

and has grown so quickly that there are, in fact, very few well-established hypotheses. As an example, the reader might well come away with the impression that most researchers agree that release of volatiles from the Martian interior was triggered by a period of early heavy impact bombardment of the Martian surface. It is not clear by any means that a period of heavy bombardment would deposit enough energy to initiate such a triggering. Second, the book suffers somewhat from a lack of discussion of the physical and chemical connections between the evolution of planetary interiors and surfaces. For instance, lunar mascons (mare volcanic fill), the lithospheric loading that they induce, and their probable relationship to the formation of graben and mare ridges are only briefly mentioned. A more extensive geophysical discussion of the Tharsis plateau on Mars, which dominates the low-order terms of the global gravity field, might also have been appropriate.

Despite these problems, the book provides the best introductory discussion to date of comparative planetology. I believe it will serve as the standard introductory textbook for some time to come. I plan to adopt the book for use in my introductory course on the solar system, and I am encouraging my colleagues to purchase copies for their personal libraries.

RAYMOND E. ARVIDSON
*McDonnell Center for the Space Sciences, Department of Earth and Planetary Sciences,
Washington University,
St. Louis, Missouri 63130*

Auditory Mechanisms

Comparative Studies of Hearing in Vertebrates. Papers from a workshop, Honolulu, Nov. 1978. ARTHUR N. POPPER and RICHARD R. FAY, Eds. Springer-Verlag, New York, 1980. xiv, 458 pp., illus. \$39.80. *Proceedings in Life Sciences.*

This volume consists of 16 chapters whose subjects range from underwater sound localization to mammalian auditory cortices. The book is divided into sections dealing respectively with fishes, amphibians, reptiles, birds, and mammals. Throughout, major attention is directed toward the auditory periphery, but there are also two chapters dealing exclusively with the central auditory system. In the insightful final chapter T. H. Bullock discusses the important questions that still need to be examined.

The basic structure and physiology of the auditory system are well reviewed for all the groups but mammals, but there is so much material on the mammalian auditory periphery that a review would require a full volume in itself. Sound localization and psychoacoustics are beautifully discussed for all the groups but amphibians and reptiles, as befits the state of our knowledge on these topics. Most of the chapters not only discuss their authors' contributions but include excellent reviews of other pertinent literature as well. For both authors and readers, one of the joys of such a book is the opportunity, not available in refereed journals, for speculation. Eight of this book's chapters contain what I would call responsible speculation, clearly labeled as such, consistent with factual data, and often suggesting new research approaches to unanswered problems.

Some chapters contain particularly interesting points of view and have the data to back them up. Stebbins (chapter 15) discusses the evolution of mammalian hearing using a wide spectrum of data from paleontology, comparative anatomy, ecology, and psychoacoustics. His inclusion of behavioral data in a nonteleological manner is provocative and refreshing.

Lombard (chapter 4), using a synergistic blend of comparative anatomy, paleontology, and embryology, presents a cogent argument for the evolutionary independence of the amphibian auditory system. He finds that only the middle ear cavity and Eustachian tube have a similar ancestry in present-day amphibians and other vertebrates. In the following chapter, Capranica and Moffat convincingly ascribe functional nonlinearities in the ears of toads to the hair-cell-tectorial-membrane relationship; both the nonlinearities and their structural bases are remarkably similar to those of mammals.

One of the high points of the volume is Knudsen's (chapter 10) description of auditory localization in birds—particularly owls. The logic, ingenuity, and ability to ask the right questions exhibited in this series of experiments by a handful of researchers provides a standard toward which most of us only strive.

The most obviously neglected topic is echolocation; it could be argued, however, that reviews on this topic are already plentiful. The index is disappointing and typographical errors are more numerous than one would hope, but I found few factual errors.

This book is of obvious value to all who are interested in the evolutionary aspects of vertebrate audition. I believe

it should be of special importance to those who know only the "standard" auditory research animals—cats, guinea pigs, monkeys, and humans—for it demonstrates the awesome diversity that has evolved in auditory structure, physiology, and behavior.

DOUGLAS B. WEBSTER
Departments of Otorhinolaryngology and Anatomy, Kresge Hearing Research Laboratory of the South, Louisiana State University Medical Center, New Orleans 70119

Books Received

Adrenergic Activators and Inhibitors. Part 2. L. Szekeres, Ed. Springer-Verlag, New York, 1981. xxii, 938 pp., illus. \$224.20. *Handbook of Experimental Pharmacology*, vol. 54/1.

Advances in Enzymology and Related Areas of Molecular Biology. Vol. 52. Alton Meister, Ed. Interscience (Wiley), New York, 1981. viii, 408 pp., illus. \$32.50.

Advances in Organic Geochemistry 1979. Proceedings of a meeting, Newcastle-upon-Tyne, Sept. 1979. A. G. Douglas and J. R. Maxwell, Eds. Pergamon, New York, 1980. xviii, 784 pp., illus. \$160. *International Series in Earth Sciences*, vol. 36. Also published as vol. 12 of journal *Physics and Chemistry of the Earth*.

Air Pollution and Forests. Interactions between Air Contaminants and Forest Ecosystems. William H. Smith. Springer-Verlag, New York, 1981. xvi, 382 pp., illus. \$29.80.

Albert Einstein, the Human Side. New Glimpses from His Archives. Helen Dukas and Banesh Hoffmann, Eds. Princeton University Press, Princeton, N.J., 1981. viii, 168 pp. Paper, \$3.95. Reprint of the 1979 edition.

American Sublime. Landscape and Scenery of the Lower Hudson Valley. Raymond J. O'Brien. Columbia University Press, New York, 1981. xiv, 354 pp., illus. \$19.95.

Annual Review of Pharmacology and Toxicology. Vol. 21. Robert George, Ronald Okun, and Arthur K. Cho, Eds. Annual Reviews, Palo Alto, Calif., 1981. xii, 670 pp., illus. \$20.

Anodic Protection. Theory and Practice in the Prevention of Corrosion. Olen L. Riggs, Jr., and Carl E. Locke. Plenum, New York, 1981. xiv, 284 pp., illus. \$39.50.

Antibiotics. Vol. 4. Biosynthesis. John W. Corcoran, Ed. Springer-Verlag, New York, 1981. xii, 382 pp., illus. \$97.

Black Children/White Children. Competence, Socialization, and Social Structure. Zena Smith Blau. Free Press (Macmillan), New York, and Collier Macmillan, London, 1981. xx, 284 pp. \$19.95.

Bottom-Interacting Ocean Acoustics. Proceedings of a conference, La Spezia, Italy, June 1980. William A. Kuperman and Finn B. Jensen, Eds. Plenum, New York, 1980. xii, 718 pp., illus. \$75. *NATO Conference Series IV*, vol. 5.

Brewing Science. Vol. 2. J. R. A. Pollock, Ed. Academic Press, New York, 1981. xxii, 666 pp., illus. \$98.50. *Food Science and Technology*.

Cancer Chemo- and Immunopharmacology. Papers from a meeting, 1979. G. Mathe and F. M. Muggia, Eds. Springer-Verlag, New York, 1980. Two volumes. Vol. 1. Chemopharmacology. xiv, 316 pp., illus. \$66. Vol. 2. Immunopharmacology, Relations, and General Problems. xii, 262 pp., illus. \$52. *Recent Results in Cancer Research*, 74 and 75.

Cardiovascular Psychophysiology. A Perspective. Paul A. Obrist. Plenum, New York, 1981. x, 236 pp., illus. \$22.50.

Cerebral Vascular Disease 3. Proceedings of a conference, Salzburg, Sept. 1980. J. S. Meyer, H. Lechner, M. Reivich, E. O. Ott, and Ar. Aranibar, Eds. Excerpta Medica, Amsterdam, 1981 (U.S. distributor, Elsevier North-Holland, New York). xii, 352 pp., illus. \$62.25.

Changing Views of the Physical World, 1954-1979. Papers from a symposium, Canberra, Mar. 1979. G. K. White, Ed. Australian Academy of Science, Canberra, 1980. x, 142 pp., illus. Paper, A\$7.50. *Silver Jubilee Symposium Volume 2*.

Control and Dynamic Systems. Advances in Theory and Applications. Vol. 17. C. T. Leondes, Ed.

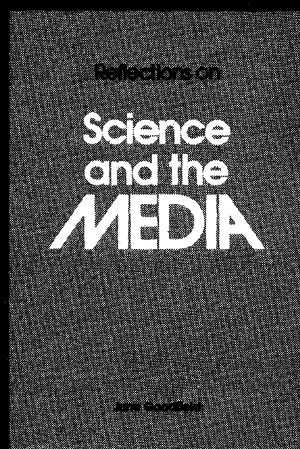
(Continued on page 934)

ARE THE MEDIA FAIR TO SCIENCE? IS SCIENCE FAIR TO THE MEDIA?

Read *Reflections on Science and the Media*, a provocative new book by June Goodfield, author of *An Imagined World*, and decide for yourself.

"The point of the essay lies not in who did the right or wrong thing in a particular situation where science and the media interacted for better or worse, but in what roads are open on which science and the media can journey together."

—from the Preface, William D. Carey, AAAS Executive Director



In *Reflections on Science and the Media*, June Goodfield examines four recent, highly publicized science stories — Rorvik's clone, thalidomide, lab standards for recombinant DNA research, and the case of the painted lab mice. She finds that members of both professions have failed the public. Scientists are sometimes uncommunicative or may purposely exaggerate research findings. Reporters are selective and tend to write about alarming "news" or amazing "discoveries" as opposed to reporting in depth. And publishers may blur the distinction between fact and fiction for profit's sake.

Dr. Goodfield shows that these failures spring in part from the differing constraints under which the two professions operate: Scientists are often re-

luctant to talk about their research openly because they fear the complexities will be ignored or oversimplified; journalists tend to seek out that which is easily told and easily understood. The author also shows that both professions must come to some agreement about their mutual obligations to the public which supports them. *Reflections on Science and the Media* is a strong plea for such an understanding.

128 pp. 1981
ISBN: 0-87168-252-4
Paper, \$9.00/AAAS member price, \$8.00

Mail order to: AAAS Sales Dept. SM1
1515 Massachusetts Avenue, NW
Washington, DC 20005

Please allow 6-8 weeks for delivery. All orders under \$10.00 must be prepaid.

REFLECTIONS ON SCIENCE AND THE MEDIA



PRODUCTS and MATERIALS

Lisp Computer

The LM-2 is an interconnected system of symbolic computers that dedicates a computer to each user. The system consists of a microcoded central processing unit; 1 megabyte of main memory; 80-megabyte disk; high-resolution, bit-mapped graphics display; keyboard; mouse; and 4-megabit-per-second local network interface and systems software, including network and graphics software. A station consists of a disk cabinet and a display terminal. Many software functions are integral and the system offers opportunities for CAD and especially VLSI applications. Symbolics. Circle 786.

Freezer

Model BV-6 is microprocessor-controlled to provide freezing rates from 0.5° to 40°C per minute. Freezing rates are programmable via keyboard and are displayed for ready reference. Up to seven freezing programs may be stored for selection of optimum conditions to process various specimens rapidly with minimum hydrolysis. Stainless steel freezing chambers are available in 44.5- or 22.6-liter capacities. Janis Research. Circle 785.

Surface Profiler

Dektak II evaluates surfaces with vertical dimensions from 100 to 655,000 angstroms. The operator uses a single key to activate a scan. When a profile is displayed, additional keystrokes select portions to be replotted, magnified, and

displayed in turn. Each scan also includes all pertinent measurements and printouts of the display are easily rendered. Features include automatic electronic leveling, choice of resolution, large range, automated data manipulation, and storage of up to nine profiling programs. Sloan Technology. Circle 788.

Fraction Collector

The LC-100 handles test tubes 12 to 18 millimeters in diameter and scintillation vials 20 to 28 millimeters in diameter. In addition to standard time and drop collection modes, tube and rack advance may be controlled by an external contact closure. This feature and its solvent-resistant case render the LC-100 useful in HPLC. A reserve memory and an interrupt feature retain time/drop count and suspend flow if power fails. When power is restored, program resumes without needing to be reset. Buchler Instruments. Circle 787.

Electrophoresis Chamber

Semi-Micro II reduces buffer consumption to 200 milliliters per chamber. With the standard three durable bridges, the operator may use three membranes simultaneously. Reactions may be monitored through the acrylic cover. A safety interlock protects the operator. The chamber operates easily with the manufacturer's power supplies and eight- or four-place applicators. Gelman Sciences. Circle 789.

DNA Sequencing Kit

The M13mp7 cloning-sequencing kit includes a single strand universal primer. The primer offers less stringent annealing conditions and higher specificity than others available. All reagents (except radioactive deoxynucleotide triphosphates) are included for 100 sequencing reactions. Cloning and sequencing in one

operation considerably speeds the process. Step-by-step instructions are included and replacement components are available individually. References as to the kit's methodology and effectiveness are also readily available. P-L Biochemicals. Circle 790.

Rotary Evaporator

Model 5200 offers variable speeds from 30 to 180 revolutions per minute. Its Teflon spring-loaded seal maintains vacuum. A flask release device minimizes the chance of breakage during removal. Four different glassware configurations are available for various operations. Lab-Line Instruments. Circle 791.

Literature

Ion Detector for HPLC describes model 213A which permits detection in the parts per million range without need for a suppressor column. Wescan Instruments. Circle 780.

Chromatography features fraction collectors, absorbance detectors, pumps, density gradient fractionators, electrophoresis power supplies, and more. Instrumentation Specialties. Circle 781.

Geochemical Analysis describes the 820GS apparatus that determines volatile organics and nonvolatile kerogens in rock samples. Chemical Data Systems. Circle 783.

Monoclonal Antibodies lists more than 25 cell lines and second antibodies. Accurate Chemical & Scientific. Circle 792.

Elutriator Rotor describes the specifications of the JE-6B rotor for cell harvesting. Beckman Instruments, Spinco Division. Circle 793.

Labeled Carbohydrates features carbon-14 and tritium labeled materials for research applications. Pathfinder Laboratories. Circle 795.

Integrating Sphere Performance reports basic design parameters and offers graphs and equations related to throughput, efficiency, and stability. Labsphere. Circle 796.

Humidity Instrumentation includes measurement of dew point, percent relative humidity, parts per million, and grains per pound. Several methods and outputs are treated. General Eastern Instruments. Circle 797.

Luminescence in Immunology is an annotated bibliography with 63 entries relevant to phagocytosis, immunoassay, and opsonin concentration. Turner Designs. Circle 798.

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 822A and 926A) and placing it in the mailbox. Postage is free.

—RICHARD G. SOMMER

Think less.

Nalgene FILMWARE® Scintillation Tubes cost less to buy, less to use.

Think about all your scintillation counting costs.

Now look at Nalgene FILMWARE Scintillation Tubes and see how they can cut *all* those costs dramatically.

Ours is a *flexible* plastic tube that gives you more for less.

Lower initial cost of the tubes.

\$60 to \$250 less per 1000 samples.

Less cocktail needed. As much as 75% less.

Less disposal volume. As much as 75% less.

Less chance of toluene inhalation.

Lower background count. As low as 7 cpm.

And no breakage or wall adsorption.

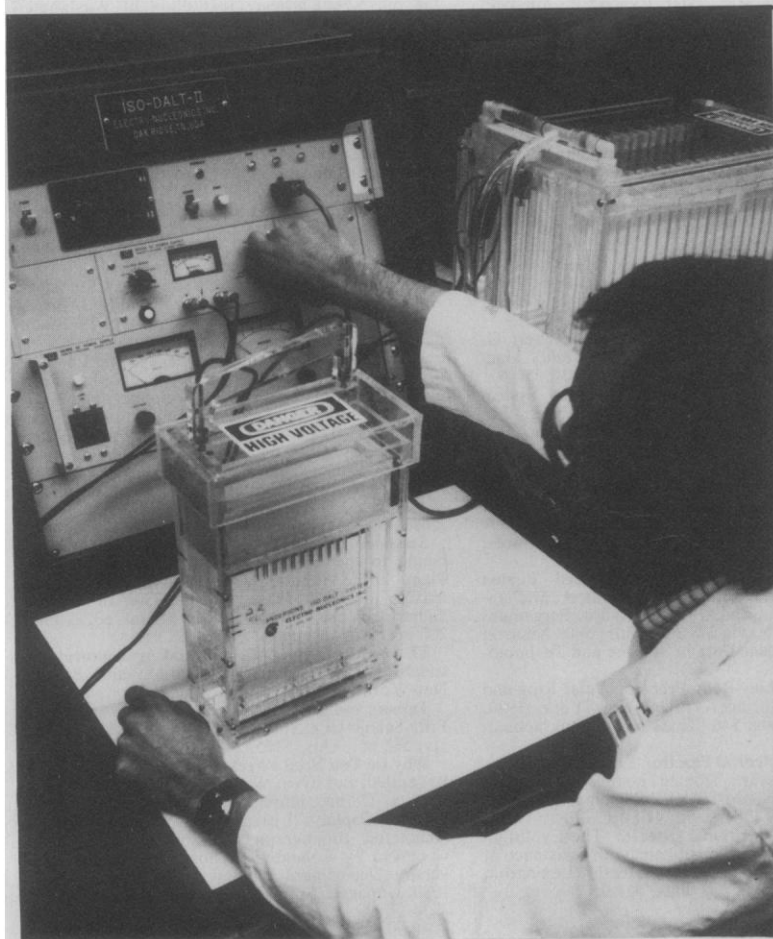
So start thinking "less", and you'll think more of us. Let us prove why the Nalgene FILMWARE Scintillation system belongs in your lab.

Free.

Ask for our illustrated brochure. Contact your labware dealer, or write:
Nalge Company, P.O. Box 365,
Rochester, New York 14602.

SYBRON | Nalge

Circle No. 171 on Readers' Service Card



ISO-DALT

An Improved Two-Dimensional Electrophoresis System

Anderson & Anderson Technique

Available From:
ELECTRO-NUCLEONICS, INC.

- ISO-DALT is a high resolution, two-dimensional electrophoresis system that employs the Anderson & Anderson technique.
- Cast and run 20 rod gels in parallel.
- Cast up to 20 slab gels simultaneously, and run up to 10 slab gels in parallel.
- When parallel separations are needed, the versatile ISO-DALT is unsurpassed for high reproducibility.

For more information contact:



ELECTRO-NUCLEONICS, INC.

P.O. Box 451, 100 Tulsa Road
Oak Ridge, TN 37830, (615) 483-1429

01-7-81 © Electro-Nucleonics, Inc. All Rights Reserved

Circle No. 267 on Readers' Service Card

BOOKS RECEIVED

(Continued from page 862)

Academic Press, New York, 1981. xviii, 424 pp., illus. \$32.50.

Coordination Compounds of Porphyrins and Phthalocyanines. B. D. Berezin. Translated from the Russian edition (Moscow, 1978) by V. G. Vopian. Wiley-Interscience, New York, 1981. xiv, 286 pp., illus. \$53.95.

Coronary Care Units. Proceedings of a seminar, Pisa, Dec. 1978. Attilio Maseri, Carlo Marchesi, Sergio Chierchia, and Maria Giovanna Trivella, Eds. Published for the Commission of the European Communities by Nijhoff, The Hague, 1981 (U.S. distributor, Kluwer Boston, Hingham, Mass.). xvi, 292 pp., illus. \$44.75. Developments in Cardiovascular Medicine, vol. 10.

Cosmic Dawn. The Origins of Matter and Life. Eric Chaisson. Illustrated by Lola Judith Chaisson. Little, Brown, Boston, 1981. xvi, 304 pp. \$14.95. An Atlantic Monthly Press Book.

Crisis Management and the Super-Powers in the Middle East. Gregory Treverton, Ed. Published for the International Institute for Strategic Studies by Gower, Farnborough, Hampshire, England, and Allanheld, Osmun, Montclair, N.J., 1981. vi, 184 pp. \$28.50. Adelphi Library 5.

Cultural Resources Remote Sensing. Thomas R. Lyons and Frances Joan Mathien, Eds. National Park Service Cultural Resources Management Division, Washington, D.C., 1980 (available from the Superintendent of Documents, Washington, D.C.). x, 390 pp., illus. Paper, \$9.50.

The Damocles Syndrome. Psychosocial Consequences of Surviving Childhood Cancer. Gerald P. Koocher and John E. O'Malley. McGraw-Hill, New York, 1981. xx, 220 pp. \$17.95.

Direct Perception. Claire F. Michaels and Claudia Carello. Prentice-Hall, Englewood Cliffs, N.J., 1981. viii, 200 pp., illus. \$18. Century Psychology Series.

Drug-Induced Pathology. E. Grundmann, Ed. Springer-Verlag, New York, 1980. viii, 386 pp., illus. \$70. Current Topics in Pathology, 69.

The 8080/Z-80 Assembly Language. Techniques for Improved Programming. Alan R. Miller. Wiley, New York, 1981. x, 318 pp. Paper, \$9.95.

Electrocardiology VI. Papers from a congress, Yalta, May 1979. H. Abel and R. Z. Amirov, Eds. Karger, Basel, 1981. xii, 248 pp., illus. \$94. Advances in Cardiology, vol. 28.

Elementary Mathematical Ecology. John Vandermeer. Wiley-Interscience, New York, 1981. x, 294 pp., illus. \$32.50.

Encyclopedia of Explosives and Related Items. PATR 2700. Vol. 9. Seymour M. Kaye assisted by Henry L. Herman. U.S. Army Armament Research and Development Command, Dover, N.J., 1980 (available as ADA 097595 from the National Technical Information Service, Springfield, Va.). Various pages, illus. \$42.50.

Energy. Economy and Prospective. A Handbook for Engineers and Economists. André Gardel. Translated from the French edition (Oxford, 1979) by John Spreadborough. Pergamon, New York, 1981. xxii, 562 pp., illus. \$82.

Energy. The Conservation Revolution. John H. Gibbons and William U. Chandler. Plenum, New York, 1981. xvi, 258 pp. \$17.50. Modern Perspectives in Energy.

Energy and the National Defense. Howard Bucknell III. University of Kentucky Press, Lexington, 1981. xx, 236 pp., illus. \$19.50.

Fundamentals of Oncology. Henry C. Pitot. Dekker, New York, 1981. x, 292 pp., illus. Paper, \$16.50.

Fungal Wilt Diseases of Plants. Marshall E. Mace, Alois A. Bell, and Carl H. Beckman, Eds. Academic Press, New York, 1981. xiv, 640 pp., illus. \$58.

Geology and Palaeontology of Southeast Asia. Vol. 22. Teiichi Kobayashi, Ryuzo Toriyama, and Wataru Hashimoto, Eds. University of Tokyo Press, Tokyo, 1981 (U.S. distributor, Columbia University Press, New York). viii, 192 pp., illus. + plates. \$49.50.

Geometrical and Topological Methods in Gauge Theories. Proceedings of an institute, Montreal, Sept. 1979. J. P. Harnad and S. Shnider, Eds. Springer-Verlag, New York, 1980. viii, 156 pp., illus. Paper, \$14. Lecture Notes in Physics, vol. 129.

Geomicrobiology. Henry Lutz Ehrlich. Dekker, New York, 1981. xii, 394 pp., illus. \$29.75.

Giant Resonance Phenomena in Intermediate-Energy Nuclear Reactions. F. Cannata and H. Überall. Springer-Verlag, New York, 1980. viii, 112 pp., illus. \$29.80. Springer Tracts in Modern Physics, vol. 89.

The Greatest Power on Earth. The International Race for Nuclear Supremacy. Ronald W. Clark. Harper and Row, New York, 1981. x, 342 pp. + plates. \$13.95.

Hamster Immune Responses in Infectious and Oncologic Diseases. Proceedings of a symposium, Dallas, June 1980. J. Wayne Streilein, David A. Hart, Joan Stein-Streilein, William R. Duncan, and Rupert E. Billingham, Eds. Plenum, New York, 1981. xii, 474 pp., illus. \$55. Advances in Experimental Medicine and Biology, vol. 134.

Hormones and Cell Regulation. Vol. 5. Proceedings of a symposium, Bischoffsheim, France, Oct. 1980. J. E. Dumont and J. Nenez, Eds. Elsevier/North-Holland, New York, 1981. xii, 266 pp., illus. \$58.

Hormones and the Brain. Papers from a workshop, Bordeaux, France. David de Wied and Pieter A. van Keep, Eds. University Park Press, Baltimore, 1980. xiv, 338 pp., illus. \$34.50.

Hormones in Normal and Abnormal Human Tissues. Vol. 1. K. Fotherby, Ed. De Gruyter, New York, 1981. xiv, 658 pp., illus. \$85.45.

Horticultural Reviews. Vol. 3. Jules Janick, Ed. AVI Publishing Company, Westport, Conn., 1981. xii, 470 pp., illus. \$33.

Immunostimulation. L. Chedid, P. A. Miescher, and H. J. Mueller-Eberhard, Eds. Springer-Verlag, New York, 1980. viii, 236 pp., illus. Paper, \$22.50. First published in *Springer Seminars in Immunopathology*, vol. 2, No. 1 and 2.

The Impact of New Military Technology. Jonathan Alford, Ed. Published for the International Institute for Strategic Studies by Gower, Farnborough, Hampshire, England, and Allanheld, Osmun, Montclair, N.J., 1981. vi, 132 pp. \$28.50. Adelphi Library 4.

Implementation. The Key to Successful Information Systems. Henry C. Lucas, Jr. Columbia University Press, New York, 1981. xii, 208 pp. \$30.

In Quest of Telescopes. Martin Cohen. Sky Publishing Corporation, Cambridge, Mass., 1980. xii, 132 pp., illus. \$11.95.

J. Robert Oppenheimer. Shatterer of Worlds. Peter Goodchild. Houghton Mifflin, Boston, 1981. 302 pp., illus. \$15.

Life: Hierarchies of Interacting Molecules. Papers from a symposium, Canberra, Mar. 1979. W. J. Peacock, Ed. Australian Academy of Science, Canberra, 1980. x, 72 pp., illus. Paper, \$57.50. Silver Jubilee Symposium Volume 3.

Low and Intermediate Energy Kaon-Nucleon Physics. Proceedings of a workshop, Rome, Mar. 1980. E. Ferrari and G. Violini, Eds. Reidel, Boston, 1981 (distributor, Kluwer Boston, Hingham, Mass.). xii, 428 pp., illus. \$52.50.

Management of Insect Pests with Semiochemicals. Concepts and Practice. Proceedings of a colloquium, Gainesville, Fla., Mar. 1980. Everett R. Mitchell, Ed. Plenum, New York, 1981. xiv, 514 pp., illus. \$59.50.

Manganese Deposits. Supriya Roy. Academic Press, New York, 1981. x, 458 pp., illus. \$96.

Mathematical Modeling in Epidemiology. J. C. Frauenthal. Springer-Verlag, New York, 1980. x, 120 pp. Paper, \$14.80. Universitext.

Mathematical Models in Molecular and Cellular Biology. Lee A. Segel, Ed. Cambridge University Press, New York, 1981. x, 758 pp., illus. \$110.

Mathematical Physics Review. Vol. 1. Translated from the Russian. S. P. Novikov, Ed. Soviet Scientific Reviews (Harwood), New York, 1980. xiv, 208 pp. \$44.50. Soviet Scientific Reviews, Section C.

Mathematical Programming in Statistics. T. S. Arthanari and Yadolah Dodge. Wiley, New York, 1981. xviii, 414 pp., illus. \$28.95.

Mathematics for Physical Chemistry. Robert G. Mortimer. Macmillan, New York, and Collier Macmillan, London, 1981. x, 406 pp., illus. \$10.95.

Neuropharmacology of Central Nervous System and Behavioral Disorders. Gene C. Palmer, Ed. Academic Press, New York, 1980. xxvi, 672 pp. \$59. Physiologic and Pharmacologic Bases of Drug Therapy.

Non-Surgical Treatment of Malignant Diseases. H. Doerenbos, Ed. Excerpta Medica, Amsterdam, 1981 (U.S. distributor, Elsevier North-Holland, New York). x, 316 pp., illus. \$42.75. The Jonxis Lectures, vol. 5.

Nuclear Fission and Neutron-Induced Fission Cross-Sections. G. D. James, J. E. Lynn, A. Michaudon, J. Rowlands, and G. de Saussure. Pergamon, New York, 1981. xvi, 278 pp., illus. \$60. Neutron Physics and Nuclear Data in Science and Technology, vol. 1.

The Nuclear Many-Body Problem. Peter Ring and Peter Schuck. Springer-Verlag, New York, 1980. xviii, 718 pp., illus. \$46. Texts and Monographs in Physics.

Nutrition and Medical Practice. Lewis A. Barness, Yank D. Coble, Jr., Donald I. Macdonald, and George Christakis, Eds. AVI Publishing Company, Westport, Conn., 1981. xviii, 410 pp., illus. \$19.50.

Nutrition and Nutritional Diseases. The Evolution of Concepts. Karl Y. Guggenheim with assistance of Ira Wolinsky. Collamore Press (Heath), Lexington, Mass., 1981. xiv, 378 pp., illus. \$21.95.

On Higher Education. The Academic Enterprise in an Era of Rising Student Consumerism. David Riesman. Jossey-Bass, San Francisco, 1980. xxxviii, 422 pp. \$16.95. The Carnegie Council Series.

Operator Algebras and Quantum Statistical Mechanics II. Equilibrium States/Models in Quantum Statistical Mechanics. Ola Bratteli and Derek W. Robinson. Springer-Verlag, New York, 1981. xii, 508 pp. \$46. Texts and Monographs in Physics.

Orbiting the Sun. Planets and Satellites of the Solar System. Fred L. Whipple. Harvard University Press, Cambridge, Mass., 1981. xii, 338 pp., illus. \$20. The Harvard Books on Astronomy.

Patten's Foundations of Embryology. Bruce M. Carlson. McGraw-Hill, New York, ed. 4, 1981. xvi, 672 pp., illus. + plates. \$21.95. McGraw-Hill Series in Organismic Biology.

Proceedings of the III. rd Internationale Conference Bioindicators Deteriorationis Regionis. Liblice, Czechoslovakia, Sept. 1977. J. Spálený, Ed. Academia, Prague, 1980. 410 pp., illus. Paper.

Professionals Out of Work. Paula Goldman Leventman. Free Press (Macmillan), New York, and Collier Macmillan, London, 1981. xviii, 266 pp. \$19.95.

Progress in Molecular and Subcellular Biology. 7. F. E. Hahn, H. Kersten, W. Kersten, and W. Szybalski, Eds. Springer-Verlag, New York, 1980. viii, 256 pp., illus. \$50.80.

Progress in Multiple Sclerosis Research. Papers from a symposium, Göttingen, Germany, 1978. H. J. Bauer, S. Poser, and G. Ritter, Eds. Springer-Verlag, New York, 1980. xx, 678 pp., illus. \$46.60.

Progress in Radiopharmacology. Selected Topics. Proceedings of a symposium, Noordwijkerhout, The Netherlands, Nov. 1980. Peter H. Cox, Ed. Elsevier/North-Holland, New York, 1981. x, 340 pp., illus. \$68.75. Progress in Radiopharmacology, vol. 2.

Prominent Scientists. An Index to Collective Biographies. Paul A. Pelletier, Ed. Neal-Schuman, New York, 1981. xxviii, 312 pp. \$29.95.

Quality Control in Analytical Chemistry. G. Kateman and F. W. Pijpers. Wiley-Interscience, New York, 1981. xii, 276 pp., illus. \$40. Chemical Analysis, vol. 60.

Resuscitation and Life Support in Disasters/Relief of Pain and Suffering in Disaster Situations. Proceedings of a congress, Mainz, Sept. 1977. R. Frey and P. Safar, Eds. Springer-Verlag, New York, 1980. xx, 280 pp., illus. Paper, \$49.60. Disaster Medicine, vol. 2.

A Revised Shapley-Ames Catalog of Bright Galaxies. Allan Sandage and G. A. Tammann. Carnegie Institution of Washington, Washington, D.C., 1981. 158 pp. \$29. Carnegie Institution of Washington Publication 635.

The Roots of Human Behavior. An Introduction to the Psychobiology of Early Development. Myron A. Hofer. Freeman, San Francisco, 1981. xvi, 332 pp., illus. Cloth, \$22.50; paper, \$11.50. A Series of Books in Psychology.

Russian-English Dictionary of Surnames. Important Names from Science and Technology. James F. Shipp. Translation Research Institute, Philadelphia, 1981. Unpagged. Paper, \$30.

Scientific Information Systems and the Principle of Selectivity. William Goffman and Kenneth S. Warren. Praeger, New York, 1980. x, 192 pp., illus. \$19.95.

Scientific Strategies to Save Your Life. A Statistical Approach to Primary Prevention. Irwin D. J. Bross. Dekker New York, 1981. viii, 260 pp. \$19.75. Statistics, vol. 35.

A Scientist in American Life. Essays and Lectures of Joseph Henry. Arthur P. Molella, Nathan Reinhold, Marc Rothenberg, Joan F. Steiner, and Kathleen Waldenfelds, Eds. Smithsonian Institution Press, Washington, D.C., 1980. viii, 136 pp. Paper, \$6.95.

Scorpiones. G. Levy and P. Amitai. Israel Academy of Sciences and Humanities, Jerusalem, 1980 (U.S. distributor, Smithsonian Institution Press, Washington, D.C.). viii, 134 pp., illus. \$20. Fauna Palaestina, Arachnida I.

Seashore Life of Florida and the Caribbean. A Guide to the Common Marine Invertebrates and Plants of the Atlantic from Bermuda and the Bahamas to the West Indies and the Gulf of Mexico. Gilbert L. Voss. Banyan Books, Miami, ed. 2, 1980. 200 pp., illus. + plates. Paper, \$8.95.

Thermal Properties of Foods and Agricultural Materials. Nuri N. Mohsenin. Gordon and Breach, New York, 1980. x, 408 pp., illus. \$53.

Tumors and Tumorlike Lesions of Bone and Joints. Fritz Schajowicz. Springer-Verlag, New York, 1981. xiv, 582 pp., illus. \$165.

Why Do You Need a Personal Computer? Lance A. Leventhal and Irvin Stafford. Wiley, New York, 1981. x, 278 pp., illus. Paper, \$8.95.

Yellow-Poplar. (Liriodendron tulipifera L.) An Annotated Bibliography to and Including 1974. Compiled by Roland E. Schoenike. Clemson University Department of Forestry, Clemson, S.C., 1980. Unpagged. Spiral bound, \$1.25.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising closing for a particular Friday issue is Wednesday, 3 1/2 weeks before. 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, or handicap.

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): \$8 per millimeter; \$200 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 207
1515 Massachusetts Ave., NW
Washington, D.C. 20005
Telephone: 202-467-4456

Send copy for **Display** ads 1/6 page and larger 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 Ave., NW
Washington, D.C. 20005

POSITIONS WANTED

Biochemist. Ph.D. 1977. Extensive research experience in cell culture, microbiology, yeasts, lipid metabolism, neurochemistry, vitamin A, and glycoproteins. Seeking research associate position. Box 209, SCIENCE. X

Biophysicist/Cell Biologist. Ph.D. 1978. Flow cytometry specialist. Expertise also in virology and membranes. Publications. Seeks research or other position in academic, private, or government sector. Box 210, SCIENCE. X

Editor/Biochemist (Ph.D.). Research background in neurochemistry and pharmacology. Experienced editor of journals, symposium proceedings, reference works. Seeks position as author's editor in biomedical research or with book or journal publisher. Will relocate. Box 204, SCIENCE. X

Immunologist. Ph.D. 1972. Seven years of postdoctoral, 3 years as independent investigator in immunochemistry (immunoglobulin structure and function, cell membrane antigens) and cellular immunology (lymphocyte interaction). Desires position in academic or industrial research or clinical laboratory. Box 211, SCIENCE. X

Medical Behavioral Scientist/Physiological Psychologist. Ph.D. Experience developing and teaching biobehavioral core curriculum in medical school. Research: behavioral/physiological effects of perinatal brain damage or drug exposure; neurophysiology of feeding. Publications and book. Competence in experimental design and analysis, primate/rodent behavior. Desires challenging research, teaching, and/or administrative position. Box 212, SCIENCE. X

Molecular Biologist. Ph.D. 1975. Recombinant DNA biotechnology and modern biochemistry. Innovative and productive. Seeks industrial/academic challenge. Box 213, SCIENCE. X

Physician with degree in bioengineering. Good background in basic sciences and clinical training in neurology. Extensive research experience in neurophysiology at major academic centers. Desires industrial position in medical instrumentation development or basic science research in psychotropic pharmaceuticals. Box 214, SCIENCE. X

POSITIONS WANTED

Veterinary Surgeon. Ph.D. 1954, experienced research worker, academic background, Illinois license, ACLAM-eligible. Seeks post in animal research, breeding, management, and so forth, in academe, research, or industry. Box 215, SCIENCE. 8/21, 28

POSITIONS OPEN

ANALYTICAL CHEMIST. Mayo Clinic, the country's largest group practice of medicine, is seeking an experienced analytical chemist. Responsibilities include providing support and expertise to an active gastroenterology research group. The qualified applicant must have a master's degree with experience. Salary commensurate with experience. Excellent benefits including relocation expense. Send résumé and inquiries to: Janice Graner, Personnel Section, Mayo Clinic, 200 First Street, SW, Rochester, Minn. 55901. We are an Equal Opportunity Employer.

ANATOMISTS

Three tenure-track, 12-month, 100 percent time assistant professor positions are available beginning January 1982 or later in the Department of Veterinary Biology, University of Minnesota. Salary negotiable. Application deadline: 31 October 1981. Responsibilities will include teaching veterinary students, developing a funded research program, and supervising graduate students. Individuals with teaching and research experience, especially in ultrastructure and morphometry, will be given preference. A Ph.D. degree is required and the D.V.M. degree is highly desired. The positions are **Histologist** to share lecture, laboratory instruction of veterinary medical students in basic tissues/organology; **Gross Anatomist** to share lecture, laboratory instruction of veterinary medical students in domestic animal anatomy; and **Comparative Vertebrate Anatomist** to present lecture, laboratory instruction in comparative anatomy to undergraduate, graduate students in biology and to share lecture, laboratory instruction of veterinary students in gross anatomy. Send curriculum vitae and names of three references to: Dr. Thomas Fletcher, Department of Veterinary Biology, College of Veterinary Medicine, University of Minnesota, St. Paul, Minn. 55108. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

ASSISTANT IN RESEARCH. A challenging position will be available 1 October 1981 for a person skilled in small animal surgery, procedures for transmission electron microscopy, thin sectioning, and darkroom routine, and familiar with freeze-fracture technique and the routine usage of a Philips 301 electron microscope. Applicants should have an M.S. in biology or anatomy and be willing to learn in vivo recording and monitoring of events in microvascular beds, combining intravital and electron microscope techniques. The assistant will participate actively in the experiments and in developing new approaches to the study of the reactivity of small blood vessels. Send curriculum vitae, a brief statement of interests and goals, and the names of three references before 4 September 1981 to: Dr. Johannes A. G. Rhodin, Department of Anatomy, University of South Florida College of Medicine, Box 6, 12901 North 30 Street, Tampa, Florida 33612. The University of South Florida is an Equal Opportunity/Affirmative Action Employer.

Open faculty position in **HUMAN NUTRITION, ASSISTANT PROFESSOR.** Nutritional Sciences Department. Research and teaching; tenure-track appointment. Doctorate, teaching experience, and research experience in human nutrition studies required. Send résumé and references to: R. Swick, Department of Nutritional Sciences, University of Wisconsin, Madison, Wis. 53706. An Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF PHYSIOLOGY. We seek a faculty member dedicated to excellence in both teaching and research in such areas as cellular, renal, cardiovascular, respiratory, reproductive, or endocrine (but not CNS) physiology. Applicants must have the Ph.D. or the M.D. degree. The position will be available after 1 January 1982. Please send résumé and three letters of reference to: Director, Department of Physiology, The Johns Hopkins University School of Medicine, Baltimore, Maryland 21205. The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

Position available at the Hospital of the University of Pennsylvania with appointment as **ASSISTANT OF SURGERY** at the University of Pennsylvania School of Medicine. Individual with special training in vascular and transplantation surgery. Strong basic science and research background in immunology required. To work on a research team involved in pancreatic transplantation and diabetes research. Send curriculum vitae, bibliography, and two references to: Leonard D. Miller, M.D., Chairman, Department of Surgery, University of Pennsylvania School of Medicine, 4 Silverstein, 3400 Spruce Street, Philadelphia, Pennsylvania 19104. Equal Opportunity/Affirmative Action Employer.

We are seeking applicants for a tenure-track position at the **ASSISTANT PROFESSOR** level in the areas of **CELL OR MOLECULAR BIOLOGY**. Applicants must have a Ph.D. or M.D. degree and postdoctoral training. Faculty in the Department of Biochemistry and Molecular Biology are expected to maintain an excellent research program as well as to participate in teaching. Prior to 1 October 1981, curriculum vitae, a description of proposed research, and four letters of reference should be sent to: Dr. Gary S. Stein, Chairman, Search Committee, Department of Biochemistry and Molecular Biology, College of Medicine, University of Florida, Box J-245 JHMC, Gainesville, Florida 32610. Equal Opportunity/Affirmative Action Employer. Anticipated starting date: 1 January 1982.

Department of Medicine—University of Florida seeks scientist for appointment as **ASSISTANT PROFESSOR OF MEDICINE** to join medical oncology research team primarily involved in immunology and experimental hematology. Candidates must have a doctoral degree (Ph.D. or equivalent), at least 2 years of experience, and demonstrated research productivity in human cellular immunology. Responsibility will include teaching at all levels. Salary: \$23,000 (negotiable). Application recruiting deadline: 31 December 1981; anticipated starting date: 1 April 1982. Contact: Roy S. Weiner, M.D., Division of Oncology, Box J-277, J. Hillis Miller Health Center, University of Florida, Gainesville, Florida 32610. An Equal Opportunity/Affirmative Action Employer.

TUFTS UNIVERSITY SCHOOLS OF MEDICINE Department of Physiology

Tufts University has instituted a search for **CHAIRPERSON**, Department of Physiology. The Department of Physiology is expected to be a center of research and scholarly excellence, as well as providing leadership in physiology instruction for the School of Medicine, School of Dentistry, School of Veterinary Medicine, and the Sackler School of Graduate Medical Science. Individuals interested in being considered for this position should direct their letters to: Dr. Seymour Reichlin, Chairman, Physiology Search Committee, Box 275, New England Medical Center Hospital, 171 Harrison Avenue, Boston, Mass. 02111. Tufts has an Affirmative Action Program and encourages applications from women and members of minority groups.

CHAIRMAN Department of Microbiology



The University of Rochester School of Medicine and Dentistry is seeking an individual with an outstanding record of achievement in medical education, graduate education, research, and administration to provide leadership for a large and strong department. Submit curriculum vitae or nominations to: R. Gordon Douglas, M.D., School of Medicine and Dentistry, Box 601, 601 Elmwood Avenue, Rochester, New York 14642.

An Equal Opportunity Employer, M/F

BIOPHYSICIST/ MOLECULAR GENETICIST

The Donner Laboratory, Lawrence Berkeley Laboratory, is seeking a Biophysicist/Molecular Geneticist to lead a research program designed to investigate the fundamental nature of mutational events in mammalian cells. Applicants should have a doctorate and an established record of creative research in the molecular mechanisms of mutation and altered gene expression. Research experience in the effects of ionizing and ultraviolet radiation, and chemical mutagens and carcinogens on mammalian genomes is also desirable. Salary will depend on the level of achievement and professional maturity. Applications must be received by September 30, 1981.

Send curriculum vitae, publications list, and names and addresses of at least two references to: **Dr. Eleanor A. Blakely, Chairman, Biophysicist Search Committee; c/o Mr. Ron Lowder, Lawrence Berkeley Laboratory, Personnel Office, One Cyclotron Road, Berkeley, CA 94720. An affirmative action, equal opportunity employer, M/F/H.**



Lawrence Berkeley Laboratory
University of California • Berkeley, California 94720

PhD

Laboratory Automation

Play a key role in Merck's Laboratory Automation Group collaborating with our research scientists to develop and install laboratory computer systems in a variety of the experimental sciences.

PhD in a physical or biological science (or equivalent) plus experience in real-time data acquisition and control of laboratory instruments are required. On-going interaction with research management and laboratory personnel requires effective written and oral communication skills.

Merck is noted for its professional environment, excellent salaries and outstanding benefits program. To explore this opportunity, forward credentials with earnings history in confidence to Mr. F. A. Miesco,



MERCK & CO., INC.

P.O. Box 2000
Rahway, New Jersey 07065

An equal opportunity employer m/f

POSITIONS OPEN

ASSOCIATE PROGRAM DIRECTOR IN GENETIC BIOLOGY DIVISION OF PHYSIOLOGY, CELLULAR AND MOLECULAR BIOLOGY

The Division of Physiology, Cellular and Molecular Biology, is seeking qualified applicants for the position of associate program director in genetic biology. The appointment is rotating for a 1- or 2-year term. The position is open now. Applicants should have a Ph.D. or equivalent and/or 6 years of independent postdoctoral research experience in areas related to genetic biology, microbiology, and phage genetics. The position is excepted from the competitive civil service. Salary, based on professional qualifications and experience, ranges from \$32,048 to \$49,229 per annum. For application information, contact: **E. Paul Broglio, Division of Personnel and Management, Telephone: 202-357-7841.** For details about the position, contact: **Dr. James W. Campbell, Division Director, Physiology, Cellular and Molecular Biology, National Science Foundation, Washington, D.C. 20550. Telephone: 202-357-9400.**

DEAN AND DIRECTOR

The University of Nevada, Reno, invites applications and nominations for dean and director of the Max C. Fleischmann College of Agriculture. The dean and director is responsible for all teaching, research, and extension functions. Candidates must submit a letter of application, curriculum vitae, and a list of five references. Application deadline is 15 September 1981. The preferred starting date is 1 January 1982. Salary will be commensurate with qualifications and experience. **Dr. Paul T. Tueller, Chairman, Dean Search Committee, Max C. Fleischmann College of Agriculture, University of Nevada, Reno, 1000 Valley Road, Reno, Nevada 89512.**

DIRECTOR SCHOOL OF GEOPHYSICAL SCIENCES

Applications and nominations are solicited for the position of director of the School of Geophysical Sciences at the Georgia Institute of Technology. The department, with 21 academic and research faculty, 12 research and postdoctoral scientists, and 70 graduate students, conducts an extensive program of research and instruction, mainly at the graduate level leading to the M.S. and Ph.D. degrees. Currently, research is conducted in the fields of dynamical and physical meteorology, atmospheric chemistry, solid earth geophysics, and geochemistry. Applicants must have an excellent academic reputation in research and teaching, with some administrative experience, and must qualify for the rank of professor. The position is now open. Curriculum vitae and names of references should be sent to: **Dr. L. A. Karlovitz, Chairman, Search Committee, School of Mathematics, Georgia Institute of Technology, Atlanta, Georgia 30332. Telephone: 404-894-2700. Georgia Tech, a unit of the University System of Georgia, is an Equal Education and Employment Opportunity Institution.**

Position open: EXECUTIVE DIRECTOR of new citizens' futures center for the Northern Rockies region.

Requirements: Administrative and fund-raising experience; commitment to citizen action and to the Northern Rockies.

Salary: \$25,000 to \$35,000 per year, beginning 1 November.

Deadline for applications is 15 September 1981. For more information, write:

**Arnold Silverman
Department of Geology
University of Montana
Missoula, Montana 59802**

FACULTY POSITIONS AVAILABLE

The School for Field Studies mounts 1- or 2-month field projects in environmental/ecological sciences in January, May, June, July, and August for undergraduate students. Projects combine teaching and research work and include: **zoology**—Kenya, Galapagos; **marine sciences**—Cayman Islands, Alaska, Everglades; **earth sciences**—Iceland, Grand Canyon. Other sites (Hawaii, Baja, Wyoming, and British Columbia) and topics involving current environmental/ecological problems considered. Qualifications: advanced degree, thorough knowledge of site, and previous teaching experience and field leadership positions. Northeast residency preferred; 1982 positions. Send résumé with letter noting issues you are qualified to investigate to: **Director, The School for Field Studies, P.O. Box 171, Prudential Center, Boston, Massachusetts 02199. An Equal Opportunity Employer.**



Yale University

DIRECTOR PEABODY MUSEUM OF NATURAL HISTORY

Applications are invited for the position of Director of the Museum at the rank of full professor, and with appointment (according to field) to the Departments of Biology, Geology and Geophysics or Anthropology. Yale University is seeking a scholar of international reputation who will develop interdisciplinary research and teaching programs in the natural sciences through the Peabody Museum and the affiliated academic departments.

Applications, including a curriculum vitae and the names of three references, should be sent to Professor Keith S. Thompson, Dean of the Graduate School of Arts and Sciences, Yale University, P.O. Box 1504A, Yale Station, New Haven, CT 06520. Closing dates for applications—September 30, 1981.

Yale University is an equal opportunity, affirmative action employer.

MOLECULAR BIOLOGIST/ MICROBIOLOGIST

Responsible position available for an individual with training in molecular biology, microbiology or biochemistry to research and analyze the feasibility of microbial production of a variety of biological and chemical compounds of commercial importance. Responsibilities involve literature evaluation, design of research strategies and preparation of detailed research proposals that discuss biochemical analyses, genetic manipulations and the application of recombinant DNA methodologies. Position requires at least a Masters Degree or equivalent experience in either biochemistry, microbial physiology, genetics, molecular biology or recombinant DNA technology. Submit curriculum vitae and list of references to: **Personnel Manager, Department (J), GENEX Corporation, 12300 Washington Ave., Rockville, Md. 20852.**



DIRECTOR OF CLINICAL RESEARCH INTERFERON PROGRAM

Shell has an immediate opportunity for a director of clinical research as the Cetus-Shell Interferon Program moves into clinical testing. This director will have overall responsibility for developing strategy, and for conducting and managing clinical studies on interferons. The clinical director will also provide advice and recommendations to the Shell and Cetus managements on all aspects of the program, including the development of *in vitro* tests for product efficacy.

Requirements: M.D. with experience in Phase I, Phase II drug development. Background in oncology/virology is advantageous.

Letter of application and curriculum vitae should be sent in confidence to: R&D Director—Interferon, Shell Oil Company, 901 Grayson, Berkeley, California 94710.

Equal Opportunity Employer M/F

GROUP LEADER DRUG SAFETY EVALUATION

We are a national leader in the manufacture of ethical pharmaceutical products. An outstanding career opportunity is immediately available for a person with a PhD or equivalent and 4 to 6 years experience in the pharmaceutical industry conducting acute sub-chronic and chronic toxicologic protocols. Experience and/or interest in cardiovascular toxicology, immunotoxicology or renal/hepatic toxicity is also required. A candidate with experience in the chemical industry will also be considered. Responsibilities include planning, conducting and evaluating both short and long term animal toxicity studies that permit the evaluation of McNeil compounds to determine their relative safety and development potential.

We are a Johnson & Johnson Company and are headquartered in a ultra modern facility conveniently situated in a beautiful country setting just outside Philadelphia, Pa. In addition to a salary commensurate with experience and ability and a comprehensive benefits package, we offer unlimited potential for continued professional growth. For immediate consideration forward your resume including salary history and requirements to our Employment Manager.



Spring House, Pa. 19477

Leadership Beyond Compliance, M/F/H/V
A Johnson & Johnson Company

CHIEF, CONTRACEPTIVE EVALUATION BRANCH

The Center for Population Research, of the National Institute of Child Health and Human Development, has an opening for a Medical Officer, GS-602-15, (\$46,276-\$50,112.50 per annum plus opportunity for physician's bonus of from \$5,000 to \$10,000 depending upon creditable service and length of contract) or Health Scientist Administrator (\$44,547-\$50,112.50 per annum). The successful applicant will serve as Chief of the Contraceptive Evaluation Branch and will direct a major contract program comprising clinical, epidemiological and biomedical research on the medical effects, efficacy, and mechanisms involved in adverse effects of methods of fertility regulations. The Branch Chief will be responsible for assessing the entire research program and making decisions concerning the scope and content of the research to be solicited, supported and managed by the Contraceptive Evaluation Branch.

An applicant for Medical Officer must possess a M.D. degree and have a strong administrative background, as well as substantive experience in epidemiology and biomedical research. Since responsibility for patient care is not involved, licensure is not a mandatory requirement.

An applicant for Health Scientist Administrator must possess a Ph.D., D.P.H. or equivalent degree or experience in epidemiology or biostatistics and post doctoral experience in scientific administration, and epidemiology or other relevant areas of biomedical research.

One year of experience must have been equivalent to the GS-14 level.

Please send Personal Qualification Statement, SF-171, Curriculum Vitae and bibliography by September 15, 1981 to NICHD, Bldg. 31, Room 2A25, 9000 Rockville Pike, Bethesda, MD 20205, Attn: Mettah Kollmann. (Form is available from any Federal employment office.)

POSITIONS OPEN

MARINE SCIENCE/SCIENCE IN SOCIETY

The Department of Earth and Environmental Sciences and the Science in Society Program at Wesleyan University seek qualified applicants for a tenure-track joint faculty appointment to begin 1 July 1982. The position is for an assistant professor (assuming all requirements for the Ph.D. are completed at the time of appointment) whose area of specialization is marine science of the coastal zone and/or inner continental shelf. Appropriate research interests might include evaluation and management of coastal and nearshore marine resources, societal reliance and impacts on these resources, and the role of marine science in addressing issues of national and international concern. Teaching responsibilities will be divided equally between both academic programs. Submit curriculum vitae and three letters of reference to either: Dr. James T. Gutmann, Earth and Environmental Sciences, or Dr. Earl D. Hanson, Science in Society Program, Wesleyan University, Middletown, Conn. 06457.

An Equal Opportunity/Affirmative Action Employer

MICROBIOLOGIST

Rapidly growing industry leader in biotechnology seeks M.S. or Ph.D. microbiologist with experience in isolating, culturing, and identifying microorganisms. Pollution control and chemical production application biotechnology are the focus of several research programs. Experience in genetics and small-scale fermentations a definite plus. Competitive salary and full fringe benefit package.

Box 208, SCIENCE

NEUROANATOMY

Neuroanatomist specializing in visual system with substantial competency in gross anatomy. Assistant professor (possibly associate); tenure-track position. Begins July 1982; teach neuroanatomy and part of gross anatomy to optometry students, participate in doctoral program in vision science, and set up active research program. Send curriculum vitae with names of three references to: Dr. Jerry Rapp, State University of New York, College of Optometry, 100 East 24 Street, New York, N.Y. 10010. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

MASS SPECTROSCOPIST—RICE UNIVERSITY

The Department of Biochemistry of Rice University announces the availability of a staff position for an experienced bioorganic mass spectroscopist to operate GC-MS unit and to participate in research on sterol biosynthesis and chemistry of complex lipids. Additional experience in IR and NMR desired but not essential. Salary dependent on qualifications and experience. Position available immediately. Interested persons should send résumé and the names of three references to: G. J. Schroepfer, Jr., Biochemistry Department, Rice University, Houston, Texas 77001. *An Equal Opportunity/Affirmative Action Employer.*

PHARMACOLOGY CHAIRPERSON AND FACULTY urgently needed. Teaching and administrative practice essentials. Research encouraged. Salary according to experience. Newly created accredited school. Please send résumé and names of three references to: Chairman, Department of Pharmacology, Ponce School of Medicine, Box 7004, Ponce, P.R. 00732. *An Equal Opportunity Employer.*

PHARMACOLOGIST. Emory University has a position open at the assistant professor or associate professor rank. Candidates must have doctoral or equivalent degree; for assistant professor rank at least 1 year of postdoctoral research experience and potential to develop an independent research program; for associate professor rank, five or more years of experience in teaching and research in pharmacology or related discipline, evidence of excellent independent research, and current grant support. Strong commitment to teaching and research is essential. Preferred research interests are cardiovascular-renal system, autonomic nervous system, receptors, cellular and molecular pharmacology, or autacoids. Letters of application, curriculum vitae, a brief description of career goals and proposed research program, and three letters of recommendation must be received by 31 October 1981. Address to: Dr. Neil C. Moran, Chairman, Department of Pharmacology, Emory University, Atlanta, Ga. 30322.

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

PHARMACOLOGIST—Applicants are invited for an associate professorship (tenure track) in the Department of Oncology, University of Miami School of Medicine, in conjunction with the Comprehensive Cancer Center. Applicants should have a M.D. or Ph.D. degree with appropriate postdoctoral experience in pharmacologic disposition of antitumor drugs in vivo.

It is essential that applicants shall have an unqualified commitment to research and active research in a funded or potentially fundable area.

Position available immediately. Application deadline: 15 September 1981. Send curriculum vitae, selected reprints, and a concise description of current and prospective research programs to: A. Ganju Krishan, Scientific Director, Comprehensive Cancer Center, D8-4, University of Miami School of Medicine, P.O. Box 016960, Miami, Florida 33101. *An Affirmative Action/Equal Opportunity Employer.*

PHYSIOLOGIST (Marshall University School of Medicine). Tenure-track appointment at rank of assistant professor is available immediately. Appointee will be responsible for developing an independent research program and will participate in teaching medical and graduate students. Candidates must have completed a 1- or 2-year postdoctoral program. Preference will be given to individuals with experience in mammalian physiology, especially gastrointestinal tract. Application deadline: 11 September 1981. Send curriculum vitae and names of three references to: Dr. Eugene Aserinsky, Professor and Chairman, Department of Physiology, School of Medicine, Marshall University, Huntington, W. Va. 25701. *An Equal Opportunity Employer.*

POSTDOCTORAL FELLOW: Research in genetics and molecular biology of *Bacillus subtilis* phages. Part of a vigorous and growing group of molecular biologists. Opportunity for recombinant DNA experience. Minimum of 2 years; possibility of long-term position with increased responsibilities. Send curriculum vitae and names of three references to: Charles Stewart, Department of Biology, Rice University, Houston, Texas 77001. *Equal Opportunity/Affirmative Action Employer.*

RESEARCH SCIENTIST/ RECOMBINANT DNA

Italian company is seeking highly qualified scientists interested in developing industrial products through Recombinant DNA technology. Candidates must have post-doctoral experience in cloning and expression of cloned genes. Successful applicants will join an outstanding team of scientists and will work in modern and well-equipped facilities located in the Milan area. The position offers an excellent opportunity for professional recognition and career growth. Salary is commensurate to qualifications and experience. Please send your resume and references in strict confidence to Box 224, SCIENCE.

International Genetic Sciences, Inc. is organizing an annual conference on Introduction of Genetic Materials into Eucaryotic Cells: Present State and Future Prospects

Among the lecturers:

H. Goodman (U. Calif., S.F.), A. Graesman (Free U. W. Berlin), S. Izhar (Volcani Center, Israel), A. Loyer (Hebrew U. Jerusalem), D. Papahadjopoulos (U. Calif., S.F.), F. Ruddle (Yale U.), W. Rutter (U. Calif., S.F.), R. Rott (inst. Virology, Gissen, W. Germany), R. Shimke (Stanford U.)

Among the topics to be included:

1. Transfer of Nucleic Acid into animal cells.
2. Introduction of genes into plant cells.
3. Use of Liposomes as a carrier of biological materials.
4. Fusion mediated transfer of biological materials into animal cells.

Cost of \$450 includes room and meals. No registration fees, Number of participants limited to sixty. The conference to be held at the Harrison Conference Center, Glen Cove, L.I., N.Y. Arrival Nov. 22, 1981; departure Nov. 25, 1981.

Interested scientists, please send as soon as possible information including name, address, phone, present position and areas of interest. Send to:

International Genetic Sciences, Inc.
155-25 Styler Rd, Jamaica, NY, USA 11433
or call (212) 526-0400

POSTDOCTORAL FELLOWSHIP

Applications are invited from recent Ph.D. or M.D. graduates who wish to study the biosynthesis of lysosomal hydrolases, the lysosomal membrane, lysosomal storage disease, and applications of restriction enzymes to elucidation of gene defects. The fellowship is renewable for up to 3 years and salary (\$14,100 in the first year) follows the scale prescribed by the MRC. This position will be available August 1, 1981. The laboratory is part of the Research Institute which sponsors the large complement of full time research in biochemistry, genetics and related disciplines.

Send resume and three letters of reference to: **Dr. J. A. Lowden, Neurosciences Division, The Hospital for Sick Children, 555 University Avenue, Toronto, Ontario, Canada M5G 1X8** or during Canadian Postal strike submit to: **The Hospital for Sick Children, c/o Henry Weiner Limited, P.O. Box N, Buffalo New York 14225.**

HOFFMANN-LA ROCHE

Immunology/ Hybridoma Research

Hoffmann-La Roche, a leader in the expanding field of biotechnology, is establishing a group in basic and applied hybridoma research. This group will be an integral part of the Department of Molecular Genetics which has on-going research programs in the molecular biology of gene structure and expression, and in protein isolation and microchemistry. Research emphasis in the hybridoma group will be on isolation and mechanism of action of lymphokines and other immunoregulatory molecules, and the production of monoclonal antibodies in support of overall departmental objectives.

Successful candidates will be expected to design and implement an imaginative and productive research program. Evidence of creative ability and a strong commitment to research is required. Consideration will be given to applicants at the Ph.D. and non-Ph.D. levels with a background in hybridoma technology, cellular immunology or immunochemistry.

Roche offers outstanding fringe benefits and an environment that encourages professional growth. Qualified applicants are invited to submit a curriculum vitae, a statement of research interests and the names of three references, in confidence to: Mrs. Eleanor M. Malone, Professional Placement Specialist.



HOFFMANN-LA ROCHE INC.
Nutley, NJ 07110

*Products That Matter
From People Who Care*

An Equal Opportunity Employer

ASSOCIATE DIRECTOR GI PHARMACOLOGY

SmithKline Corporation, a diversified multinational health care firm is seeking a Pharmacologist to staff and lead a research group involved in the discovery and characterization of drugs for the treatment of gastrointestinal diseases. This position offers significant opportunities for innovative basic research and participation in the development of new research directions in the Research Division.

Preference will be given to candidates who have:

- A PhD in Pharmacology or GI Physiology
- 6 or more years research experience and training beyond the doctorate in GI Pharmacology
- A significant bibliography of research papers
- Demonstrated capability in initiating and conducting independent and unique research
- Proven administrative and supervisory experience
- Excellent communicative skills

SmithKline offers an excellent benefits and compensation program, including an attractive relocation package along with opportunity for personal and professional growth. Please send resume in confidence to: Mr. W.B. Flagg, **SMITHKLINE CORPORATION**, 1540 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, F/H/M/V.

**SmithKline
CORPORATION**



Head Office and Plant
6814 Cadempino - TI (Switzerland)
P. O. Box 6812
Tel. 091-56 43 51
Telex: Lph 79 386

We are pleased to inform you, that we are in the position to provide commercially a specially purified group of proteins.

Ultrapur Nerve Growth Factor from Mouse Submaxillary Gland (MSG-NGF) NGF Antiserum - Purified NGF Antibodies.

Ultrapur Epidermal Growth Factor from Mouse Submaxillary Gland (MSG-EGF) EGF Antiserum - Purified EGF Antibodies.

Therefore we are offering you a product whose biological effect is sure and not polluted by «side-effects». The guaranteed sterility makes the use of these substances easy for every type of experimental investigation.

Sterile Products		Size	Price \$
Code no.			
NERVE GROWTH FACTOR - NGF -			
0101	0.020 mg		75
0102	0.050 mg		165
0103	0.100 mg		300
NGF PURIFIED ANTIBODIES			
0301	0.100 mg		60
0302	0.200 mg		110
EPIDERMAL GROWTH FACTOR - EGF -			
1101	0.020 mg		46
1102	0.050 mg		105
1103	0.100 mg		190
EGF PURIFIED ANTIBODIES			
1301	0.100 mg		60
1302	0.200 mg		110
Antisera			
NGF ANTISERUM			
0201	1 ml		50
0202	2 ml		90
EGF ANTISERUM			
1201	1 ml		50
1202	2 ml		90

N.B. For higher sterile or non sterile quantities, please apply to our Marketing Department.

Circle No. 19 on Readers' Service Card

POSITIONS OPEN

MOLECULAR BIOLOGY OF PLANT PATHOGENS CORNELL UNIVERSITY

The Department of Plant Pathology invites applications for a tenure-track appointment at the assistant professor level. The successful applicant is expected to develop a program of research on the molecular biology and genetics of plant pathogens and to contribute to graduate teaching. Research will focus on application of molecular biological methods to studies of the molecular bases of pathogenicity in plant pathogenic organisms. A Ph.D. is required and postdoctoral experience in molecular biology is preferred. Submit a letter of application, transcripts, résumé (including publication list), and names and addresses of four referees to: **Search Committee, Department of Plant Pathology, 334 Plant Science Building, Cornell University, Ithaca, N.Y. 14853. Telephone: 607-256-3243.** Applications must be received by 1 October 1981. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

PLANT BIOCHEMISTS

The Department of Agricultural Biochemistry at the University of Nebraska-Lincoln invites applications and nominations for two tenure-track faculty positions with research interests in (i) **PLANT MEMBRANES** and (ii) **PLANT GROWTH AND DEVELOPMENT**. Salary and rank are open for both positions. Application deadlines are 30 October 1981 and 31 December 1981, respectively. Postdoctoral experience is desirable. Although these 12-month positions will primarily entail basic research within the Experiment Station, the appointees will also participate in the teaching program. Résumé and names of three references should be sent to: **Dr. R. V. Klucas, Department of Agricultural Biochemistry, The University of Nebraska-Lincoln, Lincoln, Nebraska 68583-0718. Telephone: 402-472-2932.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN IN THE DIVISION OF PHYSIOLOGY, CELLULAR AND MOLECULAR BIOLOGY

National Science Foundation (NSF), Division of Physiology, Cellular and Molecular Biology, is seeking qualified applicants for two positions: **Associate Program Director and Program Director in the Developmental Biology Program**. The appointments will be rotational for 1 or 2 years with the possibility of extension to 3 years. The positions are open immediately. Applicants should have a Ph.D. or equivalent, postdoctoral research experience in areas related to developmental biology, and 6 years of independent research experience. The positions are exempted from the competitive civil service; the associate program director will be at the EC/14 (equivalent to GS-14) level, \$37,871 to \$49,229 per annum, and the program director will be at the EC-14/15 (equivalent to GS-14/15) level, \$37,871 to \$57,912 (limited by statute to \$50,112.50). Send résumés to: **NSF, Personnel Administration Branch, EX 81-34, Room 212, 1800 G Street, NW, Washington, D.C. 20550, attention: E. Paul Broglie.** For details concerning the positions, contact: **Dr. James W. Campbell, Division Director, Physiology, Cellular and Molecular Biology, telephone: 202-357-9400.** *NSF is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION UNIVERSITY OF LOUISVILLE

Study of intermolecular interactions in crystals of amino acids and peptides, sponsored by the National Institutes of Health. Knowledge of crystallography and Fortran computer programming is essential. An ability to make use of SCF-MO computer programs such as GAUSSIAN is also highly desirable. Good computer facilities are available, including molecular graphics display. The project includes the study of hydrogen bonds as well as nonbonded interactions in crystals. Initial appointment is for 1 year, with possible renewal. Submit résumé and three letters of recommendation to: **Dr. D. E. Williams, Department of Chemistry, University of Louisville, Louisville, Ky. 40292.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately to study mode of action of antimalarial drugs. Research background in membrane or potential biochemistry preferred. Salary range: \$13,000 to \$15,000. Send résumé and names and addresses of three references to: **Dr. Coy D. Fitch, Division of Endocrinology, St. Louis University School of Medicine, 1402 South Grand Boulevard, St. Louis, Mo. 63104.** *An Equal Opportunity/Affirmative Action Employer, M/F/H.*

POSITIONS OPEN

A POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE is sought for work in the Lions' Sight Centre to undertake an exploratory study on the etiology, pathogenesis, and possible prevention or cure of progressive myopia. The project will require a thorough search of medical literature, leading to a proposal for specific studies on myopia in human subjects or animal models. One or more of these studies will then be carried out as a pilot project, under the direction of **Dr. Arthur Spira** and **Dr. William Stell** of the Sight Centre.

Salary of \$17,000 and reasonable operating costs will be provided from a private donor for 1 year; continuation will depend upon achieving success in pilot studies and obtaining continuing support from other sources.

Applicants may obtain further information from, and apply by submitting curriculum vitae and three letters of reference to:

**Dr. Arthur W. Spira
Lions' Sight Centre
c/o Lincoln-McKay Development Co. Ltd.
Suite 614, 816 7th Avenue, NW
Calgary, Alberta, Canada T2P 1A1
Telephone: 403-284-6894**

POSTDOCTORAL POSITION

Available immediately to study detoxication pathways in invertebrates. Applicants with strong background in biochemistry and toxicology preferred. Send curriculum vitae and names of three references to: **Dr. M. Agosin, University of Georgia, Riverbend Research Laboratories, Athens, Ga. 30602.**

POSTDOCTORAL POSITION—Biochemist to study the interaction of membrane-active chemicals with biological membranes and membrane proteins. Research background in membrane or protein biochemistry highly preferred, as is experience with biochemical and biophysical characterization of cytochromes P-450. Salary range: \$13,000 to \$15,000. Send curriculum vitae and three letters of recommendation before 4 September 1981 to: **Dr. Terry L. Miller, Department of Agricultural Chemistry and Environmental Health Sciences Center, Oregon State University, Corvallis, Oregon 97331.** *An Equal Opportunity/Affirmative Action Employer, in compliance with Section 504 of the Rehabilitation Act of 1973.*

The University of North Carolina at Chapel Hill. **POSTDOCTORAL POSITIONS IN MARINE SCIENCE.** Fields of specialty, responsible staff scientist, and location as follows: **marine benthic ecology, C. H. Peterson, Morehead City; phytoplankton ecology/microbiology, Hans W. Paerl, Morehead City; and physical oceanography/gulf stream dynamics, John M. Bane, Chapel Hill.** Initial appointment through June 1982 with continuation possible. Send curriculum vitae and names of three references by 4 September to:

**Dr. Dirk Frankenberg, Director
Marine Sciences Program
12-5 Venable Hall 045-A
University of North Carolina
Chapel Hill, N.C. 27514**

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

POSTDOCTORAL POSITION STANFORD UNIVERSITY SCHOOL OF MEDICINE

A postdoctoral position is available starting fall 1981 for research in the control of differentiation of muscle cells in tissue culture. Somatic cell genetics, molecular genetics, and biochemical approaches are being used to study Duchenne's muscular dystrophy and myasthenia gravis. Cell culture experience and expertise in immunological approaches preferred. Submit curriculum vitae and names of three references to: **Dr. Helen M. Blau, Department of Pharmacology, Stanford University School of Medicine, Stanford, Calif. 94305.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS available immediately in biophysical chemistry. Projects involve quasi-elastic light scattering, forced Rayleigh scattering, and nuclear magnetic resonance. Salaries: \$13,000 to \$16,000. Send résumé and three letters of recommendation to: **Don A. Gabriel, M.D., Division of Hematology/Oncology, University of North Carolina School of Medicine, Chapel Hill, N.C. 27514, or to: Dr. C. S. Johnson, Jr., Department of Chemistry 045A, University of North Carolina, Chapel Hill, N.C. 27514.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION to study health effects of energy-related pollutants. Background in toxicology, microbiology, or immunology desirable. Send curriculum vitae and names of three references to:

**Dr. James J. McGrath
Department of Physiology
Texas Tech University Health Sciences Center
Lubbock, Texas 79430**

POSTDOCTORAL POSITION available immediately for a pharmacologist-toxicologist to study aspects of organophosphate toxicology. Project will focus on the production of monoclonal antibodies that react with organophosphate compounds. Previous immunology-cell culture experience helpful. Send application and letters of reference to: **Dr. Kenneth W. Hunter, Jr., Directorate for Personnel/Manpower, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Maryland 20014.** Position available for 1 year, with excellent prospects for second and third years. *An Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE IN MEMBRANE SURFACE CHEMISTRY/BIOPHYSICS to study photoelectric effects in rhodopsin/bacteriorhodopsin model membranes. Background in surface chemistry/physical chemistry and/or electrophysiology desirable. Immediate opening. Send résumé, reprints (if any), and three references to:

**Dr. Felix T. Hong
Department of Physiology
Wayne State University School of Medicine
Detroit, Mich. 48201**

An Equal Opportunity/Affirmative Action Employer

RESEARCH ASSISTANT PROFESSOR OF PHARMACOLOGY, Ph.D. with demonstrated expertise in neuropharmacology and especially neurotransmitter release, turnover, and receptor binding and also experience in the physiology and therapy of experimental convulsive disorders. Research directed toward mechanisms of seizure disorders and development of new techniques for evaluation of candidate antiepileptic drugs. Salary for this outstanding faculty position contingent on qualifications. Submit résumés, with references and publications, by 25 September 1981 to: **Dr. Ewart A. Swinyard, Department of Biomedical Pharmacology and Toxicology, College of Pharmacy, University of Utah, Salt Lake City, Utah 84112.** *The University of Utah is an Affirmative Action/Equal Opportunity Employer.*

RESEARCH ASSOCIATE POSITION in biophysics is available on or after 1 September 1981. The research involves the application of Mössbauer and EPR spectroscopies to obtain structural and functional information about metalloproteins and related model compounds. Recent doctorates in physics, chemistry, or biochemistry are invited to apply. Experiences in biophysical techniques and in electronics are desirable. Experimentalist is preferred. Theorist with relevant background will be considered. Send résumé and names of three references to: **Dr. B. H. Huynh, Physics Department, Emory University, Atlanta, Ga. 30322.** *Emory University is an Affirmative Action Employer.*

RESEARCH ASSOCIATE IN PSYCHOACOUSTICS. Position available immediately for recent Ph.D. in experimental psychology. Responsibilities will include collaboration in studies of the perception of complex sounds by normal and impaired listeners and the development of independent research projects. Requires familiarity with computer-controlled stimulus generation and data collection systems (preferably PDP-11) and some training in cognitive psychology. Send résumé and names of three references to: **C. S. Watson, Boys Town Institute for Communication Disorders in Children, 555 North 30 Street, Omaha, Nebr. 68131.** *An Equal Opportunity Employer.*

RESEARCH IMMUNOLOGIST. Immediate opening in a growing biotechnology company for a Ph.D. immunologist with 1 to 2 years of experience in human lymphocyte differentiation antigens. Send curriculum vitae to:

**Dennis Murray
P.O. Box 18029
Austin, Texas 78760**

VACANCY ANNOUNCEMENT IN THE NATIONAL INSTITUTES OF HEALTH PUBLIC HEALTH SERVICE DEPARTMENT OF HEALTH AND HUMAN SERVICES

The National Institutes of Health invites nominations and applications for the position of **associate director for medical applications of research**. This is a Civil Service position in the Senior Executive Service (SES), with a salary range from \$52,247 to \$57,673 per annum, depending on qualifications (currently, salary limited to \$50,112.50). Candidates may be eligible for Physicians Comparability Pay up to \$10,000 per year. Alternately, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service. The individual selected, if not presently in the SES, must serve a 1-year probationary period.

The position of associate director for medical applications of research is that of principal adviser to the Institutes and to the director, NIH, on matters concerning patents, licensure, and linkages to industrial developers of health technology. Further information about the position, including qualifications and requirements, may be obtained by **telephoning: Sharon Posy on 301-496-6521**. Applications (Personal Qualifications Statement, SF-171) are to be sent to: **Chairman, Search Committee for Director, OMAR, National Institutes of Health, Building 1, Room 132, 9000 Rockville Pike, Bethesda, Maryland 20205**. Current curriculum vitae and bibliography must accompany all applications. *Applications from women and/or minority group members are especially solicited.*

Applications will be accepted through 15 October 1981 and must be postmarked by that date.

An Equal Opportunity Employer

CHANCELLOR

UNIVERSITY OF CALIFORNIA SAN FRANCISCO

The President and The Regents of the University of California invite nominations and applications for the position of Chancellor of the San Francisco campus of the University. The appointment will be effective 1 July 1982.

The University of California, San Francisco (UCSF), is one of the nine campuses of the University of California, and the only one devoted solely to the health sciences. UCSF's mission is to train health practitioners in dentistry, medicine, nursing, pharmacy, and the allied health professions, as well as research investigators and teachers in the basic biological sciences. This is being accomplished in the context of the most advanced developments in patient care and biomedical research, and through increasing involvement in innovative community outreach and public service programs.

There are two general acute-care hospitals, an Ambulatory Care Center, and the Langley Porter Psychiatric Institute which is devoted to psychiatric patient care, teaching, and research. In addition, the campus has affiliated programs in some 150 institutions throughout California.

The chancellor is the chief executive officer of the campus and is responsible to the president. Within University policy the chancellor exercises very broad, delegated powers and is responsible for all aspects of campus administration. Candidates should have demonstrated administrative experience in the conduct of the affairs of substantial organizations and should have an appropriate scholarly record. Applications and nominations, accompanied by current résumés, may be addressed to:

**The President
714 University Hall—CSF
University of California
Systemwide Administration
Berkeley, California 94720**

They should be received no later than 30 September to be given full consideration.

An Equal Opportunity/Affirmative Action Employer

Immunologist

Sterling-Winthrop Research Institute announces a PhD opening in its immunology section. This position will be responsible for applying research expertise in cell-mediated immunity.

The successful candidate will have a PhD or equivalent with a minimum of 1 year post doctoral experience in immunology.

We offer an attractive salary and benefit package and the opportunity for career growth. The institute is located near Albany, New York which is in the center of major summer and winter recreational activities.

Please send your curriculum vitae including salary requirements in confidence to:

**Mr. John Barry
Employment Administrator**



**STERLING-WINTHROP
RESEARCH INSTITUTE**

*A Division of Sterling Drug Inc.
Columbia Turnpike
Rensselaer, N.Y. 12144*

An Equal Opportunity Employer

SCIENTIFIC OFFICER POSITIONS

The Office of Naval Research is seeking two Scientific Officers to plan and manage contract Research and Development (R&D) Programs. The specific positions are:

- **Materials Scientist (GS-13 \$32,048—\$41,660).**
The specific areas of R&D include metallurgy, ceramics, polymers, or composites.
- **Statistician (GS-12 \$26,951—\$35,033).**
The specific areas of R&D include signal processing, computational statistics, or related areas.

Candidates must have a PH.D (or equivalent). Three years of progressively responsible professional experience comparable to the next lower level in the federal service, are required. Equivalent combinations of pertinent professional experience and graduate experience are acceptable.

Interested persons should send a Standard Form SF-171, Personal Qualifications Statement (available at Federal Job Information Offices) to:

**OFFICE OF NAVAL RESEARCH
Western Regional Office
Code 702 S
1030 E. Green Street
Pasadena, CA 91106**

**U.S. Citizenship Required
An Equal Opportunity Employer**

POSITIONS OPEN

RESEARCH ASSOCIATE

Physiologist/biochemist to study interaction of nutrition and hormones on perinatal lung maturation/metabolism. Research background in organ perfusion, lipid chemistry, enzyme isolation, and kinetics desirable. Position available 1 September 1981. Send curriculum vitae to: **Dr. Rodney A. Rhoades, Professor and Chairman, Department of Physiology, Indiana University School of Medicine, Indianapolis, Indiana 46223. Equal Opportunity/Affirmative Action Employer.**

HOSPITAL FOR SPECIAL SURGERY CORNELL MEDICAL CENTER

Research neurophysiologist (Ph.D.) and/or postdoctoral fellow to conduct ongoing research in spinal cord monitoring during corrective spinal surgery and to develop electrophysiological techniques for intraoperative recording of evoked responses. For further information, contact: **Peter Tsairis, M.D., Director of Neurology, Hospital for Special Surgery-Cornell Medical Center, 535 East 70 Street, New York, N.Y. 10021. An Equal Opportunity Employer.**

The Department of Biochemistry, Rice University, announces the availability of **RESEARCH POSITIONS** for programs of research in the areas of cholesterol biosynthesis, sphingolipid chemistry and metabolism, and stereochemistry of enzymatic reactions. Interested candidates should send résumé, transcripts, and names of three references to:

**Dr. G. J. Schroepfer, Jr.
Department of Biochemistry
Rice University
Houston, Texas 77001**

Rice University is an Equal Opportunity/Affirmative Action Employer.

SENIOR MARINE CHEMIST

Battelle, one of the world's leaders in contract R & D, is seeking an individual with a Ph.D. in analytical chemistry or chemical oceanography and extensive experience in the measurement of trace organic compounds in the marine environment.

You will lead a marine chemistry group in the analysis of GC, HPLC, and GC/MS of toxic and hazardous compounds in marine environmental samples. This is a senior-level position involving the development of new research thrusts, collaboration with senior scientists in the biological and ecological sciences, and attracting sponsored research.

Battelle-New England Marine Research Laboratory is located on an attractive 10-acre campus in Duxbury, Massachusetts, directly on Cape Cod Bay. We offer an excellent opportunity for career development, competitive salary, and generous fringe benefits. Send résumé in confidence to:



**Director, New England Marine Research Laboratory
P.O. Drawer AH
Duxbury, Mass. 02332
An Equal Opportunity Employer**

Job opening: **SYSTEM SOFTWARE STAFF** of the computer-based Education Research Laboratory (PLATO), with duties in maintenance, development, system management, and system design. Qualifications: bachelor's degree with experience in system software and/or CAI programming. Should be able to work on own initiative in group of 10 to 20 people. Starting salary: \$16,000 to \$19,000. Send letter and résumé to: **Dr. R. K. Rader, 252 ERL, 103 South Mathews, University of Illinois, Urbana, Ill. 61801. Closing date: 15 September 1981.**

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

VETERINARY VIROLOGIST/CELL BIOLOGIST

Leading animal vaccine manufacturer has an excellent opportunity for individual with Ph.D. in veterinary virology. Duties include designing, scheduling, coordinating, supervising, and direct participation in the development of new animal viral vaccines. The candidate must have 3 to 5 years of experience in animal virology and cell-culture work; managerial and supervisory skills are required. We offer a competitive salary and comprehensive benefits package. To apply, submit résumé, including current salary to: **Personnel Office, Beecham Laboratories, Inc., East Lincoln Road, White Hall, Ill. 62092.**

POSITIONS OPEN

UNIVERSITY-GOVERNMENT INTERFACE POSSIBILITIES

Chemical Systems Laboratory has numerous openings for 6-month to 1-year research appointments for chemistry, physics, and toxicology faculty members on leave from U.S. academic institutions. Starting date is negotiable. Specialties of interest vary considerably but relate to new concepts in analytical chemistry and toxicology, methodology, immunochemistry, surface chemistry, chemical detection, reaction mechanisms, air filtration, aerosol and cloud physics, laser physics and chemistry, catalysis, organic synthesis, chemical and physical decontamination, and spectroscopy. Appointees may participate in basic and applied research projects, largely experimentally oriented. All appointments are under the conditions of the Intergovernmental Personnel Act of 1970 which enables the Army to contract with the educational institution and the academic employee. Extensions to a second year are permissible. Interested applicants, who must be U.S. citizens, may obtain details on specific research opportunities from: **Dr. Ed Pozniomek, Chief Scientist, Research Division, Chemical Systems Laboratory, Aberdeen Proving Ground, Md. 21010; telephone: 301-671-4144.**

An Equal Opportunity Employer

VICE PRESIDENT FOR HEALTH SCIENCES

West Virginia University, Morgantown, West Virginia, seeks a **Vice President for the Health Sciences**. The West Virginia University Medical Center houses a major teaching hospital and health professional educational programs in medicine, dentistry, nursing, and pharmacy. The position requires an individual with a doctoral degree in one of the major health sciences who has had clinical and/or investigative academic and administrative experience at a university with a major medical center. Those qualified and interested should send curriculum vitae to: **Dr. B. A. Nugent, Vice President for Academic Affairs, West Virginia University, Medical Center Room 1157, Basic Sciences Building, Morgantown, West Virginia 26506, by 1 November 1981.**

An Equal Opportunity Employer

SYMPOSIA

SYMPOSIUM—HUMAN GENETICS AND MEMBRANE BIOLOGY 1 and 2 October 1981

**Dight Institute for Human Genetics
40th Anniversary Symposium
University of Minnesota**

The symposium will focus on recent advances in membrane biology and biochemistry as applied to human genetic disorders characterized by structural and functional membrane alterations. Lectures by **S. J. Singer (University of California, San Diego), Leonard D. Kohn (National Institutes of Health), Frank Ruddle (Yale University), Joseph F. Hoffman (Yale University), Jesse Roth (National Institutes of Health), and George Snell (Bar Harbor); 21 other invited papers. For information, write to: **Dight Institute for Human Genetics, 400 Church Street, SE, Minneapolis, Minn. 55455, or telephone: 612-373-3792.****

IOWA GENETICS SYMPOSIUM Genetic Approaches to the Study of Metabolic Processes

16 and 17 October 1981; Iowa City, Iowa. Sponsored by University of Iowa Genetics Program. Contact: **Director of Conferences, Iowa Memorial Union, The University of Iowa, Iowa City, Iowa 52242.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS. NIH-sponsored multidisciplinary research training program. Cardiovascular dynamics, regulation pathophysiology, instrumentation. Myocardial function, metabolism, ischemia. Biochemical sensors and materials. Animal models.

Contact: **Dean Franklin, Director, Dalton Research Center, University of Missouri-Columbia, Columbia, Mo. 65211.**

FELLOWSHIPS

IMPERIAL CANCER RESEARCH FUND POSTDOCTORAL RESEARCH FELLOWSHIP

Applications are invited for a 3-year postdoctoral appointment in the joint laboratories of tumour virology and viral leukaemogenesis at Lincoln's Inn Fields to apply recombinant DNA techniques to the study of virus-induced oncogenesis. Molecular cloning of RNA tumour viruses is being undertaken to investigate, by a combination of restriction enzyme analysis, DNA sequencing and DNA transfection, the structure and function of mutant and wild-type viral transforming genes, and their interaction with host cell sequences in which they integrate.

Salary range: £7700 to £9750, plus London Allowance of £967 per year, with entry point according to qualifications and experience.

Further information from: **Dr. John Wyke, telephone: 01 242 0200, extension 270.** Applications with curriculum vitae and names and addresses of two referees should be sent to: **Secretary, Imperial Cancer Research Fund, Lincoln's Inn Fields, London WC2., England by 4 September 1981, quoting reference 126/81.**

IMPERIAL CANCER RESEARCH FUND POSTDOCTORAL RESEARCH FELLOWSHIP

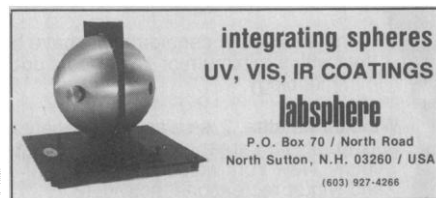
Applications are invited for a 3-year postdoctoral appointment in the viral leukaemogenesis laboratory at Lincoln's Inn Fields to work on control of expression of membrane proteins during differentiation of erythroblasts transformed by avian retrovirus, in particular avian erythroblastosis virus.

Salary range: £7700 to £9750, plus London Allowance of £967 a year, with entry point according to qualifications and experience.

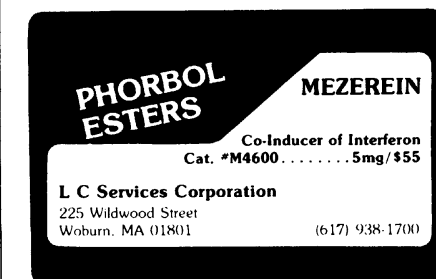
Further information from: **Dr. M. Hayman, telephone: 01 242 0200, extension 448.** Applications including full curriculum vitae and names and addresses of two referees should be sent to: **Secretary, Imperial Cancer Research Fund, Lincoln's Inn Fields, London WC2., England by 4 September 1981, quoting reference 123/81.**

MARKETPLACE

UNUSED: Gould Brush recording instruments. Includes: 8-channel model 480 Polygraph, 8 biophysical coupler-amplifiers; 4 universal AC/DC couplers; 2 transducer couplers; 1 integrator coupler; 1 bio-tach coupler; plus a Statham SP2202 blood flow meter with 4 flow probes. The amplifiers are mounted in an 8-channel rack frame, and the entire record system installed in a 6' portable rack mount. Entire package: \$18,000, which represents 50 percent of replacement cost. Some components may be purchased individually. For more information, contact: **Dexter Institute for Cardiovascular Research, 9500 North Territorial Road, Dexter, Mich. 48130. Telephone: 313-426-4632.**

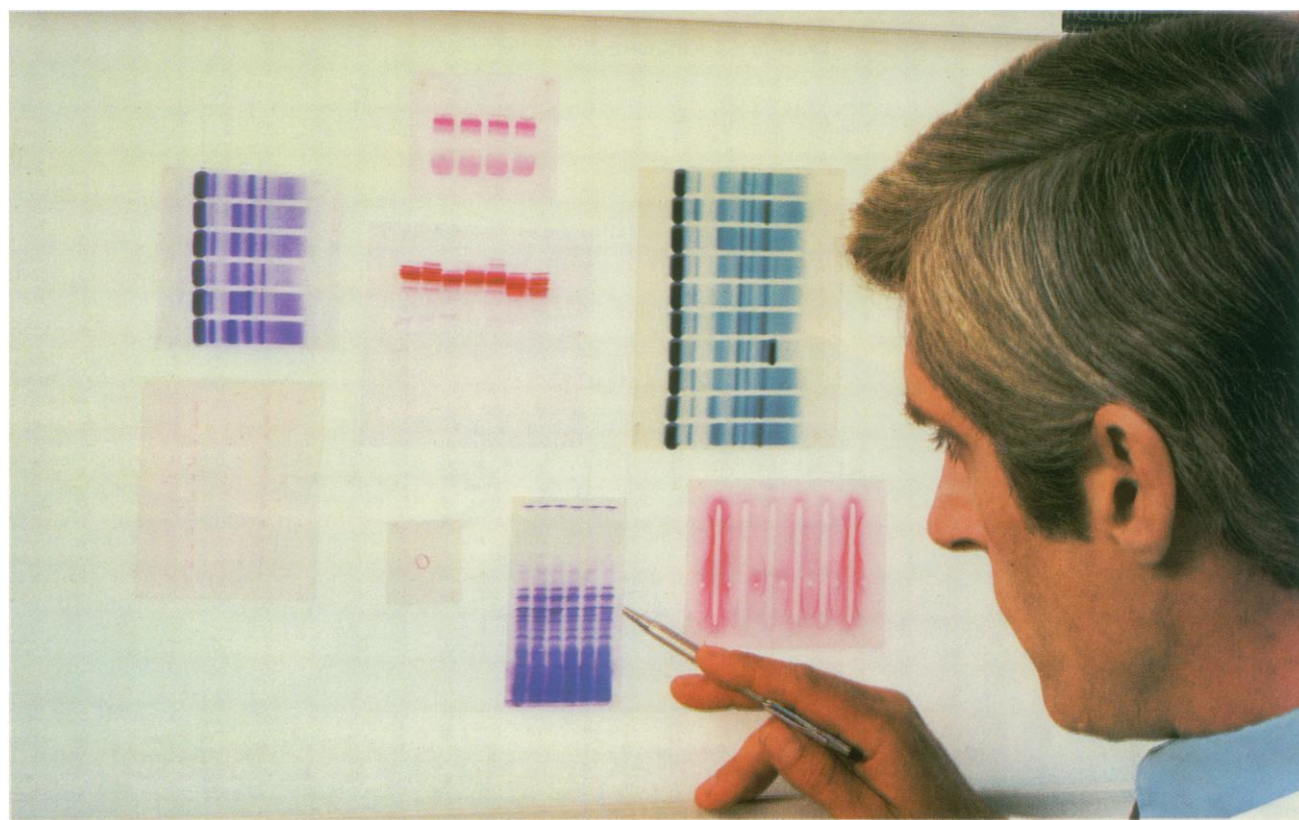


Circle No. 160 on Readers' Service Card



Circle No. 180 on Readers' Service Card

Agarose with a difference



	Immunodiffusion	Electrophoresis	Electrophoresis (Rocky)	Immunoelectrophoresis	Nucleic Acid Electrophoresis	Paper and DNA/RNA	Counter-Electrophoresis	Cell Electrophoresis	Latex Samples	Isoelectric Focusing	Cell Culture Counting
SeaKem® LE	Δ	Δ	Δ	Δ	Δ					Δ	
SeaKem® ME	Δ	Δ	Δ	Δ	Δ	Δ					
SeaKem® HE	Δ					Δ					
SeaKem® HEE0	○	○			Δ						
SeaKem® HGT	○	○	○	○	Δ	Δ					
SeaKem® HGT(P)	○	○	○	○							
SeaPlaque®	○	○	○	Δ	Δ	Δ	Δ	Δ	Δ		
IsoGel™			○							Δ	
SeaPrep™ 15/45				Δ	Δ	Δ	Δ	Δ	Δ		Δ

Δ = most frequently used—recommended ○ = often used

NEW—The Agarose Sampler

Now you can try five of our most popular agaroses at a very reasonable price. The sampler contains 2 grams each of SeaKem® LE, ME, HEE0, HGT and SeaPlaque® agarose. Included with each sampler are trial size sheets of GelBond™ and GelBond NF support films, instructions, and a copy of our 34-page Agarose Monograph.

Discrete separations require precise tools.

That's why we at Marine Colloids BioProducts offer nine different types of agarose under the trade name SeaKem®, SeaPlaque®, IsoGel™ and SeaPrep™. To complement the agarose product line, we now have two types of GelBond™ agarose support film as well as four IsoGel™ Ampholyte pH ranges. By offering a wide range of products, all with narrow and well controlled specifications, we make it easier for you to find the type that most closely fits your application.

The chart on the left is intended only as a guide. In many cases more than one type of agarose may be used. Also, we recognize the fact that each researcher has his or her own variations within a given technique or protocol.

At Marine Colloids, we offer more than the world's finest, most complete line of agarose products and accessories. We offer a professional staff with wide ranging experience in electrophoresis, isoelectric focusing, immunology, molecular biology, microbiology, cell culture and related sciences. Tell us your needs. We want to help you produce superior results. Reach us in the USA toll-free at 1-800-341-1574.

Write FMC Corporation, Marine Colloids Division, 5 Maple St., Rockland, Maine 04841. TWX: 710-229-1973, Answer Back: Marcoloid Rold, Cable: Marcolloid.

FMC

Circle No. 238 on Readers' Service Card



Kodak announces a new world of low-cost inorganic chemicals. (And simple arithmetic.)

First, we're offering 250 of the most called-for inorganic chemicals—with the same quality, purity and consistency of our organic chemicals. Second, if you're comparing discounts, figure out the real bottom-line price difference. And third, since we package by metric measure, Kodak's 500-gram container is more than the typical one-pound (450-gram) unit. Add it up. See your dealer, or write for a free copy of our new "Tools for Analytical Chemists," Catalog JJ-2. Let it guide your imagination—and arithmetic.



The creative source.

The ready source—dealers handling KODAK Laboratory Chemicals: American Scientific & Chemical; American Scientific Products; Bioclinical Laboratories NJ; BCL/New York; Brand-Nu Laboratories, Inc.; Bryant Laboratory, Inc.; CAMX Scientific; Fisher Scientific; Mays Chemical; Midland Scientific, Inc.; North-Strong Division; Preiser Scientific; Sargent-Welch Scientific; Scientific & Industrial Sales & Service, Inc.; Specialty Chemicals, Inc.; VWR Scientific Inc.; Ward's Natural Science Establishment, Inc.

© Eastman Kodak Company, 1981. Kodak Laboratory and Specialty Chemicals, Rochester, NY 14650

Eastman Kodak Company, Kodak Laboratory & Specialty Chemicals
Dept. 412-L, Rochester, NY 14650.

Please send me a free copy of "Tools for Analytical Chemists," Catalog JJ-2.

NAME _____ TITLE _____
FIRM _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

