

most of the promise of meson interaction as a means of elucidating nuclear dynamics is unfulfilled. The authors point to reactions such as meson absorption or production from nuclei where there may indeed be sensitivity to the features of dynamics that are special to mesons. However, treatment of these reactions is still at a rudimentary level, and dynamical insight from these remains only a promise. In this area the authors do not do as much as might be hoped to clarify the issues and the difficulties.

This book gives a clear and concise account of those areas of meson interactions with nuclei in which simple ideas have met with surprising success. On the question of meson interactions with nuclei that deal essentially with the meson as the quantum of the strong force there has been far less progress to report.

RALPH D. AMADO

*Department of Physics,
University of Pennsylvania,
Philadelphia 19104*

Books Received

Actinide Separations. Papers from a symposium, Honolulu, Apr. 1979. James D. Navratil and Wallace W. Schulz, Eds. American Chemical Society, Washington, D.C., 1980. xiv, 610 pp., illus. \$43.50. ACS Symposium Series, 117.

Adhesion and Adsorption of Polymers. Proceedings of a conference, Honolulu, Apr. 1979. Lieng-Huang Lee, Ed. Plenum, New York, 1980. Two volumes, lxiv, 898 pp., illus. Each volume, \$39.75. Polymer Science and Technology, vols. 12A and 12B.

Adjustment. Fulfilling Human Potentials. Nicholas S. DiCaprio. Prentice-Hall, Englewood Cliffs, N.J., 1980. x, 502 pp., illus. Paper, \$12.95.

Advanced Concepts in Ocean Measurements for Marine Biology. Papers from a symposium, Georgetown, S.C., Oct. 1978. Ferdinand P. Diemer, F. John Vernberg, and Donna Z. Mirkes, Eds. Published for the Belle W. Baruch Institute for Marine Biology and Coastal Research by University of South Carolina Press, Columbia, 1980. xvi, 572 pp., illus. \$27.50. Belle W. Baruch Library in Marine Science, No. 10.

Advanced Inorganic Chemistry. A Comprehensive Text. F. Albert Cotton and Geoffrey Wilkinson. Wiley-Interscience, New York, ed. 4, 1980. xviii, 1396 pp., illus. \$27.50.

Analogue et Connaissance. Tome 1. Aspects Historiques. Papers from a meeting, Maloigne, Paris, 1980. 214 pp. Paper, 84 F. Recherches Interdisciplinaires.

Analysis and Performance of Fiber Composites. Bhagwan D. Agarwal and Lawrence J. Broutman. Wiley-Interscience, New York, 1980. xii, 356 pp., illus. \$24.50. SPE Monographs.

And There Shall Be Light. Jay S. Oakwood. Vantage Press, New York, 1980. xviii, 238 pp. \$10.95.

Annals Index (1975-1977). Bill M. Boland and Justine Cullinan, Eds. New York Acad-

emy of Sciences, New York, 1979. vi, 226 pp. \$39. *Annals of the New York Academy of Sciences*, vol. 331.

Applied Optics. A Guide to Optical System Design. Vol. 2. Leo Levi, Wiley, New York, 1980. xxii, 1124 pp., illus. \$75. Wiley Series in Pure and Applied Optics.

Applied Optics and Optical Engineering. Vol. 6. Rudolf Kingslake and Brian J. Thompson, Eds. Academic Press, New York, 1980. xvi, 512 pp., illus. \$49.50.

Appropriate Technology and Social Values. A Critical Appraisal. Papers from a symposium, Racine, Wis., June 1978. Franklin A. Long and Alexandra Oleson, Eds. Ballinger (Harper and Row), Cambridge, Mass., 1980. x, 216 pp. \$19.50.

Argonauts to Astronauts. Mauricio Obregón. Translated from the Spanish. Harper and Row, New York, 1980. xiv, 206 pp., illus. \$15.

Aspects of Consciousness. Vol. 1, Psychological Issues. Geoffrey Underwood and Robin Stevens, Eds. Academic Press, New York, 1979. xvi, 252 pp. \$29.

Biological and Behavioral Aspects of Salt Intake. Papers from a symposium, Philadelphia, Jan. 1979. Morley R. Kare, Melvin J. Fregly, and Rudy A. Bernard, Eds. Academic Press, New York, 1980. xxiv, 426 pp., illus. \$25. Nutrition Foundation Monograph Series.

The Body of Life. Thomas Hanna. Knopf, New York, 1980. xvi, 204 pp. \$9.95.

The Brain of the Common Marmoset (Callithrix jacchus). A Stereotaxic Atlas. H. Stephan, G. Baron, and W. K. Schwerdtfeger. Springer-Verlag, New York, 1980. vi, 94 pp. \$92.40.

Brewing Science. Vol. 1. J. R. A. Pollock, Ed. Academic Press, New York, 1979. xiv, 604 pp., illus. \$76. Food Science and Technology.

Cancer Control. Contemporary Views on Screening, Diagnosis, and Therapy, including a Colloquy on the Delaney Clause. Papers from seminars, Baltimore. Irving I. Kessler, Ed. University Park Press, Baltimore, 1980. xiv, 288 pp. \$24.50.

Carnitine Biosynthesis, Metabolism, and Functions. Proceedings of a symposium, Dallas, Mar. 1979. Rene A. Frenkel and J. Denis McGarry, Eds. Academic Press, New York, 1980. xx, 356 pp., illus. \$27.50.

Catalysis in Organic Syntheses. Proceedings of a conference, Chicago, June 1978. William H. Jones, Ed. Academic Press, New York, 1980. x, 314 pp., illus. \$29.50.

Cell Biology. Structure, Biochemistry, and Function. Phillip Sheeler and Donald E. Bianchi. Wiley, New York, 1980. xviii, 578 pp., illus. \$22.95.

Cellular Interactions in Symbiosis and Parasitism. Papers from a colloquium, Columbus, Ohio, Sept. 1978. Clayton B. Cook, Peter W. Pappas, and Emanuel D. Rudolph, Eds. Ohio State University Press, Columbus, 1980, xiv, 306 pp., illus. \$25. Ohio State University Biosciences Colloquia, No. 5.

Content-Addressable Memories. Teuvo Kohonen. Springer-Verlag, New York, 1980. xii, 370 pp., illus. \$39. Springer Series in Information Sciences, vol. 1.

Counseling and Psychotherapy. Skills, Theories, and Practice. Allen E. Ivey with Lynn Simek-Downing. Prentice-Hall, Englewood Cliffs, N.J., 1980. xiv, 498 pp., illus. \$16.95.

Counting-Out Rhymes. A Dictionary. Roger D. Abrahams and Lois Rankin, Eds. University of Texas Press, Austin, 1980. xx, 244 pp. \$17.50. Publications of the American Folklore Society, Bibliographical and Special Series, 31.

Cyclotomic Fields II. Serge Lang. Springer-Verlag, New York, 1980. xii, 164 pp. \$19.80. Graduate Texts in Mathematics, 69.

Design for Music Learning. R. Douglas Greer. Teachers College Press (Columbia University), New York, 1980. xiv, 194 pp. Paper, \$9.95.

The Developing Person. Kathleen Stassen Berger, Worth, New York, 1980. xvi, 600 pp., illus. \$17.95.

The Development of the Brain. Biological and Functional Perspectives. Stanislav Reinis and Jerome M. Goldman. Illustrations by Renata Krejcova. Thomas, Springfield, Ill., 1980. x, 400 pp., illus. \$29.75.

Diagnostic Imaging in Pediatric Trauma. John L. Gwinn and Philip Stanley with contributions by G. F. Gates and six others. Springer-Verlag, New York, 1980. xiv, 200 pp., illus. \$45. Current Diagnostic Pediatrics.

Diophantine Approximation. Wolfgang M. Schmidt. Springer-Verlag, New York, 1980. x, 300 pp. Paper, \$19.50. Lecture Notes in Mathematics, vol. 785.

Drug Level Monitoring. Analytical Techniques, Metabolism, and Pharmacokinetics. Wolfgang Sadée and Geertruida C. M. Beelen. Wiley-Interscience, New York, 1980. xiv, 496 pp., illus. \$35.

Essays in Neurochemistry and Neuropharmacology. Vol. 4. M. B. H. Youdim, W. Lovenberg, D. G. Sharman, and J. R. Lagnado, Eds. Wiley-Interscience, New York, 1980. xiv, 282 pp., illus. \$56.

Essentials of Engineering Fluid Mechanics. Reuben M. Olson. Harper and Row, New York, ed. 4, 1980. xviii, 584 pp., illus. \$24.50.

Euclidean Harmonic Analysis. Proceedings of seminars, College Park, Md., 1979. J. J. Benedetto, Ed. Springer-Verlag, New York, 1980. iv, 180 pp. Paper. \$11.80. Lecture Notes in Mathematics, vol. 779.

The Eukaryotic Microbial Cell. Papers from a symposium. Cambridge, England, Mar. 1980. G. W. Gooday, D. Lloyd, and A. P. J. Trinci, Eds. Published for the Society for General Microbiology by Cambridge University Press, New York, 1980. viii, 440 pp., illus. \$57.50. Society for General Microbiology Symposium 30.

Evolution for Naturalists. The Simple Principles and Complex Reality. P. J. Darlington, Jr. Wiley-Interscience, New York, 1980. xviii, 262 pp., illus. \$19.95.

Evolution of Naval Radio-Electronics and Contributions of the Naval Research Laboratory. Louis A. Gebhard. Naval Research Laboratory, Washington, D.C., 1979 (available from the Superintendent of Documents, Washington, D.C., and the National Technical Information Service, Springfield, Va.). xvi, 448 pp., illus. \$12. NRL Report 8300.

Excitation of Plasmons and Interband Transitions by Electrons. Heinz Raether. Springer-Verlag, New York, 1980. viii, 198 pp., illus. \$32.50. Springer Tracts in Modern Physics, vol. 88.

Experimental Ciliatology. An Introduction to Genetic and Developmental Analysis in Ciliates. D. L. Nanney. Wiley-Interscience, New York, 1980. xiv, 304 pp., illus. \$22.50.

Free-Electron Generators of Coherent Radiation. Papers from a workshop, Telluride, Colo., Aug. 1979. Stephen F. Jacobs, Herschel S. Pilloff, Murray Sargent III, Marlan O. Scully, and Richard Spitzer, Eds. Addison-Wesley Advanced Book Program, Reading, Mass., 1980. xxii, 816 pp., illus. \$36.50. Physics of Quantum Electronics, vol. 7.

Frozen Human Semen. Papers from a work-

(Continued on page 1276)

pppA2'p5'A2'p5'A 2'-5' OLIGOADENYLATE

P-L Biochemicals successfully produces this new inhibitor of protein synthesis involved in interferon action.

2110	pppA2'p5'A2'p5'A Protein synthesis inhibitor Trimer 5'-triphosphate	1 unit \$45.00	5 units \$180.00
2116	A2'p5'A2'p5'A Trimer "Core"	5 units \$40.00	5x5 units \$160.00
2112	pA2'p5'A2'p5'A Trimer 5'-phosphate	2 units \$40.00	5 units \$80.00
2114	A2'p5'A2'p5'A2'p5'A Tetramer "Core"	5 units \$40.00	5x5 units \$160.00
2120	pA2'p5'A2'p5'A2'p5'A Tetramer 5'-phosphate	2 units \$50.00	5 units \$100.00
2118	A2'p5'A Dimer "Core"	5 units \$25.00	5x5 units \$100.00

One unit is that quantity of material which has an absorbance of 1.0 at 260 nm when dissolved in 1 ml phosphate buffer pH 7.0 and measured in 1 cm cuvette. One unit is approximately 28 nanomoles or 36 micrograms of trimer.

ALL IN STOCK FOR IMMEDIATE DELIVERY

excellence in biochemistry



P.L. biochemicals, inc.

1037 WEST MCKINLEY AVENUE, MILWAUKEE, WIS. 53205

® Call 414/347-7442 TWX 910-262-1111

Circle No. 368 on Readers' Service Card



Hellma—the largest assortment of highest precision glass and quartz cells.

Standard · Flow-through · Constant-temperature
Anaerobic · Special Designs

Also available—ULTRAVIOLET LIGHT SOURCES
Deuterium Lamps · Mercury Vapor Lamps
Hollow Cathode Lamps · Power Supplies



Write for literature
Box 544
Borough Hall Station
Jamaica, New York 11424
Phone (212) 544-9534

Circle No. 315 on Readers' Service Card

R&D Money Doesn't Grow on Trees

So, whether you're working in the public or private sectors, for a university or national laboratory, in government or business, it's up to you to find out where the R&D dollars are hiding and how to go about getting them after you've found them.

The books in the Research and Development: AAAS Report Series can help you do this in two ways.

1. Annual R&D Reports—written by experts in the field—explore federal policies, budgetary concerns, the economy, and international and domestic developments as they relate to R&D policy making for the coming fiscal year.
2. Subsequent R&D Colloquium Proceedings—featuring leaders from government, industry, universities, and other parts of the scientific community—give you the texts of presentations, question-and-answer periods, and discussions from annual AAAS Colloquia on R&D Policy.

Order the Research and Development: AAAS Report Series today. In these money-hard times, it's an investment you can't afford to miss out on.

Special Offer

5-volume set of either the Reports or Colloquium Proceedings, \$25.00. Entire 10-volume series, \$45.00.
AAAS Sales Dept. L-2H-80, 1515 Mass Ave., NW,
Washington, DC 20005. Orders under \$10.00 must be prepaid. No further discount to AAAS members with Special Offer prices.

R&D: AAAS Report V, 1981	paper, \$7.00
R&D: AAAS Report IV, 1980	paper, \$5.00
R&D: AAAS Report III, 1979	..
R&D: AAAS Report II, 1978	..
R&D: AAAS Report I, 1977	..

R&D Colloquium Proceedings, 1980	paper, \$7.00
R&D Colloquium Proceedings, 1979	paper, \$5.00
R&D Colloquium Proceedings, 1978	..
R&D Colloquium Proceedings, 1977	..
R&D Colloquium Proceedings, 1976	..



Line Scan Recorder

The LSR-910M with memory provides simulated high-speed printing on dry electrostatic paper with minimum data loss. It is designed for high-resolution seismic profiling in marine and terrestrial applications. It is also suitable for depth recording, sonar and radar recording, spectrum analysis, and computer print-out. Data resolution is 2000 elements per inch with 16 discernible shades of gray. The electronic sweep ratio is 1024 to 1. There is a test mode. Raytheon Ocean Systems. Circle 831.

LISP Computer

LISP is the principal programming and operating language of artificial intelligence systems. It is non-numeric and requires large amounts of addressable memory; thus, it does not run well on conventional computers in time-sharing environments. A LISP computer, the CADR model A, is now available that is configured in the personal computer format. It offers extensive addressable memory and is configured to operate specifically with this non-numeric language. Artificial intelligence systems are presently of use in symbolic mathematics, human factors engineering, medical diagnostics, computer learning, physical simulation, and in problem-solving milieux that involve machine reasoning as opposed to preprogramming. The CADR model A integrates message passing with LISP. It works with an abstract object (one which defines its own operations and implements them as required to solve a problem) where necessary. LMI. Circle 832.

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 1184A and 1280A) and placing it in the mailbox. Postage is free.

—RICHARD G. SOMMER

Titration

The Titrstat II implements potentiometric, amperometric, thermometric, and Karl Fischer titrations. Multiple determinations of protein nitrogen or amines in a single sample are accomplished precisely within 0.8 percent. With specific ion electrodes the instrument can determine concentrations of calcium, fluoride, nitrate, and sulfate in body fluids. Quantitation of such diverse substances as penicillin and methadone may be performed. Thiol groups in proteins may be analyzed amperometrically. The Titrstat II, comprised of the model 233 digital burette and the model 234 titrator, produces either a titration plot or its first derivative. An automatic end point search may be programmed for titrations whose end points are not known. Eco Instruments, division of Kor. Circle 833.

Water Treatment Simulator

Model 61 is a pilot plant designed for laboratory simulation of the biological treatment of waste water. It accommodates flows of 120 gallons or more per hour. Detention at 120 gallons per hour includes 80 minutes primary clarifier, 22 minutes final clarifier, 3 hours mixed-flow aeration, and 4 hours 20 minutes plug-flow aeration. There is a 160-gallon, conical-bottom preliminary clarifier and a 45-gallon final clarifier with a stilling tube. Each clarifier has centrifugal effluent pumps. This system offers realistic water depths to approximate plant-scale rates of oxygen transfer. The setup is useful for teaching, research, and industrial simulation. Biospherics. Circle 819.

Bench Top Centrifuge

Centra-7 provides maximum speed of 5350 revolutions per minute, maximum force of 4300 times gravity (with 2 percent repeatability), and may be programmed for operations lasting up to 52

minutes. It accommodates four 600-milliliter blood bags or bottles (250, 500, or 750 milliliters) and all commonly used sizes of tubes. Sealed dome shields may be used during centrifugation of infectious materials. The unit accepts 11 different rotors and over 300 combinations of accessories. It is also available in a refrigerated version. International Equipment. Circle 823.

Literature

HPLC lists apparatus, columns reagents, and hardware. HPLC Technology. Circle 816.

Integrated Communications describes a network approach to electronic data transfer and manipulation including exchange, command, and transport apparatus and software. Codex. Circle 824.

Digital Displays features timers and counters for measurement and control of instruments and processes. Durgin & Browne. Circle 825.

Hematology Stains lists applications, formulations, and techniques in a catalog of materials for the characterization of blood. Gam Rad. Circle 826.

Polarizing Microscopes includes the Optiphot-Pol for research and the Labophot-Pol for laboratory and classroom uses. Nikon, Instrument Division. Circle 827.

Freeze Dryer details the Freezemobile 6, whose cylindrical condenser is made of stainless steel to facilitate removal of entire ice plug on defrost. VirTis. Circle 828.

Ion Chromatography gives specifications of the model 260 high-pressure ion analyzer used to quantitate and identify multiple anions and cations in solution. Wescan Instruments. Circle 829.

Osmometers is devoted to vapor-pressure instruments for clinical, research, and veterinary applications. Wescor. Circle 830.

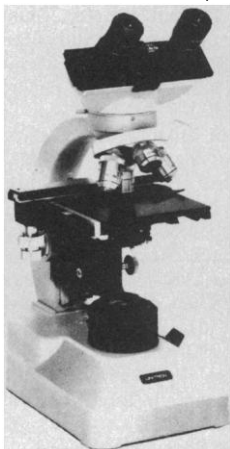
Research and Clinical Biochemicals includes antibodies, antisera, diagnostic kits, radioassay products, blood products, and many more. Antibodies. Circle 834.

Electron Microscopy Products features glutaraldehyde, embedding media, Freon in small cannisters, specimen cabinets, and stereoscopes. Ladd Research Industries. Circle 835.

Electronic Instruments offers kits and completed detection and bench test equipment, radio and television receivers, radio transmitters, audio components, weather apparatus, and personal computers and peripherals. Heath. Circle 836.

Affordable Lab Series Microscopes from Unitron

Faced with today's tight budgets, many purchasers are asking themselves, "Do I have to sacrifice optical quality for an affordable microscope?" The answer is an emphatic "No", if you choose one of Unitron's new Lab Series.



The new Unitron Lab Microscopes feature the latest in modern modular components, machined to exacting standards. Then add achromatic or flatfield planachromatic objectives, choice of monocular, binocular, or photo-trinocular viewing heads, and three types of illuminating systems. The result is a series of Unitron Lab microscopes with uncommon flexibility and optical excellence at a very affordable price.

Ask for a free catalogue with prices and the name of your nearest Unitron dealer. Or, ask us to arrange a no-obligation demonstration. Contact:

UNITRON
EXCELLENCE BY DESIGN

Unitron Instruments, Inc.
175 Express Street
Plainview, N.Y. 11803
(516) 822-4601

Circle No. 341 on Readers' Service Card

PRECISION X-RAY GENERATORS

ADAC Laboratories manufactures X-Ray generators, which are presently being used in many diverse applications. A few of which are: X-Ray Spectroscopy, Densitometry, Digital Radiography, Computerized Tomography, Quantitative Inspection, Real Time gaging, and measurement systems.

ADAC's full line of generators feature:

- Voltage range from 10kv to 250kv
- Current range from 5ma to 300ma
- X-Ray Tube current regulation better than .1% accuracy
- Line and load voltage regulation better than .1% accuracy
- Fully adjustable voltage and current ranges
- Safety interlock status and control circuits provided as standard
- Analog or digital control capability
- Totally solid state design, no electro mechanical devices incorporated
- All high voltage components are hermetically sealed for maximum reliability and safety
- These constant potential generators are small in size and light weight

ADAC also has the capability of developing special designs to meet your unique requirements. We would enjoy discussing them with you.

Please call:

ADAC

Clarence S. Jones
ADAC Laboratories,
255 San Geronimo Way
Sunnyvale, CA 94086
Phone (408) 736-1101

Circle No. 83 on Readers' Service Card



Less is more.

Less Work.

More Dependability.

They're ready-to-use kits with everything you need except your sample. Room temperature set-up, no salting out, no second incubation. We've pre-reacted the first antibody with the second antibody to save you time.

And we've given you NEN quality to assure you of dependable assays — accurate and reproducible. Sensitivity reaches the femtomole range with the acetylating reagents provided. A tritium-labeled marker is included to monitor recovery. The iodinated tracer is exceptionally stable.

These are some of the reasons to choose NEN's Cyclic AMP and GMP [¹²⁵I] RIA kits, the world's most widely used for their convenience and quality. Send for the whole story in our technical brochure.

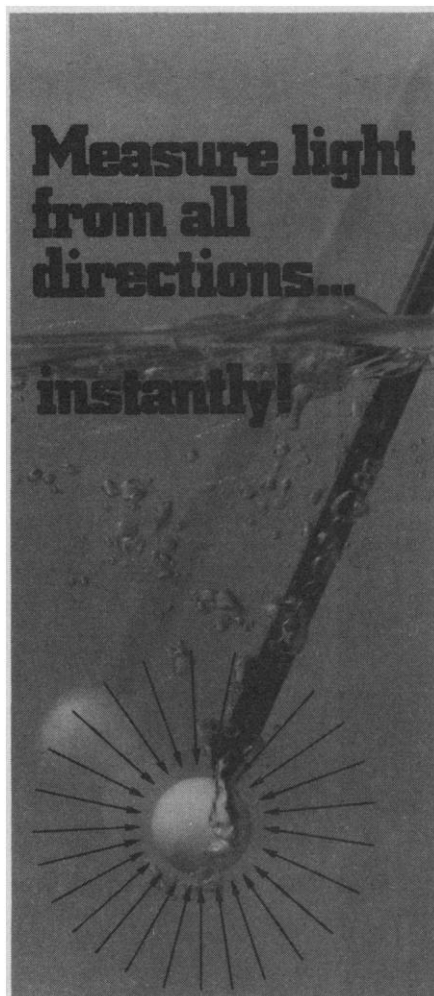
Not for use in humans or clinical diagnosis.



New England Nuclear

549 Albany Street, Boston, Mass. 02118
Call toll-free: 800-225-1572
(In Massachusetts and International: 617-482-9595)
NEN Chemicals GmbH: D-6072 Dreieich, W. Germany
Postfach 401240. Telephone (06103) 85034. Telex 4-17993 NEN D
NEN Canada Ltd.: 2453 46th Avenue, Lachine, Que H8T 3C9
Telephone 514-636-4971. Telex 05-821808

Circle No. 356 on Readers' Service Card



Announcing accuracy in photosynthetic growth studies like never before. Now the revolutionary Quantum Scalar Irradiance Meter (QSL-100) dips directly into culture vessels for one instantaneous reading of total photosynthetically active (400-700 nm) light available for plant growth.

Portable, rugged and battery-powered, QSL-100 also adapts to field use, and is calibrated for wet or dry applications.

And ask about our other precision-packed instruments. The QSR sensor series, QSI-140 integrator, and the QSP underwater irradiance system. Write for information today.

Biospherical Instruments Inc.
1010 Second Avenue, Suite 1405
San Diego, California 92101 714/275-1516



Biospherical Instruments Inc.

Circle No. 370 on Readers' Service Card



BOOKS RECEIVED

(Continued from page 1242)

shop, Mar. 1979. D. W. Richardson, D. Joyce, and E. M. Symonds, Eds. Published for the Royal College of Obstetricians and Gynaecologists by Nijhoff, The Hague, 1980 (U.S. distributor, Kluwer Boston, Hingham, Mass.). viii, 272 pp. \$49.95. *Developments in Obstetrics and Gynecology*, vol. 49.

Fundamentals of Plasma Physics. V. E. Golant, A. P. Zhilinsky, and I. E. Sakharov. Translated from the Russian edition (1977) by K. Z. Vedeneyeva and V. F. Agranat. Sanborn C. Brown, Ed. Wiley, New York, 1980. xviii, 406 pp., illus. \$39. Wiley Series in Plasma Physics.

Future Sources of Organic Raw Materials. CHEMRAWN I. Papers from a conference, Toronto, July 1978. L. E. St.-Pierre and G. R. Brown, Eds. Pergamon, New York, 1980. viii, 652 pp., illus. \$45.

Gas Chromatography with Glass Capillary Columns. Walter Jennings. Academic Press, New York, ed. 2, 1980. xiv, 320 pp., illus. \$25.

GI Guinea Pigs. How the Pentagon Exposed Our Troops to Dangers More Deadly than War: Agent Orange and Atomic Radiation. Michael Uhl and Tod Ensign. Playboy Press, New York, 1980 (distributor, Harper and Row, New York). xvi, 256 pp. + plates. \$9.95.

Image Pattern Recognition. V. A. Kovalevsky. Translated from the Russian edition (Moscow, 1977) by Arthur Brown. Springer-Verlag, New York, 1980. xii, 242 pp., illus. \$29.80.

Infinite Matrices of Operators. Ivor J. Maddox. Springer-Verlag, New York, 1980. vi, 126 pp. Paper, \$9.80. *Lecture Notes in Mathematics*, vol. 786.

Inland Fishes of Washington. Richard S. Wydoski and Richard R. Whitney. University of Washington Press, Seattle, 1980. xxxii, 220 pp., illus. + plates. Cloth, \$17.50; paper, \$8.95.

International Review of Cytology. Vol. 64. G. H. Bourne, J. F. Danielli, and K. W. Jeon, Eds. Academic Press, New York, 1980. viii, 388 pp., illus. \$36.50.

Introduction to Applied Solid State Physics. Topics in the Applications of Semiconductors, Superconductors, and the Nonlinear Optical Properties of Solids. Richard Dalven. Plenum, New York, 1980. xiv, 330 pp., illus. \$27.50.

Methods of Biochemical Analysis. Vol. 26. David Glick, Ed. Interscience (Wiley), New York, 1980. x, 452 pp., illus. \$29.50.

Mexican Masks. Donald Cordry. University of Texas Press, Austin, 1980. xxiv, 280 pp., illus. \$39.95.

The Middle Atmosphere as Observed from Balloons, Rockets and Satellites. Papers from a meeting, London, Dec. 1978. Royal Society, London, 1980. vi, 268 pp., illus. £25.75. First published in *Philosophical Transactions of the Royal Society of London*, series A, vol. 296 (No. 1418).

National Health Insurance. Conflicting Goals and Policy Choices. Judith Feder, John Holahan, and Theodore Marmor, Eds. Urban Institute, Washington, D.C., 1980. xxii, 722 pp. Cloth, \$25; paper, \$12.50.

The Nature of Change in Geographical Ideas. Brian J. L. Berry, Ed. Northern Illinois University Press, DeKalb, 1980. xii, 220 pp., illus. Paper, \$7.50. *Perspectives in Geography* 3. Reprint of the 1978 edition.

Physical Chemistry. R. Stephen Berry, Stuart A. Rice, and John Ross, with the assistance of George P. Flynn and Joseph N. Kushick. Wiley, New York, 1980. xvi, 1264 pp., illus. + appendix. \$34.95.

Physical Chemistry of High Temperature Technology. E. T. Turkdogan. Academic Press, New York, 1980. xvi, 448 pp., illus. \$49.50.

Physics and the Physical Universe. Jerry B. Marion. Wiley, New York, ed. 3, 1980. xii, 446 pp., illus. \$19.95.

Physiology. Ishak I. Shahied. Vantage Press, New York, 1980. xxii, 440 pp., illus. \$12.50.

The Pine Tree Book. Russell Peterson. Illustrations by Patricia Wynne. Brandywine Press, New York, 1980 (distributor, Dutton, New York). 144 pp. Cloth, \$14.95; paper, \$7.95.

The Planet Saturn. A History of Observation, Theory and Discovery. A. F. O'D. Alexander. Dover, New York, 1980. 474 pp., illus. Paper, \$8. Reprint of the 1962 edition.

Plasmids and Transposons. Environmental Effects and Maintenance Mechanisms. Proceedings of a symposium, Halifax, Nova Scotia, Canada, May 1979. Colin Stuttard and Kenneth R. Rozee, Eds. Academic Press, New York, 1980. xiv, 392 pp., illus. \$26.50.

School Desegregation. Past, Present, and Future. Walter G. Stephan and Joe R. Feagin, Eds. Plenum, New York, 1980. xiv, 358 pp. \$21.50. *Perspectives in Social Psychology*.

Science and Behavior. An Introduction to Methods of Research. John M. Neale and Robert M. Liebert. Prentice-Hall, Englewood Cliffs, N.J., ed. 2, 1980. x, 294 pp., illus. \$14.95.

Science and Technology Policy. Perspectives for the 1980s. Papers from a conference, New York, Mar. 1979. Herbert I. Fushfeld and Carmela S. Haklisch, Eds. New York Academy of Sciences, New York, 1979. x, 286 pp. Cloth, \$50; paper, \$40. *Annals of the New York Academy of Sciences*, vol. 334.

The Science and Wonders of the Atmosphere. Stanley David Gedzelman. Wiley, New York, 1980. xvi, 536 pp., illus. + plates. \$19.95.

Science, Animals, and Evolution. Reflections on Some Unrealized Potentials of Biology and Medicine. Catherine Roberts. Greenwood Press, Westport, Conn., 1980. xvi, 222 pp. \$18.95. *Contributions in Philosophy*, No. 14.

Vitamin E. A Comprehensive Treatise. Lawrence J. Machlin, Ed. Dekker, New York, 1980. x, 660 pp., illus. \$79.50. *Basic and Clinical Nutrition*, vol. 1.

The Waste Watchers. A Citizen's Handbook for Conserving Energy and Resources. Arthur H. Purcell. Anchor/Doubleday, Garden City, N.Y., 1980. xxvi, 286 pp., illus. Paper, \$4.50.

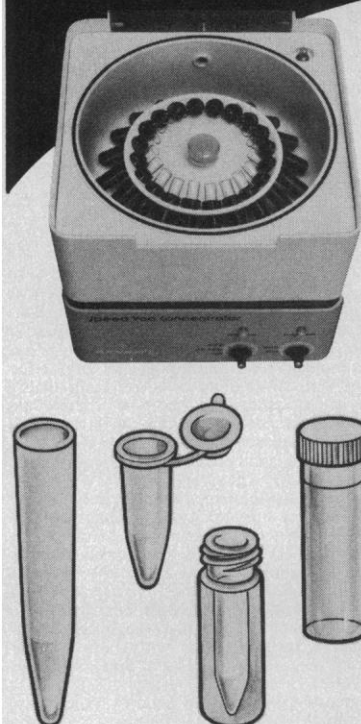
Water Chemistry. Vernon L. Snoeyink and David Jenkins. Wiley, New York, 1980. xvi, 464 pp., illus. \$26.95.

Weather Modification by Cloud Seeding. Arnett S. Dennis. Academic Press, New York, 1980. xvi, 268 pp., illus. \$29.50. *International Geophysics Series*, vol. 24.

Wirkungsmechanismen von Herbiziden und synthetischen Wachstumsregulatoren. Papers from a symposium, Mühlhausen, East Germany, Mar. 1979. H. R. Schütte, Ed. Gustav Fischer, Jena, 1980. 382 pp., illus. 32 M.

Wolff's Headache and Other Head Pain. Donald J. Dalessio, Ed. Oxford University Press, New York, ed. 4, 1980. xvi, 474 pp., illus. \$35.

"NO BUMP" EVAPORATION SYSTEM **for the MAXIMUM CONCENTRATION OF SAMPLE**



The Speed Vac Concentrator will yield virtually 100% sample recovery with Eluates, Hydrolysates, Extracts and Dialyzed solutions.

Ideal when preparing samples by Derivatization or volume reduction of solution prior to analysis by Gas Chromatography (GC), High Pressure Liquid Chromatography (HPLC), Electrophoresis, TLE or TLC.

A lab tested, work saving system now widely used in Drug Monitoring, RNA & DNA, Sequencing, Protein Structure Analyses, Isolation of a wide range of organic and biochemical species.

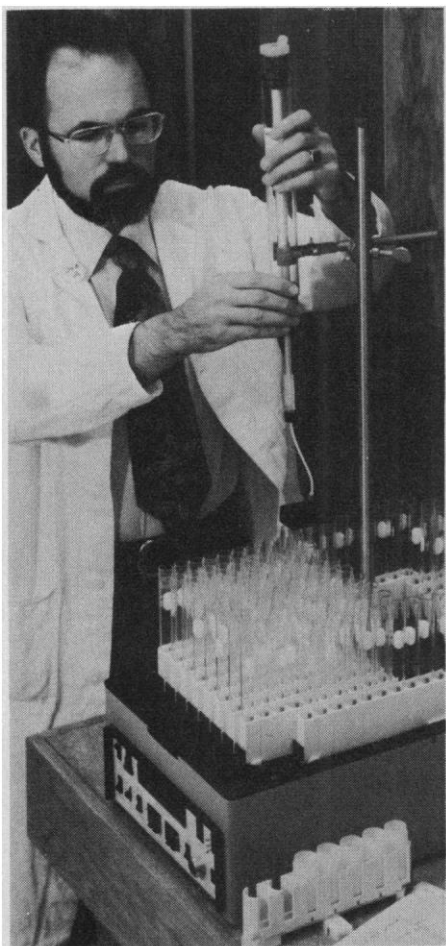
If you have a valuable sample, don't lose it by other isolation techniques. Recover 100% with the Speed Vac Evaporator/Concentrator from Savant.

*Send for literature today. SAVANT INSTRUMENTS, INC.
221 Park Ave., Hicksville, NY 11801 (516) 935-8774.*

Savant



Circle No. 38 on Readers' Service Card



The fraction collector with built-out obsolescence

This is the fraction collector that will do practically any job you may have today, or tomorrow, or five years from now. It holds 380 little tubes; 135 big, big (70 ml) tubes; or even 28 mm scintillation vials. The Retriever III gives you versatile pushbutton programming with time, drop or volumetric mode selection. All electronics are protected from spills, coldroom condensation, and memory loss during power failure.

Options include a delay timer to compensate for effluent volume between the detector and fraction collector, and a dripless flow interrupter valve that actually retracts hanging drops to prevent their falling between tubes. If you should have a spill,

you can lift off and submerge the entire mechanism tray for cleaning.

Send for your ISCO catalog to learn about the fraction collector that can handle any job you'll probably ever have. Or dial direct, toll free: (800) 228-4250 (continental U.S.A. except Nebraska). ISCO, P.O. Box 5347, Lincoln, Nebraska 68505.



Instruments with a difference

Circle No. 190 on Readers' Service Card

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): \$7.20 per millimeter; \$180 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

The display rate for advertising in SCIENCE will be \$200 minimum as of 1 January 1981.

POSITIONS WANTED

Agricultural/Pesticide Residue Chemist. Ph.D. Five years of experience in analytical methods. Strong background in instrumentation and modern analytical techniques. Adsorption and characterization studies. Pesticide residue analysis of feed, animal tissue, water, and soils. No agencies. Seeks industrial/academic position. Box 295, SCIENCE.

12/12; 1/2, 1/6

Anatomist. Ph.D. 1974; 1 year of postdoctoral experience; 5 years of teaching experience in gross human anatomy (medical, dental, and optometry students). Active research program in comparative morphology and evolutionary relationships of teleostean fishes. Publications. Seeks academic/research position with teaching responsibilities in any of the following areas: human anatomy, comparative anatomy, vertebrate zoology, vertebrate paleontology, evolutionary biology, ichthyology. Box 296, SCIENCE.

X

Anatomist—Electron Microscopist. Ph.D. Fully trained and experienced in TEM and SEM, including experience in setting up and maintaining laboratory. Teaching experience in embryology and histology. Seeks academic position with opportunity for independent and collaborative basic research. Publications. Box 297, SCIENCE.

X

Bacteriologist/Cell Biologist. Ph.D. (1968). R.M. (AAM). Professor. Seeking academic or laboratory position; rank secondary to reciprocity in skills and ideas. Interested in ecological relationships of *Clostridium perfringens*. Teach general and pathogenic bacteriology, immunology, histology, nutrition. Skills include photomicrography, electron microscopy, writing. Publications. Available July 1981. Box 278, SCIENCE.

12/12, 19; 1/2

POSITIONS WANTED

Microbiologist. Ph.D. with 5 years of teaching/research experience. Broad background in biological sciences, including field biology and experience with light and electron microscopy. Desires teaching or teaching/research position in a biology department. Box 281, SCIENCE.

12/12

Microvascular Surgery. Research laboratory supervisor with 10 years of experience in organ transplantation, such as kidney, thymus, heart, spleen, pancreas, and so forth, in the rat. Seeks challenging position in industry or research. Also has developed experimental protocols on organ allograft prolongation. Box 286, SCIENCE.

12/12, 19

Photosynthesis Research. Ph.D. biochemistry, 1977. Presently working on photosynthetic hydrogen production at Brookhaven National Laboratory. Interested in continued, practical energy research. Excellent research and teaching background. Box 298, SCIENCE.

X

Plant Physiologist, Botanist. Ph.D. 1975. Research primarily at level of whole plant: shoot/root relations, physiological ecology, photoinduction, computer simulation. Teaching experience of 8 years: introductory biology, general botany, plant physiology, plant anatomy, general ecology; prepared autotutorial cell biology course, wrote study guide. Available immediately. Will relocate to any state. N. Crapo, 79 Stanton Boulevard, Uniondale, New York 11553; telephone: 516-538-5478.

X

Psychopharmacologist. Ph.D. Highly productive laboratory head wishes to relocate. Seeks own laboratory space in a nonprofit institute, government, or university. No teaching. Will bring grant money to support salary and staff. Box 282, SCIENCE.

12/12; 1/2

Safety Manager with human resources degree and currently taking USC M.S.S., seeks southeastern United States opening in safety/operations management. Box 299, SCIENCE.

12/12, 19

Synthetic Organic/Analytical Chemist. Ph.D. 1980 in peptide synthesis. M.S. in analytical chemistry. Currently postdoctoral fellow working on carbohydrates. Desires long-term industrial or academic position. Salary, location open. Dr. S. Shah, Apartment 205, 1516 10th Avenue South, Birmingham, Alabama 35205.

X

Virologist. Ph.D. in microbiology. Experience: 2 years as assistant professor, plus 4 years of research in cell culture, virus propagation, assay, pathogenicity, chemotherapy; research interest in viral oncology and membranes in tumor cells. Box 300, SCIENCE.

X

POSITIONS OPEN

DEPARTMENT OF ANATOMY is seeking to fill two tenure-track positions at the associate/assistant professor level. Persons with research experience and interests in the cell cytoskeleton, cell surface, or plasma membranes, particularly as related to cancer research, immunology, or neurobiology, are encouraged to apply. Those with appropriate research interests will have the opportunity to benefit from and contribute to the University of Miami, Comprehensive Cancer Center. Persons selected will be expected to establish and maintain a vigorous research program capable of attracting external support and to participate in teaching of the departmental graduate and/or medical school courses. Send curriculum vitae, appropriate reprints, three references, and statement of research plans by 1 February 1981 to:

Dr. Robert W. Rubin, Anatomy
University of Miami School of Medicine
P.O. Box 016960 (R124)
Miami, Florida 33101

ANATOMY/PHYSIOLOGY

Assistant professor. Tenure-track position available August 1981. Teaching responsibilities will initially be in gross anatomy (emphasis: neuro/head and neck), neurophysiology, and eventually may be an introductory human anatomy/physiology course. The Ph.D. is required and the development of a research program expected. Application deadline is 19 January 1981. Send curriculum vitae and names of three references to: Dr. Harold G. Marshall, Chairman, Department of Biological Sciences, Old Dominion University, Norfolk, Va. 23508. An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

ANALYTICAL/ENVIRONMENTAL OR ANALYTICAL CHEMIST. Tenure-track assistant or associate professorship, beginning September 1981, in an ACS-accredited department with 11 chemists. Duties include teaching undergraduate analytical and lower division chemistry courses. A background in environmental chemistry is desired to enable the teaching of courses in environmental chemistry and environmental science. Ph.D. required, postdoctoral experience desired. Strong commitment to teaching and ability to develop a research program expected. Send application, three letters of recommendation, and transcripts to: Analytical Chemistry Faculty Search Secretary, College of Arts, Sciences and Letters, The University of Michigan-Dearborn, Dearborn, Mich. 48128. A nondiscriminatory, Affirmative Action Employer.

AMERICAN MUSEUM OF NATURAL HISTORY

The Department of Mineral Sciences is seeking to fill a tenure-track position for ASSISTANT CURATOR OF MINERALOGY beginning July 1981. This is a research position with an average of one-quarter time responsibility toward departmental activities, collections management, exhibition, and interaction with the mineral community at large. High-quality problem-oriented research is the prime responsibility. The field of specialization within mineral science is open and may include and combine aspects of x-ray crystallography, ultrastructure analysis, crystal growth, spectroscopy, gemology, petrologic mineralogy, mineral geochemistry, crystal and thermochimistry, medical mineralogy, and mineral physics. Major research facilities include a fully automated ARL-SEMQ electron microprobe, x-ray laboratory, minicomputer, and a 100,000-specimen mineral collection. Opportunities exist for research and/or teaching collaboration with nearby institutions such as Columbia (Lamont-Doherty Geological Observatory), Princeton, State University of New York at Stony Brook, Yale, and Mt. Sinai School of Medicine (TEM facilities).

Requirements are a Ph.D. in hand by time of appointment, an ability to do creative research, and a desire to learn about collections and relate to the public in terms of exhibition and speaking. Applications should include: (i) curriculum vitae, (ii) names of three persons familiar with your work who will write letters of recommendation, and (iii) a brief statement of research interests.

These must be submitted by 1 February 1981 to:

Dr. Martin Prinz
Chairman, Department of Mineral Sciences
American Museum of Natural History
New York, N.Y. 10024

An Equal Opportunity/Affirmative Action Employer, M/F/H

ASSISTANT PROFESSOR. Tenure-track appointment for an individual with an M.D. and/or Ph.D. in microbiology, biochemistry, or a closely related area, and 2 years of postdoctoral training in the area of the molecular genetics of eukaryotic cells. Applicants should send curriculum vitae, publication list, and the names of three references to: Search Committee, Box S, Department of Microbiology, State University of New York, Stony Brook, N.Y. 11794. The Health Sciences Center at Stony Brook is an Equal Opportunity Employer, and applications from minority and women candidates are welcome.

ASSISTANT PROFESSOR OF BIOLOGY. Tenure-track appointment, animal ecology and/or behavior. Ph.D. required; 2 to 3 years of postdoctoral preferred. Teach undergraduate (majors, nonmajors, freshmen), graduate courses; supervise theses; develop viable research program. Starts 26 August 1981; completed application deadline: 1 February 1981. Request application materials from: Dr. H. G. Ehrlich, Chairman, Department of Biological Sciences, c/o Personnel Office, Duquesne University, Pittsburgh, Pa. 15219. Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR: DEVELOPMENTAL ANATOMY. Applicants should have a strong background in cell biology, especially in developmental neurobiology, with postdoctoral experience and demonstrated research ability. Teaching experience in developmental anatomy desirable. Submit curriculum vitae before 1 March 1981 to: Dr. G. D. Pappas, Department of Anatomy, University of Illinois College of Medicine, P.O. Box 6998, Chicago, Ill. 60680. The University of Illinois is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.

POSITIONS OPEN

ASSISTANT PROFESSOR POSITION Department of Geological Sciences The University of Texas at Austin

A tenure-track assistant professor position is now open in the field of structural geology. This position is effective January 1981 or September 1981, depending on availability of successful applicant. Teaching responsibilities include undergraduate and graduate courses in structural geology, participation in departmental field courses, and supervision of graduate research in the areas of the person's special interest. Competence in the related areas of engineering geology, rock mechanics theory, or regional tectonics will be especially welcome.

Applicants for this position must have completed all requirements for the Ph.D. degree at the time of employment. Qualified persons should send a complete résumé, including names of three references, an abstract of their dissertation, statement of research interest, and planned research projects to:

Dr. Earle F. McBride
Department of Geological Sciences
The University of Texas at Austin
P.O. Box 7909
Austin, Texas 78712

An Affirmative Action/Equal Opportunity Employer

New Division of Gerontology invites applications for tenure-track research position **ASSISTANT PROFESSOR** in cell and molecular biology for studies on cellular aging. Ph.D. or M.D. with several years of postdoctoral experience is required. Preference may be given to those with background in membrane-molecular interactions and/or hybridoma techniques. Apply with curriculum vitae and names and addresses of three references to: **Dr. Sam Goldstein**, Division of Gerontology, Department of Medicine, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72205.

ASSISTANT PROFESSOR. The Department of Pharmacology, University of Connecticut Health Center, is in the process of recruiting an additional faculty member at the assistant professor level. Qualifications should include a Ph.D. or M.D. degree and research experience preferably in toxicology, chemotherapy, or endocrine pharmacology. Individuals with experience in other areas of pharmacology will also be considered. Candidates should have 2 to 3 years of postdoctoral experience and demonstrated research productivity. Interested persons should send their curriculum vitae to:

Dr. John B. Schenkman
Department of Pharmacology
University of Connecticut Health Center
Farmington, Conn. 06032

An Equal Opportunity/Affirmative Action Employer

University of Wisconsin-Madison

The Department of Biochemistry invites applications at the rank of **ASSISTANT PROFESSOR** (a tenure-track position) in the field of eukaryotic molecular biology. Research areas in which the department is particularly interested include, but are not limited to, developmental biochemistry of animals and animal cell biology. Responsibilities will include teaching in the Biochemistry Department's curriculum, supervision of graduate students, and development of an independent research program. Salary will be on a 12-month basis; it will be commensurate with the experience of the candidate and compatible with the salary structure of the University of Wisconsin System. Send detailed curriculum vitae and statement of research interests to: **H. F. DeLuca**, Chairman, Department of Biochemistry, University of Wisconsin, Madison, Wis. 53706. These applications must be received before 28 February 1981. Applicants should have three letters of recommendation submitted to the same address. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR, ENVIRONMENTAL GEOCHEMISTRY. Tenure-track appointment involving teaching and research in aqueous geochemistry and thermodynamics. Excellent opportunities for interdisciplinary collaboration with ecologists, meteorologists, geologists, and hydrologists. Send résumé, reprints, and names of three references to: **George M. Hornberger**, Department of Environmental Sciences, Clark Hall, University of Virginia, Charlottesville, Virginia 22903. Closing date for applications: 1 February 1981.

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

POSITIONS OPEN

ASSISTANT PROFESSOR, GENETICS/PHYSIOLOGY OF PLANT-PATHOGEN INTERACTIONS

Applications are invited for a tenure-track position in genetics or physiology of host-pathogen interactions or genetics of plant-pathogenic fungi or plant-pathogenic prokaryotes. Available 1 July 1981. Duties include development of a research program and teaching at graduate and undergraduate levels. A Ph.D. degree is required with a strong academic and research background in genetics or physiology of host-pathogen interactions or in fungal genetics or bacterial genetics with a major interest in working with plant-pathogenic microorganisms. Applicants should send résumé, statement of research and teaching interests, complete transcripts, and names and addresses of four references by 13 February 1981 to: **Dr. J. F. Rissler**, Chairwoman, Search Committee, Department of Botany, University of Maryland, College Park, Md. 20742. *Equal Opportunity/Affirmative Action Employer.*

The **GEOPHYSICS PROGRAM** at the University of Washington seeks applicants for a tenure-track, **ASSISTANT PROFESSOR** position, beginning September 1981. Candidates specializing in the areas of space physics or applied geophysics are of particular, but not exclusive, interest. All applicants should be heavily committed to high quality teaching at the graduate level, to advising graduate students on important and advanced research projects, and to carrying out innovative, independent research. A Ph.D. is required. Interested persons should send a résumé and four letters of recommendation to: **Dr. Ronald T. Merrill**, Geophysics Program AK-50, University of Washington, Seattle, Washington 98195. Deadline for applications is 28 February 1981. *An Equal Opportunity/Affirmative Action Employer*

The **GEOPHYSICS PROGRAM** of the University of Washington seeks applicants for a nontenure-track, **RESEARCH ASSISTANT PROFESSOR** position in applied geophysics, beginning September 1981. The position will be primarily supported by research grants and contracts. The successful candidate must be strongly committed to research and teaching, and be able to teach courses and supervise graduate student research in reflection seismology-seismic stratigraphy, geophysical well logging, and rock mechanics. Research interests should emphasize laboratory and field investigations of seismic wave interaction with fractured rock, with special attention to the borehole environment. Ph.D. is required. Interested persons should send résumé and four letters of recommendation to: **Dr. Ronald T. Merrill**, Geophysics Program AK-50, University of Washington, Seattle, Washington 98195. Deadline for applications is 28 February 1981. *An Equal Opportunity/Affirmative Action Employer*

ASSISTANT OR ASSOCIATE PROFESSOR OF MICROBIOLOGY. Tenure-track. Must be able to conduct independent research in soil, food, or agricultural microbiology; secure outside funding; teach microbial biochemistry and undergraduate advanced microbiology. Send résumé describing teaching and research and addresses of three references by 1 February 1981 to: **Dr. R. Sjogren**, Microbiology-Biochemistry Department, Hills Building, University of Vermont, Burlington, Vt. 05405. *Women and minority applicants are encouraged to apply.*

ASSISTANT/ASSOCIATE PROFESSOR MEMBRANE PHYSIOLOGY

The Department of Physiology and Biophysics at The University of Iowa College of Medicine invites applications for tenure-track appointments at the assistant or associate professor level. We seek individuals having well-defined interests in cellular or molecular aspects of membrane function, with particular focus on transport across eukaryotic cell membranes. Applicants must have the Ph.D. and/or M.D. degree and two or more years of postdoctoral or faculty experience, with an excellent record of productivity in original research. Candidates should be prepared to conduct a strong independent research program and take an active role in the medical and graduate teaching activities of the department. Please send curriculum vitae, a brief description of research interests, teaching experience and career objectives, an indication of rank desired, and names of at least three references to: **Dr. Michael Jennings**, Department of Physiology and Biophysics, The University of Iowa College of Medicine, Iowa City, Iowa 52242.

The University of Iowa is an Equal Opportunity/Affirmative Action Employer. We welcome applications from qualified female and minority candidates.

POSITIONS OPEN

ASSISTANT PROFESSOR, Department of Home Economics, to begin 1 September 1981. Instruct undergraduate and graduate courses in nutrition and dietetics, conduct research in clinical or community nutrition. Qualifications: doctorate in nutrition, registered dietitian; research experience. Send résumé, official transcripts and three letters of recommendation by 1 March 1981 to: **Dr. Henry J. Thompson**, Chairperson, Department of Home Economics, Pettie Hall, University of New Hampshire, Durham, New Hampshire 03824. *The University is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF MICROBIOLOGY UNIVERSITY OF CALIFORNIA, BERKELEY

The Department of Microbiology and Immunology at the University of California, Berkeley, is seeking a microbiologist to fill a tenure-track faculty position at the assistant professor level beginning 1 July 1981. Research and teaching in the department stress the molecular and cellular biology of both microorganisms and the immune system. Applicants should hold a Ph.D. or M.D. degree and have postdoctoral experience. Responsibilities of the position will include participation in graduate and undergraduate instruction in microbiology. Candidates should have sound training in microbiology and will be expected to establish a strong, independent research program to provide training for graduate students and postdoctoral fellows in the candidate's main area of interest. Preference will be given to candidates who intend to emphasize genetic and biochemical approaches to the investigation of fundamental problems in microbiology, for example, molecular mechanisms of microbial pathogenesis, control of microbial processes by extrachromosomal genetic elements, molecular studies of microbial ecology, and the structure and function of microbial cells.

Please send curriculum vitae, summary of proposed research program, and the names of three references to:

Dr. Hiroshi Nikaido
Chairperson, Search Committee
Department of Microbiology and Immunology
University of California
Berkeley, Calif. 94720

Applications will close on 30 January 1981, and no applications can be accepted after that date.

The University of California is an Affirmative Action Employer.

ASSISTANT PROFESSORS, MOLECULAR GENETICS

The Department of Microbiology at Johns Hopkins University School of Medicine plans to broaden its scope to include the molecular genetics of higher organisms. Openings at the assistant professor level are anticipated beginning in January 1982. Candidates of exceptional promise in research and teaching are invited to apply by submitting their curriculum vitae, a brief statement of research plans, and the names of two or three individuals who may be contacted as references to: **Dr. Thomas J. Kelly, Jr.**, Department of Microbiology, Johns Hopkins University School of Medicine, Baltimore, Md. 21205. *Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR, PHYSIOLOGY

The Department of Physiology at the University of Minnesota invites applicants for a tenure-track appointment at the assistant professor level beginning about 1 July 1981. Selection will be based primarily on demonstrated research excellence. Applicants must have at least 1 year of postdoctoral experience. The research must be in the field of membrane transport processes, preferably involving one of the following areas: membrane reconstitution of transport proteins; intracellular ionic concentration measurements; studies on single dispersed tissue cells; measurements of conformational changes of membrane proteins; single channel studies. The applicant will be expected to participate in the graduate and undergraduate teaching programs of the department. Send curriculum vitae, including undergraduate and graduate transcripts, a summary of planned research, and the names and telephone numbers of three references to: **Search Committee**, Department of Physiology, University of Minnesota, 6-255 Millard Hall, 435 Delaware Street, SE, Minneapolis, Minnesota 55455.

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

POSITIONS OPEN

BACTERIOLOGIST

Assistant professor. Tenure-track position available August 1981. Teaching responsibilities include a large lecture-sized introductory bacteriology course for nurses. The Ph.D. is required and the development of a research program is expected. Application deadline is 19 January 1981. Send curriculum vitae and names of three references to: **Dr. Harold G. Marshall, Chairman, Department of Biological Sciences, Old Dominion University, Norfolk, Va. 23508.** *An Affirmative Action/Equal Opportunity Employer.*

The University of Michigan Medical School, Department of Internal Medicine, Division of Nuclear Medicine, has a position available for an **ASSISTANT RESEARCH SCIENTIST**. Candidates should have Ph.D. in physics, electrical engineering, computer science, or related fields. Prior working experience in nuclear medicine or radiology will be desirable. Demonstrated ability to do independent research study, to have published results, and to have participated in presentations at national meetings. Position will include research related to Positron Emission Computed Tomography, including reconstruction algorithms equipment design, image processing, and data analysis. Send curriculum vitae to: **John W. Keyes, Chief, Division of Nuclear Medicine, University of Michigan Medical School, Box 021, W5533 Main Hospital, Ann Arbor, Michigan 48109.** *A nondiscriminatory, Affirmative Action Employer.*

The University of Michigan Medical School, Department of Biological Chemistry, has a position available now for a **RESEARCH SCIENTIST**. Full-time, nontenured-track research position available for Ph.D. with 5 to 10 years of independent research experience in diabetes. Background in enzymology, clinical biochemistry, and immunology will be given preference. Salary: \$20,000 per annum, contingent upon continued grant support. Interested persons should submit curriculum vitae and names of three references to: **Chairman, Search Committee, Department of Biological Chemistry, University of Michigan, Ann Arbor, Mich. 48109.** *A nondiscriminatory, Affirmative Action Employer. Code 0400NO.*

The University of Michigan Medical School, Department of Internal Medicine/Allergy Division, is in need of a full-time faculty member at the **INSTRUCTOR OR PROFESSORIAL** level who is capable of carrying out the following responsibilities: to formulate and carry out significant original research in some aspect(s) of the broad field of allergy and immunology. This includes such possible areas as studies of the secretion, structure and function of mediators of immediate and delayed hypersensitivity, cell-mediated immunity, immunopharmacology, immunopathology, immune deficiency diseases, molecular immunology, respiratory physiology, and related areas. The individual should have, or have reasonable expectations of obtaining, grant support for his/her research. Individual should be capable of working independently; to have the fund of knowledge and communication skills to teach effectively at the bedside, clinic, seminar, or lecture hall. He or she should be able effectively to aid students in acquiring both clinical skills and basic knowledge; to have the clinical knowledge and skills to provide exemplary clinical care to patients afflicted with illnesses encompassed by the field of internal medicine and especially patients with allergic or immunologic diseases. He or she should be Board-eligible in internal medicine and in allergy and immunology. Send replies to: **Dr. Kenneth Mathews, Chief, Allergy Division, Department of Internal Medicine, University of Michigan Medical School, Box 027 D3132 North Outpatient Building, Ann Arbor, Michigan 48109.** *A nondiscriminatory, Affirmative Action Employer. Code 137BO.*

CYTOGENETICS

Litton Bionetics, Inc., a leader in biomedical research (laboratories located in suburban Maryland) currently has several positions available for degreed individuals with minimum of 1 year experience in human and/or mammalian cytogenetics, that is, of karyotyping ability and banding techniques.

Litton Bionetics offers excellent company benefits and educational assistance program. For consideration, please send résumé with salary history in confidence to:

**S. Janda
Litton Bionetics, Inc.
5516 Nicholson Lane
Kensington, Md. 20795**

POSITIONS OPEN

FLORIDA STATE UNIVERSITY ASSISTANT PROFESSOR—MICROBIOLOGY

A tenure-track faculty position is available in the Department of Biological Science, Florida State University. Research emphases are not restricted but should be related to general microbiology, microbial ecology, microbial genetics, molecular biology of prokaryotic or eukaryotic microorganisms, or microbiology-related immunology. The applicant is expected to develop an independent research program of high quality. Teaching responsibilities include courses at the undergraduate and graduate level. The position will be part of the microbiology group within our broad-based, expanding department. Applications should be accompanied by complete curriculum vitae, publication list, copies of recent publications, and a statement of research interests. In addition, three letters of reference evaluating the academic, research, and teaching potential of the applicant should be submitted directly to: **A. Gib DeBusk, Chairman, Department of Biological Science, Florida State University, Tallahassee, Florida 32306.** *Florida State University is an Affirmative Action/Equal Opportunity Employer and welcomes applications from women and minority group members.*

STATE UNIVERSITY OF NEW YORK AT BUFFALO Department of Biological Sciences

The Department of Biological Sciences is seeking applicants for the positions of assistant professor and full or associate professor which are expected to be filled starting September 1981 in the following areas: **physiology, including neuro and reproductive endocrine systems, animal behavior, and embryology or developmental biology.**

Assistant professor: for this tenure-track position applicants are expected to have 2 to 3 years of postdoctoral experience in their area of expertise and be able to demonstrate potential for an independent research program as well as promise for excellence in teaching. To apply applicants must submit curriculum vitae, including bibliography, statement of research interests and teaching experience, and have four letters of reference sent to the address below.

Full or associate professor: for this position applicants are expected to have an ongoing, well-defined, successful research program in addition to demonstrable teaching skills. To apply applicants must submit curriculum vitae.

Applications should be sent to: **Chairman of Search Committee, Department of Biological Sciences, 109 Cooke Hall, State University of New York at Buffalo, Buffalo, New York 14260.** Application deadline: 30 January 1981.

State University of New York at Buffalo is an Equal Opportunity/Affirmative Action Employer.

BIOLOGICAL OCEANOGRAPHER/ PHYCOLOGIST

The Department of Biology and Committee on Oceanography at Harvard University seek to make a joint appointment in biological oceanography/phycoecology at the rank of assistant professor. Applicants should have research interests in both areas and be able to teach in both at the undergraduate and graduate levels. The closing date for applications is 1 February 1981, and the appointment will be effective 1 July 1981. The salary for an assistant professor step 1 in the current 1980-1981 budget year is \$18,900. Applicants should send curriculum vitae, statement of research interests, and names of three references to: **Professor James J. McCarthy, Chairman, Search Committee on Biological Oceanography/Phycology, Department of Biology, Harvard University, Cambridge, Massachusetts 02138.** *Harvard is an Equal Opportunity/Affirmative Action Employer.*

University of California, Los Angeles (UCLA), Neuropsychiatric Institute, seeks **CHIEF NEUROPSYCHOLOGIST** to develop and direct major new training program in neuropsychology. **Qualifications:** clinical and research experience with neurological, neurosurgical, and psychiatric patients, both adults and children, including mental retardation, learning disabilities, and substance abuse; substantial experience in training neuropsychologists; and academic achievements, including publications, sufficient to qualify for senior faculty appointment. **Contact: Peter Tanguay, M.D., Chairman, Neuropsychology Search Committee, 760 Westwood Plaza, Los Angeles, Calif. 90024.** *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DALHOUSIE UNIVERSITY DEPARTMENT OF BIOLOGY

The Department of Biology has three positions available for appointment of faculty at the rank of assistant professor or at a higher rank for very well qualified applicants. All three positions require proven ability in undergraduate teaching, in the supervision of graduate students, and in research and are effective 1 July 1981. Two of the positions are in the tenure-stream. The third will be for a limited term of 3 years to replace a faculty member on leave of absence. Two of the positions are in the fields of **theoretical ecology and marine biology**. Applications are especially sought from individuals with interests in the physiological ecology of invertebrates or fishes and with an aptitude and interest in teaching the diversity and structure of animals, invertebrate biology, and/or fish biology. The third position is in the field of **microbiology**. Individuals with a strong background in general microbiology and with interest in the applied areas of microbiology are encouraged to apply. Applications consisting of curriculum vitae and at least three confidential letters of reference should be sent to: **Dr. B. K. Hall, Chairman, Department of Biology, Dalhousie University, Halifax, Nova Scotia, Canada B3H 4H6,** from whom further information may be obtained. Applications close when the positions are filled.

NATIONAL SCIENCE FOUNDATION DIVISION OF OCEAN SCIENCES BIOLOGICAL OCEANOGRAPHER

National Science Foundation (NSF), Division of Ocean Sciences, is seeking qualified applicants for a 1- to 2-year rotational or permanent appointment as **PROGRAM DIRECTOR FOR THE BIOLOGICAL OCEANOGRAPHY PROGRAM**. This position has a salary range of \$37,871 to \$50,112.50 per annum. The program provides support for scientists primarily from academic institutions to pursue fundamental research in biological oceanography. The selected candidate will carry out program planning, proposal evaluation, administration of research grants, and liaison with other federal agencies. Applicants should have a Ph.D. in biological oceanography or a related biological science, or the equivalent in experience, plus at least 3 years of specialized experience in biological oceanography. Field experience in an academic institutional program is highly desirable. Applicants should send letters of interest and SF-171 or current résumé by 31 January 1981 to: **National Science Foundation, Division of Personnel and Management, Personnel Administration Branch, 1800 G Street, NW, Washington, D.C. 20550; attention: E. Paul Broglie, Announcement Number EX-81-1.** For further information, telephone: 202-357-7841. *NSF is an Equal Opportunity Employer.*

CELL MEMBRANES/CELL SURFACE

The Department of Developmental and Cell Biology, University of California, Irvine, is looking for a cell biologist who studies cell membranes in relation to one or more of the following areas: cell movement and migration, cyto-skeleton and cell shape, cell surface interactions with substrates, cell-cell interactions. We are looking for a person whose research program could closely relate to some of the 21 other faculty whose emphasis is in developmental biology and cell physiology. Though we are looking primarily for a senior person the position can be filled at either the senior or junior level. For the former we want an individual who has a well-established research program, and for the latter at least 2 years of postdoctoral experience is desired.

Please submit curriculum vitae plus the names of three references to:

**Michael W. Berns, Chairman
Developmental and Cell Biology
University of California
Irvine, Calif. 92717**

An Equal Opportunity/Affirmative Action Employer

DEVELOPMENTAL PSYCHOLINGUIST. Research position available immediately for Ph.D. linguist or psychologist. We require someone experienced in language acquisition research, and prefer applicants with a good background in phonology as well as linguistics in general. Knowledge of German and/or Dutch is useful. Position involves independent and collaborative research in interdisciplinary setting. Salary commensurate with experience and age. Send curriculum vitae, names of three referees, and statement of research interest to: **Professor W. J. M. Levelt, Max-Planck-Institut für Psycholinguistik, Berg en Dalseweg 79, 6522 BC Nijmegen, The Netherlands.**

POSITIONS OPEN

CHAIRPERSON

The Indiana University School of Medicine invites applications for the position of **professor and chairperson**, Department of Microbiology and Immunology. The candidate should have a vital commitment to academic excellence, national recognition for research accomplishments, and strong experience in medical education and administration. The department is multidisciplinary with active research programs and with teaching responsibilities in the School of Medicine as well as Dentistry, Nursing, and the Graduate School. Interested parties should send their curriculum vitae and the names of four references by 15 January 1981 to: **C. D. Nordschow, M.D., Chairman, Search and Screen Committee, Department of Pathology, Indiana University School of Medicine, 1100 West Michigan Street, Indianapolis, Indiana 46223.**

Indiana University is an Affirmative Action/Equal Opportunity Employer, M/F.

DEAN—SCIENCE, MATHEMATICS AND ENGINEERING

The University of Nevada, Las Vegas, seeks applicants for the position of Dean of the College of Science, Mathematics and Engineering (CSME). The University is a youthful and growing institution with 400 faculty members, overall enrollment approaching 10,000, and a full-time enrollment of 6,500. The college has 54 faculty and 15 adjunct faculty in its departments of Biology, Chemistry, Engineering, Geoscience, Mathematics, and Physics. Current full-time enrollment exceeds 1000 and growth rate averages 3.2 percent annually. External funding is presently \$834,000. Master's programs exist in biology, mathematics, and physics and are being developed in geology, computer science, and water resources management. The University's location offers a unique climate for development of arid land studies.

In a time of tightening budgets and growing demands, the college seeks to develop its research programs, educate a nontraditional student body, and provide community service. Its dean should be a strong and thoughtful leader, a skilled and experienced administrator, and a scholar with a proven record in teaching and research. This tenure-track position is associated with a full professorship in one of the departments.

Interested persons should send a letter of application, a complete résumé, and names and addresses of four references to: **Search Committee for Dean, CSME, Office of the Academic Vice-President, University of Nevada, Las Vegas, Las Vegas, Nevada 89154.** For more information, telephone: **702-739-3301.** Deadline for receipt of applications is 31 January 1981. *Equal Opportunity/Affirmative Action Employer.*

DEAN, SCHOOL OF MARINE SCIENCE, AND DIRECTOR, VIRGINIA INSTITUTE OF MARINE SCIENCE COLLEGE OF WILLIAM AND MARY

Administers graduate school of 75 faculty and 120 students, technical staff of 300, research and operations budget of \$10 million, extensive advisory services for state agencies and commercial seafood and fishing industries. Reports to the president. Qualifications required: Ph.D. in relevant natural science; significant academic experience and experience in grants administration; important scholarly and professional achievement; the vision for long-range planning in educational, research, and advisory areas; and the ability to provide leadership and to work harmoniously with faculty and staff, students, related governmental agencies and commercial interests, funding authorities, and the community at large. Faculty rank and salary commensurate with qualifications. Successful applicant expected to be available on or before 1 July 1981. Application deadline: 30 January 1981. Nominations/applications to: **Graduate Dean of Arts and Sciences, College of William and Mary, Williamsburg, Virginia 23185.** *An Equal Opportunity/Affirmative Action Employer.*

A medical school in the New York metropolitan area is looking for a qualified person to run a FACS II. Applicants should have interest and experience in the biological sciences. Experience with the FACS II, computer training, or training in biomedical engineering preferred but not required. Position is at associate rank with all faculty benefits and privileges. Duties include helping investigators with their runs on the cell sorter, teaching others the use of the sorter and computerized analysis of the data, and maintenance of the equipment.

Equal Opportunity/Affirmative Action Employer
Box 293, SCIENCE

POSITIONS OPEN

DEAN OF ENGINEERING at MIT

The Massachusetts Institute of Technology (MIT) invites nominations and applications for the position of Dean of the School of Engineering.

The dean of the School of Engineering is responsible for the school's academic programs, for faculty appointments, and for the general setting of priorities in the school.

In addition, the dean is a member of the Academic Council, the senior policy-making group of the MIT administration and, in this capacity, he or she participates fully in the governance of the university.

Nomination or application, accompanied by curriculum vitae and the names of current references, should be sent to:

**Professor Francis E. Low
Provost
Massachusetts Institute of Technology
77 Massachusetts Avenue
Room 3-208
Cambridge, Mass. 02139**

MIT is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN INDUSTRIAL MICROBIOLOGY

The Department of Botany and Microbiology at The University of Oklahoma is pleased to announce a new assistant professor, tenure-track position in industrial microbiology, beginning in September 1981. The successful candidate must have a Ph.D. in microbiology or a directly related field and be able to teach an introductory course in microbiology as well as an advanced course in a specialty area. Preferences will be given to those with postdoctoral experience. Applicants capable of developing an active research program emphasizing recombinant DNA, industrial mycology, biomass utilization, or geomicrobiology as these fields apply to energy, environmental, or agricultural problems will be given particularly strong consideration. Please send curriculum vitae, graduate transcripts, three reference letters, and a statement of projected research activities to:

**Dr. Doug Munneke, Chair of Search Committee
Department of Botany and Microbiology
The University of Oklahoma
Norman, Oklahoma 73019**

Deadline for receiving completed applications is 1 February 1981. *The University is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION CORNELL UNIVERSITY

PROFESSOR OF FOOD ENGINEERING to teach course(s) in thermal processing, physical properties of foods, and concepts of product development; conduct research in food engineering/process development. Ph.D. in food science/food engineering or chemical engineering required. Appropriate professional experience desirable. Excellent salary, extensive fringe benefits, free tuition for children, consulting time, sabbatic, and so forth. Send complete curriculum vitae, transcripts, and four reference letters by 30 January 1981 to: **Dr. J. E. Kinsella, Department of Food Science, 114 Stocking Hall, Cornell University, Ithaca, N.Y. 14853; telephone: 607-256-7616.**

Cornell University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN PLANT MOLECULAR BIOLOGY

The Department of Chemistry and Biochemical Sciences, Oregon Graduate Center, invites applications for a faculty position in the area of plant molecular biology, including tissue culture and/or gene transfer technology. Candidates must have extensive research experience in their field and will be expected to develop a strong research program in addition to classroom teaching at the graduate level. Applications should include curriculum vitae, a brief description of past, ongoing, and proposed research, and the names and addresses of at least three individuals well acquainted with their research and teaching abilities. Applications should be addressed to:

**Office of the President
Oregon Graduate Center
19600 Northwest Walker Road
Beaverton, Oregon 97006**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

FACULTY POSITION: assistant professor. Invertebrate zoologist, tenure track. Primary responsibilities: to teach undergraduate course in invertebrate zoology and advanced undergraduate/graduate courses in entomology and parasitology. Supervise undergraduate and graduate research. Ph.D. preferred. Send letter of application, résumé, transcripts, and three letters of reference by 15 January 1981 to: **Thomas R. Manley, Chairperson, Search Committee, Department of Biological and Allied Health Sciences, Bloomsburg State College, Bloomsburg, Pa. 17815.** *Equal Opportunity/Affirmative Action Employer.*

TWO FACULTY POSITIONS: assistant/associate professor of metabolic nutrition and food sciences: Ph.D./R.D. undergraduate (CUP) and graduate teaching in clinical dietetics and therapeutics plus clinical nutrition and metabolic research at the graduate level. Active research program and/or current clinical experience desirable.

Ph.D. food science/food chemistry, graduate and undergraduate teaching, plus active research in food chemistry/food-processing effects.

Salary and rank open depending on qualifications. Send curriculum vitae, bibliography, and references to:

**Dr. Stanley Segall, Department Head
Department of Nutrition and Food Sciences
Drexel University
Philadelphia, Pa. 19104**

Drexel University is an Equal Opportunity Employer.

FACULTY POSITION IN CELL BIOLOGY CORNELL UNIVERSITY

A tenure-track faculty position in cell biology is open in the Section of Biochemistry, Molecular and Cell Biology. Applicants are being sought with demonstrated research excellence in animal cell biology in the areas of immunology, cytoskeleton, or cell-cell interactions. Participation in the cell biology teaching program is also important. Rank and salary to be determined by experience. Applicants should send curriculum vitae and a statement of future research plans and arrange for three letters of recommendation to be sent to:

**Richard E. McCarty, Chairman
Section of Biochemistry, Molecular and Cell Biology
Cornell University
Ithaca, New York 14853**

The deadline for receipt of application materials and letters is 15 February 1981.

Cornell University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION. The Department of Psychiatry of the Cornell University Medical College has an opening for a **clinical psychologist** with special expertise in research design and data evaluation. Demonstrated research capabilities in an area related to psychiatry (for example, treatment outcome, psychometrics, neuropsychology, psychobiology, social psychology) would be expected. Applicants should be prepared to teach and supervise psychological assessment techniques at the graduate level. Academic level and salary for this full-time faculty position are open. Applications should be sent to: **Daniel Stern, M.D., Department of Psychiatry, 525 East 58 Street, New York, New York 10021.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION—BIOLOGY JOHNS HOPKINS UNIVERSITY

The Department of Biology invites applications for a tenure-track position in the broad area of developmental biology. The research interests of this department and of the Carnegie Institution, which is located on this campus, include genetic, cellular, and molecular aspects of development. We are seeking a person whose research involves one or more of these areas and who will participate in our teaching of developmental biology. Send curriculum vitae, bibliography with reprints of relevant publications, and summary of research interests to:

**Dr. Allen Shearn, Chairman
Developmental Biology Search Committee
Department of Biology
The Johns Hopkins University
Baltimore, Maryland 21218**

In addition, please arrange to have three letters of recommendation sent to the above address. Applications will be accepted until 16 February 1981.

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

POSITIONS OPEN

FACULTY POSITION IN MOLECULAR BIOLOGY

Applications are invited for several tenure-track faculty positions at the assistant or associate professor level beginning September 1981 in a new Department of Molecular Biology at the Northwestern University Medical and Dental Schools. Applicants should have a Ph.D. degree in molecular biology, biochemistry, genetics, or a related area, or an M.D. or D.D.S. degree and also have several years of postdoctoral research experience. The initial appointments are expected to be within the following areas of prokaryotic and eukaryotic molecular biology: nucleic acid structure, function, and synthesis; protein-nucleic acid interactions; molecular genetics and the control of the gene expression; cell regulation and development. Candidates having experience in gene cloning, recombinant DNA technology, and DNA sequencing are especially encouraged to apply. The successful applicants will be expected to establish a vigorous independent research program and to participate in the teaching of graduate, medical, and dental courses and in the training of graduate and postdoctoral students. Applicants should send complete curriculum vitae, a brief description of previous research and teaching experience and of future research and teaching interests (three to four pages), a bibliography, reprints of significant published work or preprints of manuscripts in press, and recommendations from at least three references by 31 January 1981 to: **Dr. Robert H. Rownd, Chairman, Molecular Biology Search Committee, Northwestern University Medical and Dental Schools, 303 East Chicago Avenue, Chicago, Illinois 60611. Northwestern University is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.**

FACULTY POSITION—NUTRITION

Ph.D. in biochemistry or nutrition with postdoctoral experience in human nutrition to teach in the Department of Chemistry and Nutrition. Applicants should have experience appropriate to the development of educational programs in biochemistry, basic nutrition, and clinical nutrition. Appointee will have the opportunity to utilize training and experience in a practical clinical setting. Rank and salary open. Interested persons should send curriculum vitae and have official transcripts and at least three letters of recommendation forwarded directly to:

Dr. Steven L. Blankenship
Department of Chemistry and Nutrition
National College of Chiropractic
200 East Roosevelt Road
Lombard, Ill. 60148
An Equal Opportunity Employer

HEAD, DEPARTMENT OF PATHOLOGY, College of Veterinary Medicine and Biomedical Sciences, Colorado State University. Applications and nominations are invited for a scientist to serve as administrative leader of a progressive and diversified department. Qualifications required are an earned doctoral degree (D.V.M., M.D., Ph.D., or equivalent), distinguished achievement in teaching and research in a subject area pertinent to the interdisciplinary activities of the department, and a demonstrated capacity for administrative leadership. Salary is negotiable. Closing date for applications is 1 February 1981; deadline may be extended. Candidates should send a statement of interest, curriculum vitae, and names of three professional references to: **F. A. Murphy, Chairman, Search Committee, Office of the Dean, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, Colorado 80523; telephone: 303-491-7051. Colorado State University is an Equal Opportunity/Affirmative Action Employer. Equal Opportunity Office: 314 Student Services Building.**

DEPARTMENT HEAD DEPARTMENT OF PSYCHOLOGY

Tenured professor, beginning July 1981, in department of 14 faculty members supporting clinical, developmental, and experimental programs. Candidates must have demonstrated research productivity, together with experience in academic and research administration. Salary commensurate with experience. Send curriculum vitae to:

Chairman, Psychology Search Committee
Office of the Dean
Western Reserve College
Case Western Reserve University
Cleveland, Ohio 44106

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

HEAD, Department of Chemistry, University of Illinois at Chicago Circle

The University of Illinois at Chicago Circle announces reopening of the search for head of the Department of Chemistry, effective 1 September 1981. A candidate must have a Ph.D. degree and should present a distinguished record of scholarly achievement in the chemical sciences which is commensurate with the rank of professor in this university. A candidate must be committed to high-quality teaching at both the undergraduate and graduate levels and should have the ability, as indicated by past achievement, to generate substantial research support. His or her principal contribution will be to lead the department, already well established, in its continuing effort to maintain and increase its excellence. The salary is negotiable. The deadline for applications, which should include curriculum vitae, is 5 January 1981. Arrangements should be made for the submission of four letters of recommendation. Address correspondence to:

Professor David G. Gorenstein
Chairman, Search Committee
Department of Chemistry
University of Illinois at Chicago Circle
Box 4348
Chicago, Illinois 60680

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

IMMUNOLOGY—MICROBIOLOGY

Faculty position, assistant professor (tenure track), available September 1981. Ph.D. required. Duties include teaching immunology at undergraduate and graduate levels. Candidates are expected to maintain an active research program in some aspect of immunology. The University of Akron is a consortium member of the Northeastern Ohio Universities College of Medicine. Applications, including curriculum vitae, copies of transcripts, and three letters of reference should be sent by 12 January 1981 to: **Dr. Dale Jackson, Department of Biology, The University of Akron, Akron, Ohio 44325.**

Equal Opportunity Employer

INSECT PEST MANAGEMENT Cornell University

Assistant professor, tenure-track position, IPM forage and field crops. Ph.D. with training in fundamentals of arthropod pest management and application of computer technology to IPM delivery systems. Effort distribution 50 percent research, 50 percent extension, in development and implementation of IPM programs in collaboration with interdisciplinary team. Opportunity for teaching may be developed. Send applications by 1 February 1981 to: **Dr. E. H. Smith, Department of Entomology, Cornell University, Ithaca, N.Y. 14853.** Include curriculum vitae, transcripts, and five references. *Cornell University is an Equal Opportunity/Affirmative Action Employer.*

LABORATORY DIRECTOR—DEPARTMENT ADMINISTRATOR Department of Biochemistry, Rice University

Responsibility for the administrative and service operations of the department. Duties will include fiscal management of budgets, personnel management of staff, research administration of grants and contracts. Substantial previous experience in the above areas and a reasonable scientific background are required. Send résumé and three letters of reference to: **Professor George J. Schroepfer, Jr., c/o Jan Griffin, Allen Center, Rice University, Houston, Texas 77001.**

An Equal Opportunity/Affirmative Action Employer

MICROBIOLOGIST. The Department of Microbiology and Immunology, University of Colorado Health Sciences Center, will be pleased to receive applications from individuals who have experience and proven ability in teaching medical microbiology for a tenure-track position. Individuals should have postdoctoral experience and have demonstrated the capacity to do creative scientific research in the area of mechanisms of bacterial or viral pathogenesis. *Minorities and women are encouraged to apply.* Applications should be received by 1 March 1981. Send curriculum vitae and names of three or more references to: **Dr. L. I. Pizer, Department of Microbiology and Immunology, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Denver, Colorado 80262. The University of Colorado Health Sciences Center is an Equal Opportunity Employer.**

POSITIONS OPEN

MANAGER, BIOENGINEERING, for anticipated problem definition studies of the general area of medical devices. Applicants with experience in medical device research and development, FDA requirements, marketing and supervision, and with degree in bioengineering/biomaterials are desired. **Director, Professional Recruiting, The Franklin Institute, 20th and Parkway, Philadelphia, Pa. 19103. Equal Opportunity Employer, M/F/H.**

MARINE SCIENCES FACULTY POSITIONS

Applications for the following new positions will be accepted until 1 January 1981 or thereafter until the positions are filled.

Developmental biologist (invertebrate), fisheries biologist, zooplanktonologist, chemical oceanographer. Tenure track; Ph.D. required; assistant professor level; \$16,968 for 9 months.

Geological oceanographer. Visiting professor; Ph.D.; up to 2-year appointment at assistant professor level; salary \$16,986 for 9 months.

Chemical oceanographer, physical oceanographer (latter requiring computer programming). Technical assistants; Ph.D. or qualified M.S.; salary \$12,000 for 12-month appointments.

Submit applications, curriculum vitae, brief statement of research goals, and three letters of recommendation before 1 January 1981 to: **Chairperson, Search Committee, Department of Marine Sciences, University of Puerto Rico, Mayaguez, Puerto Rico 00708.**

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.**

UNIVERSITY OF CHICAGO DIVISION OF THE BIOLOGICAL SCIENCES

The Department of Pharmacological and Physiological Sciences is considering candidates with research interests in the area of **NEUROBIOLOGY.** *From the time of its original charter, the principle of the University of Chicago has been to appoint scholars without regard to race, color, religion, sex, or national origin.* Please have three professional persons write us concerning you and send your résumé, together with your most significant publications, to:

Alfred Heller, Professor and Chairman
Department of Pharmacological and Physiological Sciences
University of Chicago
947 East 58 Street
Chicago, Illinois 60637

PHYSIOLOGICAL PLANT ECOLOGIST

Permanent, tenure-track position is open for a physiological plant ecologist who holds Ph.D. or equivalent and has full-time college teaching experience. Duties of position include directing preforestry program and regular teaching of general ecology, plant ecophysiology, environmental conservation and dendrology. General biology, general botany, plant taxonomy, and freshman/sophomore composition seminars may be taught on a rotating basis with other faculty. Experience in computer programming is essential. Deadline for application is 1 February 1981. Candidates should send curriculum vitae, official transcripts, and three reference letters to: **Dr. Preston Somers, Chairman, Department of Biology, Forestry, and Agriculture, Fort Lewis College, Durango, Colo. 81301. Telephone: 303-247-7327.**

Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL FELLOW OR ASSOCIATE with experience in electron microscopy and immunofluorescence techniques for participation in a biochemical and cytological study of drugs that interact with the cytoskeleton in cultured macrophage cell lines. Send curriculum vitae and names of three references to: **Drs. Ora Rosen or Susan Horwitz, Department of Molecular Pharmacology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, N.Y. 10461.**

DEAN
GRADUATE SCHOOL OF PUBLIC
HEALTH
UNIVERSITY OF PITTSBURGH

Applications and nominations are invited for the position of Dean of the Graduate School of Public Health (GSPH) at the University of Pittsburgh. The GSPH has an enrollment of approximately 425 students and 87 full-time faculty and offers programs leading to the M.P.H., M.Sc.Hyg., Dr.P.H., Dr.Sc.Hyg., and Ph.D. The school's academic departments include Biostatistics, Epidemiology, Health Services Administration, Industrial Environmental Health Sciences, Microbiology, and Radiation Health. The school is a major research institution and has recently developed a Health Policy Institute and an Environmental Epidemiology Center. The school is also part of the University Health Center of Pittsburgh which includes six health profession schools and seven hospitals. The school, which has an endowment of approximately \$19 million, has an annual budget in excess of \$8 million.

Candidates should possess an earned doctorate appropriate to public health and should have demonstrated leadership in research, teaching, and service. Letters of interest with curriculum vitae or nominations of individuals must be received before 31 January 1981 at the following address:

Chairperson
Dean Search Committee
Graduate School of Public Health
University of Pittsburgh
Pittsburgh, Pa. 15261

The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer. It is expected that the appointment would be effective between 1 July and 1 September 1981.

BIOCHEMICAL PHARMACOLOGIST

Career opportunity in expanding Research environment for a highly motivated Laboratory Scientist with minimum four years experience, to assume project responsibility in the discovery of new therapeutic agents and approaches. Position requires the MS or equivalent in Biochemistry (preferably) or Chemistry with strong Research and Development background in enzymology and analysis of biological materials.

Our R&D program specializing in immunological diseases, is part of the integrated worldwide research effort of Boehringer Ingelheim. The modern, attractive R&D center is located on the 190 acre Ridgefield, Conn. site which will ultimately house all major operations of Boehringer Ingelheim, Ltd. U.S.A.

Competitive compensation/benefits package and a community of professional colleagues provide a setting for personal and scientific attainment and reward.

For consideration please send resume, in full confidence, to:

Stuart E. Rapp, Personnel Research & Development



**Boehringer
Ingelheim**

90 East Ridge—P.O. Box 368, Ridgefield, CT 06877

Equal Opportunity Employer M/F/H

Research Associate II

Research associate in biochemistry/molecular biology/toxicology. Ph.D. required. Prefer person with broad-based training in biochemistry to study effects of ethanol on mitochondrial structure and function. Experience with mammalian cell cultures is desirable but not required. Salary: \$19,000. Send résumé to:

Lovelace Medical Center
Personnel Office
5400 Gibson, SE
Albuquerque, N.M. 87108

*Affirmative Action
Employer*

RECOMBINANT DNA SCIENTISTS AND TECHNICIANS

Southern Medical and Pharmaceutical Corporation, a Florida based corporation, currently engaged in the production of human interferons and in research and development of recombinant DNA techniques, is currently increasing its staffing for its recombinant DNA division.

The corporation is soliciting curriculum vitae from qualified scientists at the Ph.D. and Master's Degree level with backgrounds in genetic engineering and recombinant DNA technology for immediate employment and/or for future placement of Ph.Ds and post doctoral candidates after completing their current educational or research endeavors. Southern Medical is in particular need of Ph.D level scientists with strong backgrounds in DNA sequencing techniques, molecular biology and biochemistry.

The company is located on the beautiful west coast of Florida, an area with superb recreational, cultural and educational opportunities. Excellent salaries, working conditions, fringe benefits and attractive stock options are available to qualified scientists.

**Southern Medical and Pharmaceutical Corporation
128 South Moon Avenue
Brandon, Florida 33511**

An equal opportunity employer

POSITIONS OPEN

OCEANOGRAPHER. The Alaska Field Office of the Office of Marine Pollution Assessment, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce in Juneau, Alaska, is seeking an oceanographer with scientific expertise in classical and theoretical physical oceanography, including modeling techniques. The participant will be expected to participate fully in program planning and development. The programs are designed to determine the transport and fate of pollutants such as suspended and floating oil and drilling muds as a result of offshore petroleum development. Duties include critical review of highly technical reports and planning documents and frequent contact with principal investigators in order to accurately report status of research projects. Only employees of state or local governments or institutions of higher education, who can obtain a 2-year leave of absence, are eligible to apply. Assignee will remain an employee of his/her respective organization. Base salary range is \$22,486 to \$35,033 per annum. Final salary determination will be based on candidate's current salary and qualifications. Reimbursement for salary, travel, benefits, cost-of-living adjustment, moving expenses, and so forth is negotiable between employee's organization and NOAA. **TO APPLY:** submit an SF-171 "Personal Qualifications Statement," which can be obtained from any federal office or by calling 303-497-6586, to: NOAA/NTIA, Personnel Services Division, R562, Boulder, Colorado 80303, attention: Area Personnel Office. Applications must be received by 12 January 1981, in order to receive consideration. An Equal Opportunity/Affirmative Action Employer.

PHYSIOLOGIST

LECTURER, 2-year appointment, 1981-1982 and 1982-1983, to teach introductory human physiology, mammalian physiology, and possible participation in a pathophysiology course. Ph.D. in physiology or related subject. Salary, based on qualifications and experience, ranges: \$17,964 to \$21,600 or \$22,620 to \$27,252. Send application, résumé, transcripts, and three letters of recommendation to: Dr. Larry Leamy, Chairman, Biology, California State University, Long Beach, Long Beach, Calif. 90840. Deadline: 15 February 1981. An Equal Opportunity/Affirmative Action/Title IX Employer.

POSTDOCTORAL

Postdoctoral positions in membrane biology to study the relationship between enzyme diffusion and catalytic activity in natural and reconstituted membranes using liposome-membrane fusion, differential scanning calorimetry, dual wavelength-dual beam spectrophotometry, and freeze-fracture electron microscopy. Send curriculum vitae, a brief description of current research interests, and names of three references to: Dr. Charles R. Hackenbrock, Chairman, Department of Anatomy, Laboratories for Cell Biology, School of Medicine, University of North Carolina at Chapel Hill, 111 Swing Building 217H, Chapel Hill, N.C. 27514.

POSTDOCTORAL FELLOW

Postdoctoral position (immediate opening) for enzymologist or protein chemist to perform structural and sequence analysis of certain lipogenic enzymes [see: *ABB* 197, 379 (1979); *JBC* 253, 1393 (1978)]. Salary: \$1441 to \$1597 per month. Send résumé and two letters of recommendation to:

Lynn Collins, Personnel Department
CHILDRENS HOSPITAL
51st and Grove Streets
Oakland, California 94609
Equal Opportunity Employer, M/F

POSTDOCTORAL FELLOWS. Two positions now available for persons with strong background in tissue culture, somatic cell genetics, and molecular biology for studies on cellular aging; 2 to 3 years with salary depending upon experience. Apply with curriculum vitae and names and addresses of three references to: Dr. Sam Goldstein, Division of Gerontology, Department of Medicine, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72205.

Several **POSTDOCTORAL POSITIONS** are available to study cellular regulation by Ca^{2+} and cyclic nucleotides (J. H. Wang), structure and function of regulatory proteins (F. C. Stevens), and phospholipid metabolisms and membrane-bound enzymes (P. Choy). Apply by sending curriculum vitae and by arranging for two recommendation letters to be sent to the appropriate individual at: Department of Biochemistry, Faculty of Medicine, University of Manitoba, Winnipeg, Manitoba, Canada R3E 0W3.

POSITIONS OPEN

POSTDOCTORAL POSITIONS IN BIOCHEMICAL PHARMACOLOGY—TOXICOLOGY. Expanding, well-equipped training facility. Research in regulation of heme biosynthetic and drug metabolizing enzymes in hepatic, brain, and endocrine tissues by drugs, toxicants and hormones. Send curriculum vitae and three letters of reference to: Dr. W. N. Piper, Department of Pharmacology, University of Nebraska Medical Center, Omaha, Nebraska 68105. The University is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITIONS available for cellular immunologist and for individual with tissue culture and virology experience to work in field of liver disease and cancer of the liver. Positions available immediately. Send résumé to: Dr. Myron J. Tong, Huntington Memorial Hospital, 100 Congress Street, Pasadena, Calif. 91105.

POSTDOCTORAL POSITION to work on bacterial involvement in pulmonary disease with emphasis on cystic fibrosis. Prior research experience in problems dealing with host-parasite relationships desirable, but not essential. Send curriculum vitae to: Dr. Michael Higgins, Department of Microbiology, Temple University School of Medicine, Philadelphia, Pa. 19140. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS, one available now, another anticipated in June, to study membrane organization and dynamics of protein insertion into bilayers. Expertise in biochemistry or protein or lipid chemistry helpful. Minimum salary: \$14,900 first year. Renewable up to 3 years. Send inquiries or statement of interests, résumé, and three letters of reference to: Dr. B. J. Wisniewski, Department of Microbiology and Molecular Biology Institute, University of California, Los Angeles, Calif. 90024.

POSTDOCTORAL POSITION for a Ph.D. in neuropharmacology/toxicology or biochemical/behavioral teratology to study neurochemical and behavioral consequences of prenatal exposure in rats to organophosphates in a NIH-supported project. Send curriculum vitae and names of three references to: Dr. Frank Welsch, Department of Pharmacology and Toxicology, Michigan State University, East Lansing, Mich. 48824. An Affirmative Action/Equal Opportunity Institution.

POSTDOCTORAL POSITION, TRANSPOSABLE ELEMENTS IN BACTERIA—Available 1 April 1981 or sooner, for research or cellular functions needed for transposition. Experience in molecular genetics or DNA biochemistry is required. Candidates should send curriculum vitae, references, and letter about research interest to: Dr. J. A. Shapiro, Department of Microbiology, THE UNIVERSITY OF CHICAGO, 920 East 58 Street, Chicago, Illinois 60637. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION in biochemical neuropharmacology available immediately for 2 to 3 years to study opiate receptors in mammalian brain and in invertebrate nervous tissue. Background should be in membrane biochemistry or neuropharmacology. Salary commensurate with experience. Send curriculum vitae and names of three references to: Dr. R. Suzanne Zukin, Department of Biochemistry, Albert Einstein College of Medicine, Bronx, N.Y. 10461.

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately and in July 1981 for studies of: (i) steroid hormone receptor biochemistry, (ii) receptor-chromatin interactions, and (iii) role of steroid hormone receptors in reproductive toxicology. The University of Rochester is an Equal Opportunity Employer. Send curriculum vitae and names of three references to: Dr. A. C. Notides, Department of Radiation Biology and Biophysics, University of Rochester School of Medicine and Dentistry, 601 Elmwood Avenue, Rochester, New York 14642.

POSTDOCTORAL RESEARCH ASSOCIATE—The Research Institute of Pharmaceutical Sciences, School of Pharmacy, University of Mississippi, invites applications for a postdoctoral research associate within the Biological Sciences Section. Applicants should have a Ph.D. degree in immunology and experience with immune modulators and in vitro and in vivo models of cell-mediated immunity. Applications and résumés should be directed to: Dr. James C. Murphy, Research Institute of Pharmaceutical Sciences, School of Pharmacy, University of Mississippi, University, Miss. 38677, by 1 January 1981, to ensure consideration. Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION IN ISOTOPIC GEOCHEMISTRY

Department of Geology
and Geophysics
University of Minnesota

Applications are invited for a postdoctoral appointment in geochemistry, commencing 1 January 1981. The candidate should have research interests and training in igneous petrology and isotopic and trace element geochemistry. The appointee is expected to work on problems related to mantle geochemistry and magma genesis, by application of Sm-Nd and Rb-Sr isotopic techniques and trace element geochemistry. Prior experience in solid-source mass spectrometry is desirable. The duration of the initial appointment is for 1 year, with opportunities for renewal for a subsequent year or two. Starting salary is \$16,000 per year.

Please send inquiries and/or résumé and a list of three references to: V. Rama Murthy, Department of Geology and Geophysics, University of Minnesota, 310 Pillsbury Drive, SE, Minneapolis, Minn. 55455.

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

POSTDOCTORAL RESEARCH ASSOCIATE

Seek recent Ph.D. to join physical chemistry program around January 1981 to study the properties of active oxygen species (superoxide radical, hydroxyl radical, and singlet molecular oxygen). Interested candidates should send résumé to: Dr. B. Bielski, Chemistry Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, N.Y. 11973. An Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE—Research on biochemical mechanisms for porphyria and other mammalian toxicity induced by halogenated aromatic compounds. Ph.D. in biochemistry, toxicology, or pharmacology; previous research experience in drug metabolism and biochemical toxicology in animals. Salary: \$13,000 to \$14,500, depending on experience and qualifications. Send curriculum vitae and three letters of reference by 31 January 1981 to: Dr. Donald R. Buhler, Department of Agricultural Chemistry, Oregon State University, Corvallis, Oregon 97331. An Affirmative Action/Equal Opportunity Employer in compliance with Section 504 of the Rehabilitation Act of 1973.

POSTDOCTORAL RESEARCH POSITION available to work on molecular mechanisms of regulation of calcium ion levels in nerve terminals. Must have Ph.D. in medical biophysics with several years of research experience on the role of Ca^{2+} in vertebrate neuronal function and proven track record of successful research in this area as demonstrated by publications. Experience in electron microscopy, radioactive Ca^{2+} procedures, calcium flux studies, and pharmacology of control of neuronal Ca^{2+} levels required. Starting salary level: approximately \$13,500 per year. Send résumé, including names of references, to: Dr. Stanley Goldin, Pharmacology Department, Harvard Medical School, 250 Longwood Avenue, Boston, Mass. 02115.

POSTDOCTORAL RESEARCH POSITION available January 1981 in Montreal, Canada, to participate in identification of membrane protein in the kidney tubular cells. Background in cyclic nucleotide and protein purification essential. Two-year appointment. Salary: \$20,000.

Box 294, SCIENCE

RESEARCH ASSISTANT. Experienced Life Sciences Research Assistant to work in a medical research laboratory. Major responsibilities are development of new drug assay procedures, supervision of laboratory personnel, and coordination of laboratory activities. Other duties include analysis of drug concentrations in biological fluids using existing procedures, digital computer analysis, and small animal surgery. Expertise in the following techniques is essential: HPLC, GC, TLC, extraction of biological fluids with organic solvents, spectrophotometry, spectrophotofluorometry, radioisotope methodology, digital computer analysis. The person must be able to work independently. B.S. in biology, chemistry, or biochemistry with at least 5 years of applicable experience is preferred, but equivalent education or experience is acceptable. Annual salary is \$18,902.

Send curriculum vitae and supporting letters to: James Peters, California Employment Development Department, 297 West Hedding Street, San Jose, Calif. 95110. Deadline for application: 11 January 1981.

POSITIONS OPEN

POSTDOCTORAL POSITIONS

Postdoctoral Trainee (NIH) and Research Associate positions (NIH grants), Department of Microbiology, University of Tennessee (UT), Knoxville, which has excellent interactions with Oak Ridge National Laboratory, UT Memorial Research Center, and UT College of Veterinary Medicine. The department has had four Research Career Development Awardees. Areas of interest (at UT-Microbiology) include viral immunology (togaviruses and herpesviruses), tumor immunology (human); structure and function of herpesviruses in latency and transformation; membrane structure and transport; molecular genetics and differentiation; microbial pathogenesis; microbial ecology: coronavirus replication and structure. Other areas of interest in interacting departments are immunochemistry, liposomes, nucleic acids, C-type viruses, and transposons. Positions available beginning March 1981. Contact A. Brown, Head, Department of Microbiology, University of Tennessee, Knoxville 37916. An Equal Opportunity Employer.

RESEARCH ASSISTANT PROFESSOR, nontenure track, beginning 1 July 1981. Salary range: \$23,000 to \$27,000. Individual will participate in ongoing research program in renal neurophysiology. Applicant should have a Ph.D. or M.D. and at least 2 years of research experience in renal tubular micropuncture and nerve activity recording procedures. By 15 January 1981 send curriculum vitae and three letters of recommendation to: **Renal Search, Department of Physiology, Medical Research Wing 206H, University of North Carolina, Chapel Hill, N.C. 27514.** An Equal Opportunity/Affirmative Action Employer.

PROBE TECHNICIAN

The Department of Mineral Sciences at the American Museum of Natural History is seeking a probe technician with primary responsibilities for maintenance, repair, user instruction, operation, and upgrading of an automated nine-channel ARL-SEM microprobe. To a lesser extent, duties will include support for x-ray diffraction equipment, other departmental equipment, sample preparation facilities, and an interdepartmental SEM. Some supervisory responsibilities may also be assigned.

To be considered, candidates should have a good working knowledge of electronics, high-vacuum technology, and minicomputer programming. Desirable areas of training and experience include materials analysis and geology. A master's degree or equivalent experience is an asset. Salary will be competitive based upon qualifications.

Applicants must submit a résumé of training and experience, a statement of salary requirements, and the names of several people familiar with your work to:

**Dr. Martin Prinz, Chairman
Department of Mineral Sciences
The American Museum of Natural History
Central Park West at 79th Street
New York, N.Y. 10024**

All materials must be received no later than 1 February 1981. An Equal Opportunity/Affirmative Action Employer, M/F/H.

RADIATION THERAPIST needed to staff an all new therapy facility. Large patient load, four megavoltage therapy machines, excellent physics and technology support staffs. This is a university-based practice stressing clinical care and clinical, biology, and physics research. Board-eligible applicants are invited to apply to:

**William E. Powers, M.D.
Radiation Oncology Center
4201 Saint Antoine
Detroit, Michigan 48201**

Associated with Wayne State University and the Detroit Medical Center. An Equal Opportunity Employer.

RESEARCH POSITIONS

POSTDOCTORAL and TECHNICIAN RESEARCH POSITIONS available to work on one of the following projects: (i) mutagenesis, malignant transformation, and DNA repair: cell response to low-dose radiation or chemicals; (ii) biochemical determinants of resistance to radiation or hyperthermia in mammalian cell mutants; (iii) mechanisms of radioprotection, radiosensitization, hyperthermia potentiation, or hypoxic cytotoxicity. Please send résumé and names of three references to:

**Dr. Tom M. Yau
Division of Radiation Biology
Case Western Reserve University
Cleveland, Ohio 44106
Telephone: 216-444-3586**

POSITIONS OPEN

PROVOST, HUNTER COLLEGE of the City University of New York

Chief academic officer sought for dynamic urban institution. Liberal arts, strong science programs, four professional schools (Education, Social Work, Nursing, and Allied Health), external research grants of \$5 million annually; \$100 million building program under way. Strong commitment to women and minorities. Attractive midtown Manhattan location. Submit résumé and names of four references to: **Search Committee for Provost, Box 447 Hunter College, 695 Park Avenue, New York, N.Y. 10021.**

An Affirmative Action/Equal Opportunity Employer

RESEARCH CHEMIST (BIOLOGY)

Full-time position in our active university-affiliated, JCHA-accredited, VA Medical Center, working in Endocrinology Research Program. Ph.D. in biology required. Salary range: \$26,951 to \$35,033; liberal fringe benefits. Contact: **VA Medical Center, Personnel Service, 1481 West 10 Street, Indianapolis, Ind. 46202; telephone: 317-635-7401, extension 2447.**

RESEARCH MICROBIOLOGISTS/ BIOCHEMISTS

Established university research laboratory is recruiting Ph.D.'s in either microbiology or biochemistry to study the synthesis of bacterial cell surface polysaccharides in relation to pathogenic processes. Postdoctoral experience desirable but not necessary. Appointments to be made immediately, at a salary range of C\$25,000 to C\$30,000, depending on experience, in a program funded by industry and by several grants. Please send curriculum vitae and two letters of recommendation to: **Dr. J. W. Costerton, Department of Biology, University of Calgary, Calgary, Alberta, Canada T2N 1N4.**

RESEARCH STAFF POSITIONS CENTER FOR POLICY ALTERNATIVES

CENTER FOR POLICY ALTERNATIVES, Massachusetts Institute of Technology, has research staff opportunities in policy research and analysis on issues in environmental and occupational health and safety, toxic substances control, risk assessment, and technological innovation.

Doctorate or equivalent research experience in the biological or chemical sciences or engineering required. Interest in health and safety protection as social goals; analytical skills; excellent writing ability; and government, industry, or public interest group experience also helpful. Teaching and working with students are encouraged.

To apply, please submit résumé (referring to Job Number R80-343; R80-344) to:

**MIT Personnel Office
E19-239
77 Massachusetts Avenue
Cambridge, Mass. 02139**

MIT is an Equal Opportunity/Affirmative Action Employer.

SENIOR MARINE BIOLOGIST

This position is available in the Anchorage office of an international consulting organization. Responsibilities include directing Alaskan marine biological efforts. Broad interests needed with strengths in fisheries. Northern experience is not required; but one must show successful adaptation to new situations and demonstration of innovative thinking towards providing useful solutions to complex problems.

Substantial professional support is available in physical oceanography, coastal geology, coastal engineering, and hydraulics, as well as a group of more than 20 biologists.

Qualifications of applicants should include a research doctorate and at least several years of experience in a research or consulting organization.

Very competitive (and negotiable) salary, cost-of-living allowance for Alaska, fully paid medical and life insurance, and relocation expense reimbursement provided; opportunity for annual bonuses. Internally provided funding for applied research is available on a competitive basis.

Apply to: **Box 291, SCIENCE**

POSITIONS OPEN

RESEARCH SCIENTIST

Battelle, Pacific Northwest Laboratories at Richland, Washington, invites applications from **AQUATIC PHYSIOLOGISTS/ECOLOGISTS**. Applicants should have a Ph.D., a minimum of 5 years of progressive experience in physiological aspects of pollution biology, and a sound publications record. Formal training in systems ecology is desirable. It is essential the applicant have familiarity in handling organisms across the several trophic levels of typical aquatic ecosystems.

The work will be highly interdisciplinary in nature, involving extensive collaboration with descriptive biologists, chemists, toxicologists, and systems ecologists. Experimentation is planned in the areas of food-chain transfers and systems impact measurement.

The position is designed for an established scientist and will allow for significant growth in research and/or project management responsibilities.

U.S. citizenship is required.

Send curriculum vitae, publications list, and names of three references to: **Loren P. Henderson, BATTLE-NORTHWEST, P.O. Box 999, Richland, Wash. 99352.**

An Equal Opportunity Employer, M/F

SOLID-STATE EXPERIMENTALIST

**Ames Laboratory—U.S. Department of Energy
Iowa State University**

Applications are invited from experimental solid-state physicists wishing to join an interdisciplinary research program in interfacial science, in particular the study of the solid/electrolyte interface and related phenomena. Participants include electrochemists, metallurgists, and solid-state physicists, experimental as well as theoretical. Candidates should be qualified to establish an active research program in this field. Preference will be given to persons expert in spectroscopic techniques such as Raman scattering, photoemission, and other optical techniques and interested in both fundamental and applied problems. The minimum salary will be \$24,000 for 12 months.

Applications should include, in résumé form, a description of educational background, a summary of research experience, a list of all publications and submitted manuscripts, a statement of current research interests, and the names of four persons willing to give an evaluation of the candidate. All pertinent information should be sent to: **W. A. Kamitakahara, Chairman of the Search Committee, Ames Laboratory, Iowa State University, Ames, Iowa 50011.** Applicants should arrange for one letter of reference to be submitted as soon as possible. The deadline for applications is 1 March 1981, or until the position is filled. *Iowa State University is an Equal Opportunity/Affirmative Action Employer.*

SCIENTIFIC DIRECTOR FOR CANCER RESEARCH

AMC Cancer Research Center and Hospital seeks a director to administer and lead its clinical and basic science research programs. Responsibilities will include preparation and administration of budget and personnel and facility planning. The successful candidate, who may be either an M.D. or Ph.D., should have recent or current experience in his/her own active research program and should have experience in managing such projects. Experience in federal grantsmanship is highly desirable. The successful candidate will have discretion for the development of new projects and termination of current ones.

Interested candidates will provide curriculum vitae and three confidential references and will document a successful research career including laboratory-based, clinically relevant research. The candidate must provide clear evidence of leadership capability and must meet the qualifications for a senior faculty appointment at the University of Colorado Health Sciences Center.

AMC offers a salary competitive to a medical school senior faculty member, housing assistance, competitive perquisites (insurance, pension, vacation, sabbatical leave, moving expense, a negotiable initial contract, and an annual salary review keyed to performance). Initial support for the research of the candidate is negotiable.

The position will be open 1 July 1981 and applications will be reviewed 15 January 1981. Please submit requisite information to: **President, AMC Cancer Research Center and Hospital, 6401 West Colfax Avenue, Lakewood, Colorado 80214.** An Equal Opportunity Employer.

POSITIONS OPEN

RESEARCH ASSOCIATES. Postdoctoral positions immediately available for individuals in pharmacology or chemistry. The appointment requires a protein or organic chemistry background. This position will be open until filled. Send curriculum vitae and the names of three references to: **Dr. James L. Way, College Hall, Washington State University, Pullman, Wash. 99164.** An Equal Opportunity/Affirmative Action Institution.

RESEARCH ASSOCIATE position available immediately for Ph.D. to work on biochemical and physiological mechanisms in the crystalline lens in relation to cataract development. Experience in membrane or protein biochemistry would be most advantageous. Send curriculum vitae and names of two references to: **Dr. C. A. Paterson, Box B205, University of Colorado Health Sciences Center, 4200 East 9 Avenue, Denver, Colorado 80262.** The University of Colorado is an Equal Opportunity Employer.

The **AUSTRALIAN NATIONAL UNIVERSITY** invites applications for a **Ph.D. SCHOLARSHIP IN GREAT BARRIER REEF SEDIMENTOLOGY AND GEOCHEMISTRY.** Applicants should hold or expect shortly to obtain a master's or good honour's degree. Applications with photo and curriculum vitae must state which aspect of research the candidate wishes to study. Referees should be asked to write directly to the registrar. Allowance for a single scholar is A\$4700 per annum, with additional payments for dependent spouse and children (A\$1=U.S.\$1.16). Applications should be sent as soon as possible to: **Registrar, Australian National University, P.O. Box 4, Canberra, ACT 2600, Australia.**

SUPERVISORY RESEARCH CHEMIST. Manager of the National Bureau of Standards (NBS) Chemical Thermodynamics Data Group. This group prepares critically evaluated tables and data banks of thermodynamic properties of chemicals for use throughout science and industry. Applicants must have expert knowledge of chemical thermodynamics and a demonstrated ability to evaluate data in this field. Familiarity with several of the following disciplines is essential: reaction calorimetry, thermodynamics of solutions, heat capacity measurements, molecular spectroscopy, statistical thermodynamics, information processing, and data base management. In addition, the person appointed will be expected to serve as an expert consultant in chemical thermodynamics within NBS and for other federal agencies and to participate in national and international standardization activities. Salary range: \$37,871 to \$49,002 per annum. Mail applications to:

Attention: Vacancy Number 80-0977-JZ (S)
U.S. Department of Commerce
NBS Personnel
Administration A123
Washington, D.C. 20234
(Located in Gaithersburg, Md.)

U.S. citizens required. **NBS is an Affirmative Action/Equal Opportunity Employer.**

TECHNICAL INFORMATION SPECIALIST
Smithsonian Science Information Exchange is seeking qualified candidates in the areas of biochemistry, pathology, and molecular biology with experience in cancer related research. Salary: \$22,486. Send résumés to: **Smithsonian Institution, Office of Personnel Administration, 900 Jefferson Drive, SW, Washington, D.C. 20560.** Attention: Desk 1424S.

An Equal Opportunity Employer

UNIVERSITY—INDUSTRIAL SCIENTIFIC LIAISON

This position should appeal to those who enjoy discussing current research in science and engineering. The position focuses on arranging technology transfer between scientists/engineers at Caltech/Jet Propulsion Laboratory and those working in high-technology industries.

Requirements: master's degree and research experience in engineering/science; excellent verbal, writing, and organizational skills; high productivity; willing to travel throughout the United States. Please send résumé to:

Manager of Employment
CALIFORNIA INSTITUTE OF TECHNOLOGY
1201 East California Boulevard
Pasadena, California 91125

An Equal Opportunity Employer, M/F/H

1286

POSITIONS OPEN

THEORETICAL ASTROPHYSICS Faculty Position Washington University: McDonnell Center for the Space Sciences

Applications are invited from candidates for a tenure-track position in theoretical astrophysics in the Department of Physics. Preference will be given to candidates whose research interests lie in the areas of gravitational theory and/or galactic astrophysics. While our initial preference is to make an appointment at the assistant professor rank, exceptionally well-qualified applicants for more senior positions will also be considered. For an assistant professorship preference will be given to candidates who have had at least 2 years of postdoctoral experience. Brochures describing the activities of the McDonnell Center and the Department of Physics are available upon request. Inquiries and applications, including the names of at least three referees, should be addressed to: **Professor M. W. Friedlander, Department of Physics, Washington University, St. Louis, Mo. 63130.** Washington University is an Equal Opportunity/Affirmative Action Employer.

Immediate unexpected opening for **STAFF PERSON IN UROLOGY** at level of assistant or associate professor. Individual must be willing to have a primary commitment to male infertility. Background must include basic science training in area compatible with research interest in some area of male infertility. Individual must be desirous of and capable of generating own research support. Past infertility fellow or AUA scholar preferred. An Equal Opportunity/Affirmative Action Employer. Send copy of curriculum vitae and three letters of reference to: **Alan J. Wein, M.D., Division of Urology, University of Pennsylvania School of Medicine, 5-Silverstein, 3400 Spruce Street, Philadelphia, Pa. 19104.**

VERTEBRATE BIOLOGIST

The Department of Environmental, Population and Organismic (EPO) Biology of the University of Colorado at Boulder expects to fill a tenure-track position at the assistant professor level beginning 1 September 1981. Applicants must be qualified to conduct research and teach in one of the following areas of vertebrate biology: ecology, ethology, functional morphology, comparative physiology, genetics, or population biology. This position involves participation in a freshman-level course in general biology as well as advanced teaching in a specialty area. Research interests should be consistent with the main themes of the department. Salary range expected: \$16,000 to \$19,000. Applicants should send curriculum vitae (no reprints or manuscripts please) and three to five letters of reference to: **Dr. David O. Norris, Department of EPO Biology, University of Colorado, Campus Box 334, Boulder, Colo. 80309.** Deadline for application is 1 February 1981. The University of Colorado is an Equal Opportunity/Affirmative Action Employer.

ANIMAL VIROLOGIST. The Department of Biology, University of California, San Diego, invites applications for a faculty position in animal virology, at the assistant professor level (\$18,600-\$24,500). The appointee must have postdoctoral training and is expected to conduct a rigorous research program and to participate in medical school and graduate teaching. Applicants should send curriculum vitae, including a list of publications and the names and addresses of five references. The position will be available beginning September 1981. Send applications by 28 February 1981 to:

Dr. John J. Holland
Search Committee
Department of Biology CO16
University of California, San Diego
La Jolla, Ca. 92093

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

VISITOR APPOINTMENTS are available for new and established Ph.D.'s for up to 1-year periods to carry out research in solar physics, solar-terrestrial physics, and related subjects. Applicants should provide curriculum vitae, including education, work experience, publications, the names of three scientists familiar with their work, and a statement of their research plans. Applications must be received by 15 January 1981 and they should be sent to: **Visitor Committee, High Altitude Observatory, National Center for Atmospheric Research (NCAR), P.O. Box 3000, Boulder, Colorado 80307.** NCAR is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

VERTEBRATE NEUROBIOLOGIST. Tenure-track position as assistant/associate professor rank available September 1981 in CNS neurobiology. The appointee will be expected to develop an independent research program in such areas of neuroscience as integration of motor sensory activity, locomotor control, or development of the vertebrate CNS. Evidence of strong research activity and productivity is essential. Other responsibilities include participation in team-taught courses in neurobiology and animal physiology (graduate and undergraduate). A Ph.D. degree or equivalent is required. Preference will be given those with teaching, postdoctoral experience, or the demonstrated ability to obtain extramural support. Faculty rank and salary will be commensurate with experience. Send curriculum vitae, a statement of research plans, and include at least three names of references by 26 December 1980 to: **Professor G. R. Pilar, Physiology Section, U-42, Biological Sciences Group, The University of Connecticut, Storrs, Connecticut 06268.**

Equal Opportunity Employer

CORRECTION

NATIONAL SCIENCE FOUNDATION

CORRECTION. This is to advise that the closing date for submitting résumés for the rotational position of **program officer** in applied behavioral science, Division of Applied Research, advertised in the 3 October 1980 issue, is 2 January 1981 rather than 1 February 1981.

SYMPOSIUM

MOLECULAR INTERRELATIONS OF NUTRITION AND CANCER—34th annual Research Symposium in Houston, 4 to 6 March. To cover physiological effects in cancerous host; energy metabolism in tumor cells; nutritional modulation of cell proliferations; and carcinogenesis. Co-chairs: **Doctors M. Arnott, J. van Eys, and Y. M. Yang.** Contact: **Steve Stuyck, c/o M. D. Anderson Hospital, Houston, Texas 77030; telephone: 713-792-3030.**

PROGRAMS

DOCTORAL PROGRAM—IMMUNOLOGY, Medical University of South Carolina. Department of Basic and Clinical Immunology and Microbiology, directed by the chairman, **H. Hugh Fudenberg, M.D.,** seeks highly qualified candidates for Ph.D. program. We are a highly motivated department with more than 140 publications last year and we provide an interdisciplinary environment with research capabilities ranging from amino acid sequencing through cell culture and animal studies to clinical studies of patients with disease. Research is available in immunogenetics, cellular immunology, and immunochemistry, clinical immunology, molecular virology and microbial genetics, and physiology. Stipends available. We provide an intellectually stimulating (and unique geographic) environment (year-round fishing, golfing, sailing, and tennis). Contact:

Dr. E. W. Ades
Graduate Training Director
Department of Immunology
Medical University of South Carolina
Charleston, South Carolina 29403

An Affirmative Action/Equal Opportunity Employer

THE RAND GRADUATE INSTITUTE (RGI)

Invites applications for its doctoral degree program in policy analysis. Deadline for submitting applications for 1981-1982 is 1 February 1981. RGI is an integral part of The Rand Corporation. Its curriculum consists of interdisciplinary study, combined with compensated work, leading to the award of the Ph.D. in policy analysis. The Rand Graduate Institute is fully accredited by the Western Association of Schools and Colleges.

A master's degree, or equivalent post-bachelor's degree training and experience, is required for admission.

For more information concerning application procedures, write: **The Rand Graduate Institute, 1700 Main Street, Santa Monica, California 90406,** or telephone: 213-393-0411.

The Rand Corporation is an Equal Opportunity/Affirmative Action Employer.

Research Scientist

Nutrition San Francisco Bay Area

Cutter Laboratories seeks to add a scientist with a background in animal biochemistry and proven experience in the field of analytical methods development for determination of products of metabolism of proteins, carbohydrates and lipids

The individual chosen will develop screening techniques for potential metabolites and therapeutic nutritional agents; develop analytical methodology for the quantitative analysis of these agents and their derivatives; and, assist in the formulation of subsequent in vivo efficacy studies.

In addition to an attractive starting salary based upon experience and accomplishments, Cutter offers an exceptionally fine fringe benefits program. Relocation assistance will, of course, be provided if successful candidate resides out of the area.

For confidential consideration please send detailed resume with salary information and requirements to **Donald Palmer, Corporate Industrial Relations, Fourth & Parker Streets, Berkeley, California 94710**. An equal opportunity/affirmative action employer.



CUTTER
Laboratories, Inc.

Ph.D Toxicologist

Career opportunity with rapidly growing ethical pharmaceutical firm located in the Midwest. Responsibilities include designing, implementing, and monitoring preclinical acute, sub-acute and chronic toxicity studies; evaluating data; preparing study reports; interacting on project teams. Will also assist in preparation of INDs and NDAs and supervise general toxicology section.

Requirements: Ph.D in Pharmacology with a minimum of 2 years of toxicology experience preferred. Send resume and salary history to

Box 301, SCIENCE

An equal opportunity employer mif

The Psychology Department of the University of Illinois at Urbana-Champaign is seeking six individuals at the **ADVANCED ASSISTANT PROFESSOR** level. The search will focus on those who have at least several years of postdoctoral experience; however, individuals with exceptionally strong qualifications at other levels may also be considered. All six are tenure-track appointments and would begin, at the earliest, on 21 August 1981. Salary will depend on qualifications.

Three search committees have been assigned the task of finding candidates for the six positions:

Committee A, chaired by **Professor Douglas Medin** (telephone: 217-333-7762), is seeking two **EXPERIMENTAL PSYCHOLOGISTS** with demonstrated records of research in such areas as: personality, developmental, learning and cognitive processes, psycholinguistics, social interaction, sensation and perception, psychobiology, or affective and clinical phenomena.

Committee B, chaired by **Professor Morton Weir** (telephone: 217-333-3039), is seeking two individuals whose work is relevant to **PSYCHOLOGY AND SOCIAL POLICY**. The applicant's record of publication in refereed journals may be in any area of psychology or closely related disciplines, but the applicant must be committed, in addition, to communicating the results and implications of his/her work to the general public, policy-makers, or to other special audiences. Preference for one of these positions will be given to an individual committed to field-oriented research with an emphasis on program development, implementation, or evaluation.

Committee C, chaired by **Professor Martin Fishbein** (telephone: 217-333-2879), is seeking two individuals to contribute to the growth and development of an **INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY PROGRAM** that is part of a larger faculty grouping from social, industrial/organizational, and individual difference areas of the Psychology Department. Applications are encouraged from candidates with training and interests in industrial/organizational psychology or from closely related areas as social, quantitative, and engineering psychology with research and teaching interests consistent with the goals of the search. Applications are invited, as well, from applicants with backgrounds in areas such as management science, communications, organizational theory, organizational behavior, and organizational dynamics.

Applications, including curriculum vitae, representative reprints, and three letters of recommendation, should be addressed to: **Chairman of the appropriate committee**, or to: **Professor Emanuel Donchin, Head, Department of Psychology, University of Illinois, Champaign, Ill. 61820** (telephone: 217-333-0632). For further consideration, the applications must be received before 1 February 1981.

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

AAAS Memberships and Subscriptions

• Whenever you write us about your membership or subscription, please attach a **Science** address label to ensure prompt service.

• **Mail to:** Membership and Subscription Records, AAAS, 1515 Massachusetts Ave., NW, Washington, D.C. 20005.

☐ **Change of Address:** Please provide 6 weeks' notice. Paste an address label from a recent issue in the space provided. Print new address below.

☐ **Query:** If you have a question, place your address label here and attach this form to your letter.

• **To join or subscribe:** Mail this form with your payment, mark the appropriate boxes, and print your name and address in the space below. (For renewals, attach label.)

☐ **Membership rates** (individual only)
☐ \$38 USA ☐ \$52 Canada, PUAS ☐ \$55 Foreign
☐ \$83 air-surface delivery via Holland

☐ **Subscriber rates**
☐ \$76 USA ☐ \$90 Canada, PUAS ☐ \$93 Foreign
☐ \$121 Air-surface delivery via Holland

☐ Payment enclosed ☐ Bill me later

Name Please print

Address

City State Zip MV-12

**ATTACH
LABEL
HERE**

GRADUATE STUDY

GRADUATE STUDY IN OCCUPATIONAL AND ENVIRONMENTAL HEALTH

School of Public Health
Harvard University

Traineeships are available for the 1981-1982 academic year for M.S. and doctoral candidates in industrial hygiene, occupational health, air pollution control, radiation protection, and environmental and toxic waste management. Support, which provides tuition plus a monthly stipend, is available on a competitive basis. Contact: Department of Environmental Health Sciences, 665 Huntington Avenue, Boston, Mass. 02115. Affirmative Action Employer.

PHYSIOLOGY DOCTORAL PROGRAM. The Department of Physiology, Medical University of South Carolina, seeks qualified applicants for a Ph.D. program. The department is committed to graduate education and provides research training in the areas of: membrane physiology; pathophysiology of endotoxic shock; CNS neurophysiology; neuroendocrinology; reproductive physiology; respiratory physiology; temperature regulation; and cardiovascular physiology. Stipends available. Contact: Dr. J. S. Graves, Department of Physiology, Medical University of South Carolina, Charleston, S.C. 29403.

The Department of Biochemistry at The University of Texas Health Science Center at San Antonio invites applications for **GRADUATE STUDY AND TEACHING ASSISTANTSHIPS** for fall 1981. The department has vigorous research programs that cover a wide range of biochemical areas leading to the Ph.D. degree and is well-equipped for research. Stipends for a 12-month period begin at \$5700. For more information, write to: Dr. Paul Horowitz, Department of Biochemistry, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, Texas 78284. An Equal Opportunity/Affirmative Action Employer.

TRAINEESHIPS

POSTDOCTORAL TRAINEESHIP in epidemiology and biostatistics related to ophthalmology and vision research at major medical center. Two-year joint program with Harvard School of Public Health, leading to a master of science degree in epidemiology. Supported by an NIH training grant. Send curriculum vitae to: Dr. Bernard Schwartz, Chairman and Professor, Department of Ophthalmology, Tufts-New England Medical Center, 171 Harrison Avenue, Boston, Mass. 02111. An Equal Opportunity Employer, M/F.

PREDOCTORAL AND POSTDOCTORAL TRAINING IN MOLECULAR VIROLOGY. Several predoctoral and postdoctoral traineeships are available for qualified applicants through NIH training grants. Preceptors include: Drs. G. M. Air, J. C. Bennett, D. H. L. Bishop, R. W. Compans, E. Hunter, E. Lamon, J. Lebowitz, J. Mole, P. Roy, and J. P. Segrest. Research areas include: virus structure, genetics and replication, and viral immunology and membrane biology. Send applications and inquiries to: Dr. R. W. Compans, Department of Microbiology, University of Alabama in Birmingham, Birmingham, Ala. 35294. An Affirmative Action/Equal Opportunity Employer.

FELLOWSHIPS

POSTDOCTORAL TRAINING FELLOWSHIP IN PULMONARY RESEARCH available to M.D. or Ph.D. interested in joining a group working on biochemical and physiological aspects of chronic airways obstruction and emphysema. Contact with curriculum vitae: Allen B. Cohen, M.D., Ph.D., Temple University Health Sciences Center, Philadelphia, Pa. 19140. Equal Opportunity/Affirmative Action Employer.

PRE- AND POSTDOCTORAL FELLOWSHIPS in neurophysiology: studies in brain metabolism utilizing microelectrodes.

Dr. James Halsey
Department of Neurology
University of Alabama Medical Center
Birmingham, Ala. 35294
Telephone: 205-934-2400
An Equal Opportunity Employer

FELLOWSHIPS

GRADUATE TRAINING IN PHARMACOLOGY. Research training and course work leading to the Ph.D. degree and realistically designed for career opportunities in this expanding field are offered. Major departmental research programs include: molecular, cardiovascular, renal, and nervous system pharmacology; the toxicology of therapeutic and environmental agents including drugs of abuse; clinical pharmacology. A limited number of fellowships offering stipend and tuition are available. Early application for August 1981 is advised. Apply to: Director of Graduate Studies, Department of Pharmacology and Therapeutics, Medical School, STATE UNIVERSITY OF NEW YORK AT BUFFALO, 127 Farber Hall, Buffalo, N.Y. 14214. An Equal Opportunity/Affirmative Action Employer

MARINE POLICY AND OCEAN MANAGEMENT RESEARCH FELLOWSHIPS

Woods Hole Oceanographic Institution offers 1-year fellowships to professionals in social sciences, law, or natural sciences to conduct research in marine policy and ocean management (a second year's appointment may be possible). Recipients of awards are selected on a competitive basis, with primary emphasis placed on research promise.

Fellowship stipend is \$18,500. Appointees are eligible for group health insurance and a modest research budget. Recipients are encouraged to pursue their own research interests independently or in association with resident staff. Completed applications must be received by 1 March 1981 for 1981-1982 awards. Awards will be announced in April. Write for application forms to: Dean of Graduate Studies, Education Office, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts 02543.

Equal Opportunity/
Affirmative Action Institution

POSTDOCTORAL AWARDS IN OCEAN SCIENCE AND ENGINEERING

Woods Hole Oceanographic Institution invites applications for 1-year postdoctoral scholar awards from new and recent doctorates in fields of biology, chemistry, engineering, geology, geophysics, mathematics, meteorology, and physics, as well as oceanography. Recipients of awards are selected on a competitive basis, with primary emphasis placed on research promise.

Fellowship stipend is \$18,500. Appointees are eligible for group health insurance and a modest research budget. Recipients are encouraged to pursue their own research interests independently or in association with resident staff. Completed applications must be received by 1 February 1981 for 1981-1982 awards. Awards will be announced in March. Write for application forms to: Dean of Graduate Studies, Education Office, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts 02543.

Equal Opportunity/Affirmative Action Institution

POSTDOCTORAL FELLOWSHIP available immediately for studies of the structure and reactivity of FeMoCo and its reconstitution of nitrogenase. Please send résumé and two letters of reference to:

William E. Newton
C. F. Kettering Research Laboratory
150 East South College Street
Yellow Springs, Ohio 45387

POSTDOCTORAL RESEARCH FELLOWSHIP available for long-term study of immunological markers in cancer diagnosis. M.D. or Ph.D. with experience in biochemistry and/or immunology is required. The fellowship is annually renewable with starting salary in the range from \$15,600 to \$18,000 per annum, dependent upon qualifications and experience.

Applications with curriculum vitae and the names of three referees should be sent to: Dr. E. Farber, Department of Pathology, Banting Institute, 100 College Street, Toronto, Ontario, Canada M5G 1L5.

FELLOWSHIPS

The Department of Neurosciences, School of Medicine, University of California, San Diego, is seeking qualified candidates for a **POSTDOCTORAL FELLOWSHIP** (postgraduate researcher) available immediately, to study ultrastructure and biochemistry of secretion (exocytosis) blockage in lactating tissues. Electron microscopy experience with lectin and/or antibody binding particularly helpful. Salary is \$12,000 per year. Send curriculum vitae and three letters of recommendation to: Dr. Stuart Patton, Department of Neurosciences, M-008, University of California, San Diego, La Jolla, Calif. 92093. The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.

GRADUATE FELLOWSHIPS IN THE NEUROSCIENCES are available for fall 1981. Stipends are approximately \$6000 for 12-month appointments. Send letters of inquiry to:

Dr. Vernon Pegrum
Director, Neurosciences Program
University of Alabama in Birmingham
Birmingham, Alabama 35294
Equal Opportunity/Affirmative Action Employer

FELLOWSHIPS AVAILABLE IN NEUROTOLOGY

Applications for predoctoral and postdoctoral fellowships to start 1 July 1981 in neurology are being accepted. Stipends are set by NIH, depending upon experience. Eligibility limited by NIH regulations to U.S. citizens or aliens with permanent status. Research areas focus upon physiology and/or anatomy of vestibular and auditory systems, clinical neurology and auditory/psychoacoustics. Minorities and women are encouraged to apply. For further information and description of research opportunities, write to: Joseph Kimm, Ph.D., Division of Head and Neck Surgery, University of California, Los Angeles, Los Angeles, Calif. 90024. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIPS are available at the Eleanor Roosevelt Institute for Cancer Research and the Florence R. Sabin Laboratories for Genetic and Developmental Medicine located at the University of Colorado Health Sciences Center to study human developmental and genetic diseases using techniques of molecular and theoretical biology and biology and biochemical and somatic cell genetics. Candidates must have the M.D. or Ph.D. degree. Faculty include Drs. Stephen Goodman, Carol Jones, Fa-Ten Kao, David Patterson, Theodore T. Puck, Arthur Robinson, Michael Sinensky, and Charles Waldren. Collaborative opportunities also exist for study with members of the Theoretical Division of the Los Alamos Scientific Laboratory. Stipends will be commensurate with prior training and experience. Candidates should send curriculum vitae and names of three references to: Postdoctoral Selection Committee, c/o Dr. David Patterson, Eleanor Roosevelt Institute, Box B-129, University of Colorado Health Sciences Center, 4200 East 9 Avenue, Denver, Colorado 80262. An Equal Opportunity/Affirmative Action Employer.

MARKETPLACE

Thermocouple THERMOMETERS



We make 14 thermometers, with digital or meter readout. All read in 2 secs, are extremely easy to use. Simply apply probe — read temperature.

Unbreakable probes are steel sheathed including World's Smallest Microprobe, 0.01" dia.

Models

BAT-4 BIOLOGICAL

BAT-5 CRYOGENIC

BAT-9 DIGITAL

BAT-8 DIGITAL °C or °F

TH CLINICAL

The Modern Way
to Measure

BAILEY INSTRUMENTS INC.
Saddle Brook, N.J. 07662 • (201) 845-7252

Circle No. 34 on Readers' Service Card

Cardiovascular Pharmacology

G. D. Searle & Co. Research & Development Division currently has two positions available within the department of Biological Research. These positions are available due to a reorganized and expanded research effort in the cardiovascular area.

GROUP LEADER—Reporting to the section head of Cardiovascular Pharmacology, this position is responsible for management of a research group including senior scientists, as well as conducting personal research and supervising the technical staff. Requirements include a minimum of a doctoral degree or equivalent in appropriate Pharmacological, Physiological or Biochemical areas and 5 or more years of post-doctoral experience with previous industrial supervisory experience preferred.

SENIOR RESEARCH SCIENTIST—Reporting to the group leader, this position is responsible for conducting research primarily in the cardiac research area aimed at discovering agents acting on cardiac mechanical, electrical and circulatory function. The position requires a doctoral degree or equivalent and 5 or more years post-doctoral experience in a cardiac related area.

We offer a stimulating and rewarding environment with growth and challenge, excellent salary and benefits, relocation assistance and much more. Please submit resume or curriculum vitae including salary requirements to:

R. Rook

Research & Development Division

G. D. Searle & Co.

P. O. Box 5110 • Chicago, IL 60680

Equal Opportunity M/F/H...
A Practice, Not Just A Policy



MOLECULAR DIAGNOSTICS DIVISION

GENERAL MANAGER

Senior position reporting directly to president. Management responsibility for all activities including direct research, product development, marketing and sales for a major division.

Qualifications include demonstrated technical knowledge and established reputation in the biomedical field with proven managerial experience.

MARKETING MANAGER

Responsibility for new product introductions, product differentiation, pricing, promotion, packaging, service and cost reductions. Key position requiring effective working relationship with sales, R & D, production, finance and communications. M.S./Ph.D. in Biochemistry with business experience.

The compensation and benefits package will be commensurate with the opportunity.

For further information, send your resume/C.V. to:



Personnel Manager, Dept. S-1
Bethesda Research Laboratories
8705 Grovemont Circle
Gaithersburg, Maryland 20760

An Equal Opportunity Employer.



MARINE BIOLOGICAL LABORATORY WOODS HOLE, MASSACHUSETTS 02543

announces SPECIAL FELLOWSHIP PROGRAMS FOR 1981

These fellowships are intended for investigators and students who have specific interests and backgrounds or who have reached specific stages of career development. Most awards are for support of research to be done at MBL during the summer and may be used to defray laboratory fees, housing, travel, and other personal expenses.

STEPS TOWARD INDEPENDENCE FELLOWSHIPS

Intended primarily for persons already holding faculty appointments at the Instructor or Assistant Professor level, this program provides the facilities, associations, and training necessary for them to apply and develop research abilities beyond the immediate postdoctoral years.

MACY FELLOWSHIPS FOR BLACKS AND OTHER MINORITIES

The Josiah Macy, Jr. Foundation provides funds to support blacks and other minority groups in research and educational activities at MBL. Preference is given to faculty members and students in four-year, predominantly black colleges.

GRASS FOUNDATION FELLOWSHIPS

The Grass Foundation makes available to young investigators fellowships for summer research in neurophysiology at MBL. Applicants may be predoctoral or fewer-than-3-years postdoctoral and should have no previous research experience at MBL.

ADDITIONAL INFORMATION and Application Materials may be obtained from the Admissions Office, Marine Biological Laboratory, Woods Hole, MA 02543 (for Steps Toward Independence and Macy Fellowships) and from the Grass Foundation, 77 Reservoir Road, Quincy, MA 02170 (for Grass Fellowships).

WEED CONTROL



A bottle of ordinary Kodak vanillin may seem an unlikely ingredient in the fight against crime, but it's not. Police labs across the country use it to aid in the identification of an illegal drug.

By placing vegetable matter suspected of being a controlled substance in Duquenois reagent composed of Kodak chemical #273 (vanillin), sulfuric acid, acetaldehyde, and ethanol, investigators can achieve a color sequence changing from green, to slate, to violet when the mixture is activated by concentrated HCl. The

addition of chloroform allows them to extract the violet color and determine the presence of cannabinoids.

Not a common use for a common Kodak chemical. But we're finding that more and more uses for our chemicals are uncommonly creative.

When you're seeking a solution to a challenge, call a dealer handling Kodak laboratory chemicals for the inorganic or biochemical means.

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

For the creative chemist.

1880



1980

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