducing the first color terminal/color copier engineered for each other—for flicker-free display, outstanding copy quality, and push-button simplicity.

With its exclusive 150 dots/inch ink jet technology, Tektronix's new 4691 Color Graphics

Copier copies any 4113A terminal display in brilliant colors. In A or B sizes. Down to the last detail.

The 4113A lets you access true zoom and pan and powerful segments manipulation. Add Tek's new Local Programmability pack-

age, and you can go from program creation to final copies completely independent of the host. Or connect the 4691 directly to the host via its high-speed 8-bit parallel interface.

Now complete your picture like never before: For 4113A/4691 litera-

ture or the address and phone number of the Tek office nearest you, call:

**1-800-547-1512.**

In Oregon, call  
1-800-452-1877.

**Demand  
The Graphics  
Standard.**

**Tektronix**  
COMMITTED TO EXCELLENCE

Circle No. 292 on Readers' Service Card