

Yates's discussion of theoretical aspects of biofeedback (chapter 7) centers on the recognized inability of the experimenter or clinician to instruct a subject or patient how to utilize the biofeedback display to achieve control and the inability of the subject or patient to explain how he or she achieved control when it has been achieved. This inability is not surprising to Yates; he rejects the notion that biofeedback enables the individual to become "aware" of the target physiological activity or of cognitive processes (thoughts, images) that may be controlling it. Also rejected is the view that biofeedback learning comes about because the requisite responses are reinforced (in the sense of operant conditioning). Yates maintains that the "language" that is learned relates not directly to the activity of the function or to its perception and detection but rather to the servocontrol system underlying the activity of the function. Feedback merely serves to teach the individual about his or her control systems. The task of the biofeedback researcher or clinician then is to attempt to formulate servocontrol systems for functions of interest as well as the components of such systems, and to specify the nature of the defect in the control system in the case of disorders of function. Biofeedback is seen as a tool in the process of helping the individual "to learn the language of the servosystem so that the correct relative settings of the component parts of the system may be achieved in order that appropriate responding may be obtained in a given situation." Once the tool has been used effectively, it is to be dispensed with. That is, the feedback device should not become a "crutch," and the control is to be "internalized." This is an intriguing although somewhat abstruse theoretical position that warrants further development and new experimentation.

This book comes at the right time, when serious questions are being raised about biofeedback. What effects are specific to it? What effects relate to expectancies or simple suggestion? When is the feedback necessary? For which disorders is biofeedback effective? How do the effects of biofeedback compare with those of other behavioral methods of physiological regulation, such as hypnosis, progressive relaxation, guided imagery, and the like? How does biofeedback work? This book provides the frameworks and background information, as well as the inspiration, that are vital to the pursuit of these questions. Yates concludes by expressing the hope

that further advances in our basic knowledge will enable us to use biofeedback as a precision tool in enhancing voluntary control of physiological and behavioral processes and in understanding the mechanisms of voluntary control.

DAVID SHAPIRO

*Department of Psychiatry and
Biobehavioral Sciences, University of
California, Los Angeles 90024*

Books Received

Active Network and Feedback Amplifier Theory. Wai-Kai Chen. Hemisphere, Washington, D.C., and McGraw-Hill, New York, 1980. xiv, 482 pp., illus. \$27.50.

Advances in Carbohydrate Chemistry and Biochemistry. Vol. 37. R. Stuart Tipson and Derek Horton, Eds. Academic Press, New York, 1980. xii, 484 pp., illus. \$49.50.

Advances in Cellular Neurobiology. Vol. 1. Sergey Fedoroff and Leif Hertz, Eds. Academic Press, New York, 1980. xiv, 458 pp., illus. \$39.50.

Advances in Chromatography. Vol. 18. J. Calvin Giddings, Eli Grushka, Jack Cazes, and Phyllis R. Brown, Eds. Dekker, New York, 1980. xvi, 292 pp., illus. \$38.50.

Advances in Computer Chess 2. Papers from a meeting, Edinburgh, Apr. 1978. M. R. B. Clarke, Ed. Edinburgh University Press, Edinburgh, 1980 (U.S. distributor, Columbia University Press, New York). vi, 142 pp., illus. \$10.

Advances in Electronics and Electron Physics. Vol. 51. L. Marton and C. Marton, Eds. Academic Press, New York, 1980. xii, 446 pp., illus. \$49.50.

Advances in Inorganic Chemistry and Radiochemistry. Vol. 23. H. J. Emeléus and A. G. Sharpe, Eds. Academic Press, New York, 1980. xii, 442 pp., illus. \$51.

The Ait Ayash of the High Moulouya Plain. Rural Social Organization in Morocco. John Chiapuris. University of Michigan Museum of Anthropology, Ann Arbor, 1979. xii, 186 pp., illus. Paper, \$6. Anthropological Papers, Museum of Anthropology, University of Michigan, No. 69.

Analytic Functions. Proceedings of a conference, Kozubnik, Poland, Apr. 1979. J. Tawryniewicz, Ed. Springer-Verlag, New York, 1980. x, 478 pp., Paper, \$27. Lecture Notes in Mathematics, vol. 798.

The Anatomy of Loneliness. Joseph Hartog, J. Ralph Audy, and Yehudi A. Cohen, Eds. International Universities Press, New York, 1980. xiv, 618 pp., illus. \$30.

Annual Review of Biochemistry. Vol. 49. Esmond E. Snell, Paul D. Boyer, Alton Meister, and Charles C. Richardson, Eds. Annual Reviews, Palo Alto, Calif., 1980. x, 1270 pp., illus. \$21.

The Asbestos Hazard. Paul Brodeur. New York Academy of Sciences, New York, 1980. vi, 94 pp., Paper, \$4.

Biogeography. An Ecological and Evolutionary Approach. C. Barry Cox and Peter D. Moore. Halsted (Wiley), New York, ed. 3, 1980. xii, 234 pp., illus. Paper, \$19.95.

Biophysical Chemistry. Part 3, The Behavior of Biological Macromolecules. Charles R. Cantor and Paul R. Schimmel. Freeman, San Francisco, 1980. xxx + pp. 847-1372, illus. + appendix + index. Cloth, \$37.95; paper, \$21.95.

The Butterflies of Oregon. Ernst J. Dornfeld. Timber Press, Forest Grove, Ore., 1980 (distributor, ISBS, Forest Grove, Ore.). xiv, 276 pp., illus. Paper, \$24.95.

The Cancer Mission. Social Contexts of Biomedical Research. Kenneth E. Studer and Daryl E. Chubin. Sage, Beverly Hills, Calif., 1980. 320 pp., illus. Cloth, \$18; paper, \$8.95. Sage Library of Social Research, vol. 103.

Cardiovascular Pathophysiology. Tjeerd van der Werf. Oxford University Press, New York, 1980. xiv, 296 pp., illus. Cloth, \$19.95; paper, \$10.95.

Casarett and Doull's Toxicology. The Basic Science of Poisons. John Doull, Curtis D. Klaassen, and Mary O. Amdur, Eds. Macmillan, New York, Collier Macmillan Canada, Toronto, and Baillière Tindall, London, ed. 2, 1980. xvi, 778 pp., illus. \$29.95.

The Central North Atlantic Ocean Basin and Continental Margins. Geology, Geophysics, Geochemistry, and Resources, Including the Trans-Atlantic Geotraverse (TAG). Peter A. Rona. National Ocean-

ic and Atmospheric Administration Environmental Research Laboratories, Miami, 1980 (available from the Superintendent of Documents, Washington, D.C.). ii, 100 pp., illus. Spiral bound, \$17. NOAA Atlas 3.

Chemical Tables for Laboratory and Industry. Wolfgang Helbing and Adolf Burkart. Translated from the German edition (Braunschweig, 1969) by R. Vardharajan and Sudhanshu Gupta. Halsted (Wiley), New York, 1980. 272 pp., illus. \$19.95.

Chemistry and the Food System. A Study by the Committee on Chemistry and Public Affairs. American Chemical Society, Washington, D.C., 1980. xvi, 138 pp., illus. Cloth, \$15; paper, \$9.

Chemistry of Free Atoms and Particles. Kenneth J. Klabunde. Academic Press, New York, 1980. x, 238 pp., illus. \$29.50.

A Decade of Computers and Law. Jon Bing and Knut S. Selmer. Universitetsforlaget, Oslo, 1980 (U.S. distributor, Columbia University Press, New York). 476 pp., illus. Paper, \$34. Publications of the Norwegian Research Center for Computers and Law, No. 7.

Le Diagnostic Prénatal. Presses de l'Université Laval, Quebec, 1980 (distributor, ISBS, Forest Grove, Ore.). viii, 282 pp., Paper, \$14. Cahiers de Bioéthique, 2.

Differential Equations. Proceedings of a conference, Stillwater, Okla., Oct. 1979. Shair Ahmad, Marvin Keener, and A. C. Lazer, Eds. Academic Press, New York, 1980. x, 278 pp. \$20.

Digital and Kalman Filtering. An Introduction to Discrete-Time Filtering and Optimum Linear Estimation. S. M. Bozic. Halsted (Wiley), New York, 1979. viii, 158 pp., illus. Paper, \$23.95.

Direct Current Machines. M. S. Say and E. Openshaw Taylor. Halsted (Wiley), New York, 1980. x, 380 pp., illus. Paper, \$19.95.

Duality in Measure Theory. Corneliu Constantinescu. Springer-Verlag, New York, 1980. iv, 198 pp., Paper, \$14. Lecture Notes in Mathematics, vol. 796.

Dynamical Systems and Microphysics. Papers from a seminar, Udine, Italy, Sept. 1979. A. Blaquiére, F. Fer, and A. Marzollo, Eds. Springer-Verlag, New York, 1980. x, 412 pp., illus. Paper, \$39. International Centre for Mechanical Sciences Courses and Lectures, No. 261.

Early Diagenesis. A Theoretical Approach. Robert A. Berner. Princeton University Press, Princeton, N.J., 1980. xii, 244 pp., illus. Cloth, \$25; paper, \$9.50. Princeton Series in Geochemistry.

Ecology of Fresh Waters. Brian Moss. Halsted (Wiley), New York, 1980. xvi, 332 pp., illus. \$24.95.

The Economics of Energy. Michael G. Webb and Martin J. Ricketts. Halsted (Wiley), New York, 1980. xiv, 316 pp. \$25.95.

Electronics. Circuits and Devices. Ralph J. Smith. Wiley, New York, ed. 2, 1980. xvi, 494 pp., illus. \$25.95.

Elementary General Relativity. C. Clarke. Halsted (Wiley), New York, 1980. x, 132 pp., illus. Paper, \$18.95.

Endoscopy and Biopsy in Gastroenterology. Technique and Indications. P. Frùhmorgen and M. Clasen, Eds. Translated from the German edition (1979) by H. V. Ammon and K. H. Soergel. Springer-Verlag, New York, 1980. x, 198 pp., illus. Paper, \$15.

Energy for World Agriculture. B. A. Stout in collaboration with C. A. Myers, A. Hurand, and L. W. Faidley. Food and Agriculture Organization of the United Nations, Rome, 1979 (U.S. distributor, Unipub, New York). xxviii, 286 pp., illus. Paper, \$13.50. FAO Agriculture Series, No. 7.

Food Power. How Foods Can Change Your Mind, Your Personality, and Your Life. George Schwartz. McGraw-Hill, New York, 1979. xiv, 190 pp. \$10.95.

Functional Differential Equations and Bifurcation. Proceedings of a conference, S5AO Carlos, Brazil, July 1979. A. F. Izé, Ed. Springer-Verlag, New York, 1980. xxii, 410 pp. Paper, \$24.50. Lecture Notes in Mathematics, vol. 799.

Functional Morphologic Changes in Female Sex Organs Induced by Exogenous Hormones. Papers from a symposium, Heidelberg, 1979. Gisela Dallenbach-Hellweg, Ed. Springer-Verlag, New York, 1980. xvi, 234 pp., illus. \$32.

Fundamentals of FORTRAN Programming. Robert C. Nickerson. Winthrop (Prentice-Hall), Cambridge, Mass., ed. 2, 1980. xiv, 450 pp. Paper, \$11.95.

Fundamentals of Human Lymphoid Cell Culture. J. Leslie Glick. Dekker, New York, 1980. xii, 158 pp., illus. \$22.50.

Gastrointestinal Motility. Papers from a symposium, Iowa City, Sept. 1979. James Christensen, Ed. Raven, New York, 1980. xxx, 514 pp., illus. \$44.

The Immune System. Functions and Therapy of Dysfunction. Proceedings of a symposium, Stresa, Italy, Sept. 1978. G. Doria and A. Eshkol, Eds.

(Continued on page 1075)

BOOKS RECEIVED

(Continued from page 1040)

- Academic Press, New York, 1980. viii, 294 pp., illus. \$34.50. Proceedings of the Sero Symposium, vol. 27.
- Implementing Learning in the Least Restrictive Environment.** Handicapped Children in the Mainstream. John W. Schifani, Robert M. Anderson, and Sara J. Odle, Eds. University Park Press, Baltimore, 1980. xvi, 510 pp., illus. Paper, \$19.95.
- Intelligence Requirements for the 1980's.** Analysis and Estimates. Roy Godson, Ed. National Strategy Information Center, Washington, D.C., 1980 (distributor, Transaction Books, New Brunswick, N.J.). x, 224 pp., illus. Paper, \$7.50.
- Internal Fluid Flow.** The Fluid Dynamics of Flow in Pipes and Ducts. A. J. Ward-Smith. Clarendon (Oxford University Press), New York, 1980. xxii, 566 pp., illus. \$98.
- International Classification of Impairments, Disabilities, and Handicaps.** A Manual of Classification Relating to the Consequences of Disease. World Health Organization, Geneva, 1980 (U.S. distributor, WHO Publications Centre USA, Albany, N.Y.). 208 pp. Paper, \$9.
- International Review of Cytology.** Vol. 66. G. H. Bourne, J. F. Danielli, and K. W. Jeon, Eds. Academic Press, New York, 1980. xii, 374 pp., illus. \$39.
- Lakes of New York State.** Vol. 3, Ecology of the Lakes of East-Central New York. Jay A. Bloomfield, Ed. Academic Press, New York, 1980. xiv, 416 pp., illus. \$29.50.
- Land, Man, and Sand.** Desertification and Its Solution. James Walls. Macmillan, New York, and Collier Macmillan, London, 1980. xiv, 336 pp., illus. \$19.95.
- Laser and Electron Beam Processing of Materials.** Proceedings of a symposium, Cambridge, Mass., Nov. 1979. C. W. White and P. S. Peercy, Eds. Academic Press, New York, 1980. xviii, 770 pp., illus. \$40.
- Life beyond Earth.** The Intelligent Earthling's Guide to Life in the Universe. Gerald Feinberg and Robert Shapiro. Morrow, New York, 1980. 464 pp., illus. Cloth, \$14.95; paper, \$7.95.
- The Life of the Hummingbird.** Alexander F. Skutch. Illustrated by Arthur B. Singer. Crown, New York, 1980. 96 pp. \$15.95. A Vineyard Book.
- Light Absorption of Organic Colorants.** Theoretical Treatment and Empirical Rules. J. Fabian and H. Hartmann. Springer-Verlag, New York, 1980. viii, 246 pp., illus. \$79. Reactivity and Structure Concepts in Organic Chemistry, vol. 12.
- Liquid Chromatography of Polymers and Related Materials II.** Papers from a symposium, Strasbourg, France, Oct. 1979. Jack Cazes and Xavier Dalmaré, Eds. Dekker, New York, 1980. viii, 262 pp., illus. \$35. Chromatographic Science, vol. 13.
- Macromolecular Physics.** Vol. 3, Crystal Melting. Bernhard Wunderlich. Academic Press, New York, 1980. xvi, 364 pp., illus. \$42.50.
- Man Meets Grizzly.** Encounters in the Wild from Lewis and Clark to Modern Times. Gathered by F. M. Young. Coralie Beyers, Ed. Houghton Mifflin, Boston, 1980. xxii, 298 pp. \$10.95.
- Mariana Mesa.** Seven Prehistoric Settlements in West-Central New Mexico. A Report of the Upper Gila Expedition. Charles R. McGimsey III. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge, Mass., 1980. xx, 298 pp., illus. Paper, \$20. Papers of the Peabody Museum of Archaeology and Ethnology, vol. 72.
- Marine Natural Products.** Chemical and Biological Perspectives. Vol. 3. Paul J. Scheuer, Ed. Academic Press, New York, 1980. xiv, 232 pp., illus. \$28.
- Marriage, the Family, and Personal Fulfillment.** David A. Schulz and Stanley F. Rodgers. Prentice-Hall, Englewood Cliffs, N.J., ed. 2, 1980. xviii, 446 pp., illus. \$15.95.
- A Master List of Nonstellar Optical Astronomical Objects.** Compiled by Robert S. Dixon and George Sonneborn. Ohio State University Press, Columbus, 1980. 836 pp. \$30.
- Peoples' Solar Sourcebook.** Solar Liberation Engineering, Los Angeles, and Solar Usage Now, Bascom, Ohio, 1980. 350 pp., illus. Paper, \$5.
- Persistent Poisons.** Chemical Pollutants in the Environment. Mary-Jane Schneider. New York Academy of Sciences, New York, 1979. viii, 68 pp. Paper, \$4.
- Peyote.** The Divine Cactus. Edward F. Anderson. University of Arizona Press, Tucson, 1980. xvi, 248 pp., illus. Cloth, \$18.50; paper, \$6.95.
- Phosphorus Management Strategies for Lakes.** Proceedings of a conference, 1979. Raymond C. Loehr, Colleen S. Martin, and Walter Rast, Eds. Ann Arbor Science, Ann Arbor, Mich., 1980. vi, 490 pp., illus. \$39.95.
- Physicochemical Methods for Water and Wastewater Treatment.** Proceedings of a conference, Lublin, Poland, June 1979. Lucjan Pawlowski, Ed. Pergamon, New York, 1980. viii, 328 pp., illus. \$50.
- Physiological Psychology.** Thomas S. Brown and Patricia M. Wallace. Academic Press, New York, 1980. xvi, 634 pp., illus. \$19.95.
- The Physiology and Pathophysiology of the Skin.** Vol. 6, The Mucus Membranes; The Action of Vitamin A on the Skin and Mucus Membranes; Transepidermal Water Loss. A. Jarrett, Ed. Academic Press, New York, 1980. xxvi + pp. 1869-2156, illus. + index. \$63.
- Pictorial Information Systems.** S. K. Chang and K. S. Fu, Eds. Springer-Verlag, New York, 1980. x, 446 pp., illus. Paper, \$24.50. Lecture Notes in Computer Science, vol. 80.
- Plasma Chemistry II.** S. Vepřek and M. Venugopalan, Eds. Springer-Verlag, New York, 1980. iv, 122 pp., illus. \$46.80. Topics in Current Chemistry, 90.
- Plasticity in Structural Engineering Fundamentals and Applications.** Ch. Massonnet, W. Olszak, and A. Phillips. Springer-Verlag, New York, 1980. x, 302 pp., illus. Paper, \$27.80. International Centre for Mechanical Sciences Courses and Lectures, No. 241.
- Plate Tectonics.** Selected Papers from Publications of the American Geophysical Union. John M. Bird, Ed. American Geophysical Union, Washington, D.C., ed. 2, 1980. viii, 986 pp., illus. Paper, \$20.
- Political Subjectivity.** Applications of Q Methodology in Political Science. Steven R. Brown. Yale University Press, New Haven, Conn., 1980. xiv, 356 pp. Cloth, \$35; paper, \$9.95.
- Politics, Economics, and Public Welfare.** Andrew W. Dobelstein. Prentice-Hall, Englewood Cliffs, N.J., 1980. xiv, 256 pp. \$13.95.
- The Politics of Displacement.** Racial and Ethnic Transition in Three American Cities. Peter K. Eisinger. Academic Press, New York, 1980. xxii, 226 pp. \$18.
- Polymer Syntheses.** Vol. 3. Stanley R. Sandler and Wolf Karo. Academic Press, New York, 1980. xii, 370 pp., illus. \$42.50. Organic Chemistry, vol. 29.
- Rabies and Wildlife.** A Biologist's Perspective. David W. Macdonald. Oxford University Press, New York, and Earth Resources Research, London, 1980. viii, 152 pp., illus. Cloth, \$28; paper, \$11.50.
- Radiant Energy and the Eye.** Sidney Lerman. Macmillan, New York, Collier Macmillan Canada, Toronto, and Baillière Tindall, London, 1980. xii, 322 pp., illus. \$45. Functional Ophthalmology.
- Reading Research.** Advances in Theory and Practice. Vol. 1. T. Gary Waller and G. E. MacKinnon, Eds. Academic Press, New York, 1979. x, 262 pp. \$20.
- Refinery Policy in the 1980s.** Security, Economics and Equity. Bettina Silber and Clarice R. Feldman. Americans for Energy Independence, Washington, D.C., 1980. viii, 116 pp. Paper, \$7. Energy Policy Series.
- Regulatory T Lymphocytes.** Papers from a symposium. New York, June 1979. Benvenuto Pernis and Henry J. Vogel, Eds. Academic Press, New York, 1980. xxii, 450 pp., illus. \$47.50. P & S Biomedical Sciences Symposia Series.
- A Relational Theory of Computing.** John G. Sanderson. Springer-Verlag, New York, 1980. vi, 148 pp. Paper, \$11.80. Lecture Notes in Computer Science, vol. 82.
- Remote Sensing.** Optics and Optical Systems. Philip N. Slater. Addison-Wesley Advanced Book Program, Reading, Mass., 1980. xviii, 576 pp., illus. \$34.50.
- Renewable Resources.** A Systematic Approach. Papers from a conference, Saltillo, Coahuila, Mexico, Aug. 1979. Enrique Campos-López, Ed. Academic Press, New York, 1980. xii, 410 pp., illus. \$29.50.
- Reproduction in Farm Animals.** E. S. E. Hafez, Ed. Lea and Febiger, Philadelphia, ed. 4, 1980. xii, 628 pp., illus. \$31.
- Reproductive Biology and Diseases of Captive Reptiles.** Papers from a symposium, Tempe, Ariz., June 1978. James B. Murphy and Joseph T. Collins, Eds. Society for the Study of Amphibians and Reptiles, 1980 (available from Dr. H. C. Seibert, Department of Zoology, Ohio University, Athens). x, 278 pp., illus. Cloth, \$24, paper, \$20. Contributions to Herpetology, No. 1.
- Research Methods in Librarianship.** Techniques and Interpretation. Charles H. Busha and Stephen P. Harter. Academic Press, New York, 1980. xii, 418 pp. \$19.50. Library and Information Science.
- Restricted Environmental Stimulation.** Research and Clinical Applications. Peter Suedfeld with contributions by Henry B. Adams, Roderick A. Borrie, and Richard C. Tees. Wiley-Interscience, New York, 1980. xiv, 514 pp., illus. \$26.50.
- A Selected Annotated Bibliography of Professional Ethics and Social Responsibility in Engineering.** Compiled by Robert F. Ladenson and six others. Center for the Study of Ethics in the Professions, Illinois Institute of Technology, Chicago, 1980. 158 pp. Paper.
- Semiclassical Methods in Molecular Scattering and Spectroscopy.** Proceedings of an institute, Cambridge, England, Sept. 1979. M. S. Child, Ed. Reidel, Boston, 1980 (distributor, Kluwer Boston, Hingham, Mass.). xii, 332 pp., illus. \$39.50. NATO Advanced Study Institutes Series C, vol. 53.
- Sequences of Immunoglobulin Chains.** Elvin A. Kabat, Tai Te Wu, and Howard Bilofsky. National Institutes of Health, Bethesda, 1979 (distributor, Bolt Beranek and Newman, Cambridge, Mass.). xvi, 186 pp. Paper. NIH Publication No. 80-2008.
- Sex, Diet, and Debility in Jacksonian America.** Sylvester Graham and Health Reform. Stephen Nissenbaum. Greenwood Press, Westport, Conn., 1980. xx, 200 pp. \$22.95. Contributions in Medical History, No. 4.
- Shortening Structures in Eastern and Northwestern Himalayan Rocks.** W. Schwan. P. S. Saklani, Ed. Today and Tomorrow's Printers and Publishers, New Delhi, 1980. viii, 62 pp., illus. + index. \$12. Current Trends in Geology, vol. 3.
- A Sierra Club Naturalist's Guide to the Piedmont.** Michael A. Godfrey. Sierra Club Books, San Francisco, 1980 (distributor, Scribner, New York). xii, 498 pp., illus. + plates. Cloth, \$19.95; paper, \$9.95.
- Sinusoidal Analysis and Modeling of Weakly Non-linear Circuits.** With Application to Nonlinear Interference Effects. Donald D. Weiner and John F. Spina. Van Nostrand Reinhold, New York, 1980. xxx, 290 pp., illus. \$27.50. Van Nostrand Reinhold Electrical-Computer Science and Engineering Series.
- The Skills of Career Counseling.** Richard M. Pierce, Mikal R. Cohen, William A. Anthony, Barry F. Cohen, and Theodore W. Friel. University Park Press, Baltimore, 1980. vi, 96 pp. Paper, \$6.95. Psychiatric Rehabilitation Practice Series, Book 4.
- The Skills of Career Placement.** Richard M. Pierce, Mikal R. Cohen, William A. Anthony, Barry F. Cohen, and Theodore W. Friel. University Park Press, Baltimore, 1980. vi, 98 pp. Paper, \$6.95. Psychiatric Rehabilitation Practice Series, Book 5.
- The Skills of Community Service Coordination.** Mikal R. Cohen, Raphael L. Vitalo, William A. Anthony, and Richard M. Pierce. University Park Press, Baltimore, 1980. vi, 114 pp. Paper, \$7.50. Psychiatric Rehabilitation Practice Series, Book 6.
- The Skills of Diagnostic Planning.** William A. Anthony, Richard M. Pierce, Mikal R. Cohen, and John R. Cannon. University Park Press, Baltimore, 1980. vi, 178 pp., illus. Paper, \$8.95. Psychiatric Rehabilitation Practice Series, Book 1.
- The Skills of Professional Evaluation.** Mikal R. Cohen, William A. Anthony, Richard M. Pierce, Leroy A. Spaniol, and John R. Cannon. University Park Press, Baltimore, 1980. vi, 72 pp. Paper, \$5.95. Psychiatric Rehabilitation Practice Series, Book 3.
- The Skills of Rehabilitation Programming.** William A. Anthony, Richard M. Pierce, Mikal R. Cohen, and John R. Cannon. University Park Press, Baltimore, 1980. vi, 114 pp. Paper, \$7.50. Psychiatric Rehabilitation Practice Series, Book 2.
- Snake Venom Poisoning.** Findlay E. Russell. Lippincott, Philadelphia, 1980. xiv, 562 pp., illus. \$35.
- Technology and Steel Industry Competitiveness.** Office of Technology Assessment, Washington, D.C., 1980 (available from the Superintendent of Documents, Washington, D.C.). viii, 374 pp., illus. Paper, \$8.
- Theory of Meson Interactions with Nuclei.** Judah M. Eisenberg and Daniel S. Koltun. Wiley-Interscience, New York, 1980. xii, 404 pp., illus. \$39.95.
- Twins.** Black and White. R. Travis Osborne. Foundation for Human Understanding, Athens, Ga., 1980. xviii, 286 pp., illus. \$17.95.
- Validation and Assessment Issues of Energy Models.** Proceedings of a workshop, Gaithersburg, Md., Jan. 1979. Saul I. Gass, Ed. National Bureau of Standards, Washington, D.C., 1980 (available from the Superintendent of Documents, Washington, D.C.). vi, 570 pp. Paper, \$9.50. National Bureau of Standards Special Publication 569.
- Vegetation Dynamics.** Proceedings of a symposium, Yerseke, The Netherlands, Oct. 1975. Wim G. Beertink, Ed. Junk, The Hague, 1980 (U.S. distributor, Kluwer Boston, Hingham, Mass.). 134 pp., illus. Paper, \$31.50.
- Vitamin B₆ Metabolism and Role in Growth.** George P. Tryfiates, Ed. Food and Nutrition Press, Westport, Conn., 1980. x, 378 pp., illus. \$49.
- Vitamin D.** Molecular Biology and Clinical Nutrition. Anthony W. Norman, Ed. Dekker, New York, 1980. xiv, 800 pp., illus. \$85. Basic and Clinical Nutrition, vol. 2.
- Volcano.** The Eruption of Mount St. Helens. Written by the staffs of *The Daily News*, Longview, Wash., and *The Journal-American*, Bellevue, Wash. Longview Publishing Company, Longview, and Madrona Publishers, Seattle, 1980. 96 pp., illus. Paper, \$6.95.
- Weathering the Wilderness.** The Sierra Club Guide to Practical Meteorology. William E. Reifsnnyder. Sierra Club, San Francisco, 1980 (distributor, Scribner, New York). viii, 276 pp., illus. Paper, \$8.95. Sierra Club Guides to Outdoor Activities.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising closing for a particular Friday issue is Wednesday, 3 1/2 weeks before. Advertising is accepted only in writing; no abbreviations. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, or handicap.

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

DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): \$8 per millimeter; \$200 minimum, per insertion (minimum charge covers 25 millimeters on a single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing information required for all other advertising.

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

SCIENCE, Room 207
1515 Massachusetts Ave., NW
Washington, D.C. 20005
Telephone: 202-467-4456

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

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

Blind ad replies should be addressed as follows:

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

POSITIONS WANTED

Biochemist. Ph.D. 1976. Broad academic background. Protein biosynthesis, cell-virus interactions. Four years of experience in various aspects of rodent and human interferon research. Teaching experience. Publications. Ongoing research program. Seeks stimulating, tenure-track academic or independent industry position. Box 40, SCIENCE. X

Biochemist. Ph.D. 1972. Background in regulation of cell division and in carcinogenesis. Extensive experience with steroid hormone receptors, particularly the estrogen receptor, and in polycyclic hydrocarbon metabolism and mechanism of carcinogenesis. Numerous publications. Seeking research position in one of the above areas of research. 9 Hall Garth Gardens, Over Kellet, North Carnforth, Lancashire, England. Telephone: 52473-3860. X

Electron Microscopist. B.A., M.A. Presently directing active research EM laboratory, with extensive SEM, TEM experience. Desires clinical, industrial, or research ultrastructural position in northeastern United States. Box 51, SCIENCE. 3/6, 13

Electron Microscopist. B.S. Five years of experience in SEM and TEM. Pathology laboratory and teaching experience. Seeks research or teaching position. Box 52, SCIENCE. X

Geobotanical Phenomenologist. Ph.D. Plant ecologist-biogeographer-adventurer experienced in vegetation mapping, range analysis, rare and endangered plants, soils and air photo work, high school and college teaching; postdoctoral work in population biology; publications; FORTRAN; some Spanish. Looking for an interesting challenge, not necessarily restricted to academe or industry. Box 53, SCIENCE. X

International Program Director. Ph.D. physicist with experience in universities and international organizations directing science and technology, energy, and environment projects in developing countries. P.O. Box 29, College Park, Maryland 20740. X

POSITIONS OPEN

ANATOMIST

Applications are invited for the histology/medical embryology position at the West Virginia School of Osteopathic Medicine to begin 1 July 1981. Applicants should have a doctorate degree with interest, ability, and experience in teaching medical histology/embryology/genetics, and an active research program with publications. Rank and salary open.

Interested individuals should send a letter of statement of teaching/research interests, curriculum vitae, and names of three references to: **Kirk H. Herrick, D.O., Dean for Academic Affairs, West Virginia School of Osteopathic Medicine, 400 North Lee Street, Lewisburg, West Virginia 24901**, no later than 31 March 1981.

An Affirmative Action/Equal Opportunity Employer

ANATOMIST/HISTOLOGIST

The Department of Biology, Illinois Wesleyan University, invites applications for a tenure-track position at the assistant professor level. Applicants should have the Ph.D. degree. The candidate must be qualified to teach comparative or functional anatomy, histology, and participate in the team-taught general biology course for majors. In addition, the candidate will be expected to develop one or more advanced courses in areas of his or her specialty and pursue research, aspects of which would be appropriate for undergraduate research projects. Primary consideration will be given to teaching excellence. Send curriculum vitae and three letters of reference to: **Dr. Bruce B. Criley, Department of Biology, Illinois Wesleyan University, Bloomington, Ill. 61701**. *Illinois Wesleyan is an Equal Opportunity Employer.*

ANATOMIST with earned doctorate to teach human gross and neuroanatomy to undergraduates and graduates majoring in the allied health professions and in applied anatomy. Develop personal research program attractive to graduate students. Assistant professor, 9-month academic year, tenure-track position, beginning 1 September 1981. Applicant should send letter describing current and planned professional activities, curriculum vitae, and list of three references. Deadline for receipt of all materials: 30 April 1981. **Chairman, Department of Health Sciences, A1, Sargent College of Allied Health Professions, Boston University, 36 Cunningham Street, Boston, Mass. 02215**. *Affirmative Action/Equal Opportunity Employer.*

APPLIED MATHEMATICIAN/FLUID MECHANICIAN

Assistant scientist to investigate transport of particles and gases in the atmosphere and of sediments and solutes in rivers. Applicants must have a strong background in applied mathematics and fluid mechanics, and a strong desire to apply these skills to understanding atmospheric and hydraulic transport processes. Send application to: **Dr. Donald E. Aylor, Chief, Department of Ecology and Climatology, The Connecticut Agricultural Experiment Station, Box 1106, New Haven, Connecticut 06504**. *An Equal Opportunity/Affirmative Action Employer.*

Faculty Position
Department of Forestry
and Resource Management
and

Forest Products Laboratory
University of California, Berkeley

ASSISTANT PROFESSOR AND ASSISTANT WOOD TECHNOLOGIST (WOOD PHYSICS)

Responsibilities: (i) Teach an undergraduate course on the physical properties of wood and a graduate-level course in advanced wood physics on an alternate year basis. Share teaching responsibilities for general course on the role of wood in today's society or teach a course on wood as a fuel source; (ii) guide graduate students' research in wood physics; and (iii) plan and carry forward research in the physics of wood as related to energy production and conservation and other wood physics problem areas.

Qualifications: Ph.D. completed or nearly completed; background in wood science with strong emphasis on wood physics.

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

Write: **D. G. Arganbright, Chairman Search Committee University of California Forest Products Laboratory 47th and Hoffman Streets Richmond, Calif. 94804**

Closing date for applications: 15 May 1981.
Starting date for position: 1 July 1981.

POSITIONS OPEN

ASSISTANT PROFESSOR

The Department of Biological Chemistry of the University of Illinois invites applications from candidates for the position of assistant professor beginning in the academic year 1981-1982 to develop a research program in the area of regulation of differentiation, gene expression and/or factors needed for transcription. Candidates should possess a Ph.D. degree with a strong chemical background, at least 2 years of postdoctoral experience, and published evidence of ability to design productive experiments in this field of investigation. Curriculum vitae and three supporting letters of recommendation should be sent to: **Search Committee, University of Illinois Medical Center, 1853 West Polk Street, Chicago, Illinois 60612**.

The University of Illinois is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.

ASSISTANT PROFESSOR

The Department of Biological Chemistry of the University of Illinois invites applications from candidates for the position of assistant professor beginning in the academic year 1981-1982 to develop a research program in the area of cell membrane receptors and their coupling to intracellular metabolic events. Candidates should possess a Ph.D. degree with a strong background in chemistry, at least 2 years of postdoctoral experience, and published evidence of ability to design productive experiments in this field of investigation. Curriculum vitae and three supporting letters of recommendation should be sent to: **Search Committee, University of Illinois Medical Center, 1853 West Polk Street, Chicago, Illinois 60612**.

The University of Illinois is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.

ASSISTANT PROFESSOR

The Department of Chemistry at Syracuse University intends to appoint a tenure-track assistant professor for fall 1982 in the area of experimental physical chemistry, or in a research area with a strong physical component. The search is being conducted at this time in order to identify exceptionally well-qualified candidates. Applicants should send complete curriculum vitae, list of publications, and a statement of research plans, and should arrange for at least three letters of recommendation to be forwarded to support the application. Nominations and applications should be mailed by 30 March 1981 to: **Professor Laurence A. Nafie, Chairman, Search Committee, Department of Chemistry, Syracuse University, Syracuse, New York 13210**.

Syracuse University is an Equal Opportunity/Affirmative Action Employer.

Anticipated tenure-track **ASSISTANT PROFESSORSHIP, VERTEBRATE NATURAL HISTORY**, beginning September 1981. Preference for candidates with a geology background. Their duties may include teaching introductory courses and direction of M.S. theses. Ph.D. required. Send letter of application, official transcripts, curriculum vitae, and three letters of recommendation not later than 15 April 1981 to: **Dr. E. H. Barman, Jr., Chairman, Search Committee, Georgia College, Milledgeville, Ga. 31061**. *Georgia College is a unit of the University System of Georgia and is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT RESEARCH BIOCHEMIST

Applications are invited for an assistant research biochemist in a large, active laboratory in the Department of Biochemistry and Biophysics at the University of California, San Francisco. Candidates should have at least 3 years of relevant postdoctoral experience in the areas of cell tissue culture, recombinant DNA techniques, use of SV40 as an eukaryotic vector, cell transformation, use of teratocarcinoma cells in studying differentiation, and DNA sequencing. The successful candidate should be able to carry out a substantially independent research program in the area of eukaryotic gene expression and differentiation.

Candidates should submit curriculum vitae (including a list of references), the names (only) of at least three persons willing to write letters of reference, and any other relevant material by 31 March to: **Search Committee, Department of Biochemistry and Biophysics, University of California, San Francisco, San Francisco, Calif. 94143**. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOCHEMISTRY position anticipated 1 September 1981. Candidates for the position must have a Ph.D. or M.D. degree with relevant postdoctoral experience. Excellence in teaching and research are required. Teaching responsibilities will include both medical and graduate student courses. The establishment of an independent research program is essential. The person selected must, in addition, be able and willing to collaborate with the other faculty in the department. Preference will be given to candidates whose research interests complement those of the current faculty. Send curriculum vitae and three letters of recommendation to: **Dr. Joseph G. Cory, Department of Biochemistry, University of South Florida, Tampa, Florida 33612.** *The University of South Florida is an Equal Opportunity/Affirmative Action Employer.*

Department of Biology, **MACALESTER COLLEGE**, is seeking applications, Ph.D. level, for a tenure-track position as **ASSISTANT PROFESSOR**. The successful candidate will teach general biology with specialties in physiology/immunology and should have an interest in computer applications to biological teaching and research. Salary competitive. Send curriculum vitae and names of three references by 20 March 1981 to: **Dr. E. P. Hill, Department of Biology, Macalester College, St. Paul, Minn. 55105.** *Macalester is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF MICROBIOLOGY beginning 1 July 1981. Tenure-track position. To teach an undergraduate course in food microbiology and to develop undergraduate and graduate courses in areas of applied microbiology. Research expected; postdoctoral experience preferred. Send curriculum vitae, description of research plans, and three letters of recommendation to: **Dr. Leonard I. Borack, Chairman, Department of Zoology and Physiology, Rutgers University, 195 University Avenue, Newark, New Jersey 07102.** *An Equal Opportunity/Affirmative Action Employer.*

BIOCHEMICAL TOXICOLOGIST. Assistant professor of environmental toxicology and assistant toxicologist in the Agricultural Experiment Station. Eleven-month appointment; 40 percent teaching, 60 percent research. Requirements include Ph.D. in biochemistry, pharmacology and/or toxicology, or another discipline with strong biochemical training, and research experience in biochemical toxicology, involving plants or animals. Responsibilities include research in the comparative biochemistry of xenobiotic metabolism, toxic action, and detoxication as related to agricultural and environmental concerns, and teaching the equivalent of two formal courses per year from existing offerings. Send résumé, transcripts (official transcripts, if you have completed your Ph.D. within the past 5 years), list of publications, and the names and addresses of three references to: **Chairman, Search Committee, Department of Environmental Toxicology, University of California, Davis, Calif. 95616,** prior to 15 April 1981. Available 1 July 1981. *The University of California is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.*

BIOCHEMIST FOR RADIOIMMUNOASSAY Experienced in the optimization of reagents for kits. Salary commensurate with education and experience. Grow with a dynamic young company. Contact:

Dr. Arden Kelton, President
Immuron, Inc.
1531 Monrovia Avenue
Newport Beach, California 92663
Telephone: 714-645-7051

BIOCHEMISTRY. Applications are invited for a tenure-track position at the level of assistant professor which will be filled on 1 July 1981. Applicants should have a Ph.D. degree in biochemistry and postdoctoral training. Candidates must demonstrate potential for outstanding teaching ability and excellence in research in membrane biochemistry. The successful candidate is expected to develop a research program dealing with membranes and to teach biochemical subjects to medical and graduate students. Send curriculum vitae, summary of present research, summary of proposed research, and names and addresses of three people who may be contacted for reference to: **Dr. F. P. Inman, Department of Biochemistry, Box 19930A, College of Medicine, East Tennessee State University, Johnson City, Tennessee 37614.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

BIOCHEMIST wanted to join research group working on the biochemistry of genetically hypertensive rats. Applicants should have a Ph.D. in biochemistry. The position is at the instructor level, supported initially by an NIH training grant, \$13,380 the first year. Open only to U.S. citizens or persons with a permanent visa. Current work involves isolation of kallikrein-like enzymes and their inhibitors and the biochemistry of vascular smooth muscle. Send curriculum vitae to: **Dr. John Rapp, Department of Medicine, Medical College of Ohio, C.S. Number 10008, Toledo, Ohio 43699.** *An Equal Opportunity Employer, M/F.*

BIOLOGICAL PSYCHOLOGY—Position Number 2

Applications are invited from behavioral neuroscientists for an anticipated position at the **assistant professor level in the Department of Psychology**, beginning August 1981. Appointments will be made on the basis of strong research potential in the general area of behavioral and neuronal plasticity, emphasizing learning, memory, sensory processes, motivation, and/or development. For this position applicants are expected to use **neurochemical and/or neurohistochemical techniques** in their research and to be able to teach neurochemistry. For this appointment a background in genetics will be an important consideration. Salary is \$16,000 or higher, commensurate with experience.

Applications, including a statement describing proposed research activities and objectives, curriculum vitae, and three to five letters of recommendation, should be sent to: **Dr. Herbert P. Alpern, Chairman, Biological Psychology, Department of Psychology, University of Colorado, Boulder, Colorado 80309.**

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

Application deadline: 21 March 1981.

BIOLOGY assistant professorship; 2 years, beginning September 1981. Ph.D. required; shared responsibility for introductory course in cell and molecular biology plus full responsibility for two courses for advanced students. Courses in areas of immunology and virology preferred; other subjects dealing with organisms at molecular level acceptable alternatives. Submit curriculum vitae, transcripts of graduate and undergraduate work, and three recommendation letters to: **David Benzing, Biology, Oberlin College, Oberlin, Ohio 44074** by 1 April 1981. *Equal Opportunity Employer.*

BIOLOGY

Faculty position available fall 1981 with specialty in microbiology. Background in applied microbiology is desired. Earned doctorate required. Will teach sections of general microbiology, bacteriology, and introductory biology. Demonstrated teaching ability, publications, and/or evidence of other scholarly contributions are desired. Send résumé to: **Dr. Donald A. Hendrickson, Chairman, Search and Selection Committee, Department of Biology, Ball State University, Muncie, Ind. 47306.** Applications must be postmarked by 20 March 1981.

Ball State University practices Equal Opportunity in Education and Employment.

CHEMISTRY INSTRUCTOR. Tenure-track position; 17 August 1981 starting date. Responsibilities: general chemistry, alternate semesters of analytical and organic, plus possible additional related courses. Rank and salary based on experience and education. Send résumé, transcript, and three letters of recommendation by 1 April 1981 to: **Michael Foss, Director, Physical and Natural Science, University of South Dakota at Springfield, Springfield, South Dakota 57062.** *An Equal Opportunity Employer.*

CHIEF, SECTION OF THERIOGENOLOGY. Department of Clinical Sciences and Veterinary Medical Teaching Hospital, New York State College of Veterinary Medicine, Cornell University. Successful applicant must have a strong research record in reproductive biology and ability to relate research findings to clinical problems in reproduction of domestic animals. D.V.M., M.D. and/or Ph.D. degrees required. Rank and salary commensurate with experience. Excellent laboratory and supporting animal facilities are available with significant opportunities for interaction with the large group of reproductive biologists on the campus. Send curriculum vitae and two letters of recommendation to: **Dr. William Hansel, Chairman, Department of Physiology, Cornell University, 816 VRT, Ithaca, New York 14853,** prior to 30 April 1981. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

WESTFIELD STATE COLLEGE

Westfield, Mass. 01086

Faculty Position, Academic Year 1981-1982

BIOLOGY: Full-time faculty position at rank of instructor available for the 1981-1982 academic year. Animal physiologist with principal responsibility for teaching introductory biology courses such as biology of organisms, inheritance and development, human biology, and environmental biology. Doctorate and college-level teaching experience preferred. Salary range: \$11,200 to \$18,673. Send letter of application, three recent references, and transcripts by 31 March 1981 to:

Personnel Office
Westfield State College
Westfield, Mass. 01086

An Affirmative Action/Equal Opportunity Employer

THE UNIVERSITY OF OTTAWA, DEPARTMENT OF BIOLOGY, expects to fill several tenure-track positions for, and during, the 1981-1982 academic year. Appointments will normally be at the assistant professor level, but applications for appointment at higher ranks will be considered. The research/teaching qualifications of the applicant, rather than the area of specialization, are of prime importance. Appointees will be expected to maintain an active, externally funded, research program and to contribute to undergraduate and graduate teaching. The University of Ottawa is a bilingual institution; the ability to lecture in both English and French will be a definite asset.

Applicants should submit, by 1 May 1981, curriculum vitae and a brief description of teaching interests and future research plans and should arrange to have three letters of recommendation sent to: **Dr. David L. Brown, Chairman, Search Committee, Department of Biology, University of Ottawa, Ottawa, Ontario, Canada K1N 6N5.**

CELL CYTOSKELETON/MOTILITY

The Department of Developmental and Cell Biology at the University of California, Irvine, anticipates recruiting to fill a position in the area of the cell cytoskeleton and cell motility. We are particularly interested in finding an individual whose research is in one or more of the following areas: cell organelle movement, cell division, cytology and molecular biology of the cytoskeleton, axonal transport, or calmodulin in motile and cytoskeletal systems. We expect to be recruiting at the assistant professor level, though senior individuals may wish to apply. This position will involve graduate and undergraduate teaching, as well as the establishment of a high-quality research program. At least 1 year of postdoctoral experience is desired. Send curriculum vitae, names of three referees, and reprints to: **Michael W. Berns, Ph.D., Chair, Department of Developmental and Cell Biology, University of California, Irvine, California 92717.** *The University of California is an Affirmative Action/Equal Opportunity Employer.*

TRINITY COLLEGE

BURLINGTON, VERMONT 05401

NATURAL SCIENCES/MATHEMATICS: DEPARTMENT CHAIRPERSON. Ten-month contract. To direct interdisciplinary department and to develop "Women in Science" Program, to plan maximum use of facilities for four disciplines; to expand science education curriculum for nontraditional learners and Weekend College. Area of specialization open, but preference for biologist to teach embryology, genetics, and comparative anatomy. Deadline for letter of application: 20 March 1981. Send to: **Chairperson, Search Committee.** Provide résumé with names of three references. Information on salary range and so forth will be provided to applicants.

CURATOR—PROFESSORSHIP IN BOTANY

Applications and nominations are invited for a tenured professorship in the Department of Biology at Harvard University. The position involves teaching and research in economic and organismic botany; research experience in the tropics will be an advantage. The appointment will eventually include the curatorship of the Botanical Museum.

The salary range starts from \$30,800.

Letters of application, with résumé and three references, should be sent by 1 April 1981 to:

Professor Peter S. Ashton
Harvard University Herbaria Building
22 Divinity Avenue
Cambridge, Massachusetts 02138

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

CELL BIOLOGY/GENE EXPRESSION. ASSISTANT PROFESSOR OF ANATOMY. Cornell University Medical College, New York City, beginning 1 September 1981. Successful candidate is expected to maintain an active research program with extramural support and to teach microscopic anatomy. Applicants with interests in one of the following areas are preferred: chromosome structure, gene regulatory mechanisms analyzed through cloned sequences and/or nucleic acid hybridization, nuclear structure and activity during germ cell or early embryonic development in vertebrates. Send curriculum vitae and names of three references to: **Dr. Dana C. Brooks, Acting Chairman, Department of Anatomy, 1300 York Avenue, New York, N.Y. 10021.** An Equal Opportunity Employer.

CHAIRPERSON DEPARTMENT OF MICROBIOLOGY/ IMMUNOLOGY NEW YORK MEDICAL COLLEGE

The New York Medical College seeks a distinguished individual to serve as professor and chairperson of the Department of Microbiology/Immunology. Applicants should have an M.D. and/or Ph.D., a record of significant accomplishments in research, administrative experience, and a strong commitment to medical and graduate education. Applications, including curriculum vitae, bibliography, and the names of at least four references, should be sent before 1 May 1981 to:

**Dr. Richard D. Levere, Chairman
Microbiology/Immunology Search Committee
New York Medical College
Munger Pavilion, Room 263
Valhalla, New York 10595**

New York Medical College is an Equal Opportunity/Affirmative Action Employer.

CHAIRPERSON DEPARTMENT OF PEDIATRICS

Applications are solicited for the position of **Chairperson** of the Department of Pediatrics of The Medical College of Wisconsin and **Pediatrician-in-Chief** at Milwaukee Children's Hospital in Milwaukee, Wisconsin. We seek a candidate with the highest academic credentials and a master clinician. Board-certified in pediatrics with demonstrated skills of excellence, to provide leadership in administration, patient care, teaching, and research efforts for a vigorous multifaceted Department of Pediatrics. *The Medical College of Wisconsin and Milwaukee Children's Hospital are Equal Opportunity/Affirmative Action Employers; women and minorities are encouraged to apply.* This position is now available. Submit inquiries and curriculum vitae by 15 April 1981 to: **John P. Kampine, M.D., Chairman of the Pediatric Search Committee, The Medical College of Wisconsin, Office of the Dean, 8701 Watertown Plank Road, Milwaukee, Wisconsin 53226.**

CLINICAL IMMUNOLOGY PROGRAM EMORY UNIVERSITY HOSPITAL

The Department of Laboratory Medicine is seeking a doctoral-level individual for a **technical specialist** position in clinical immunology. The position involves all aspects of clinical immunology service and related developmental research. Postdoctoral candidates with at least 2 years of related experience preferred. Minimum qualifications include ASCP-registered technologist with 5 years of recent related experience with advanced degrees or equivalent special training. Applicants should submit curriculum vitae with names and addresses of three professional references to: **Robert L. Hunter, M.D., Ph.D., Professor of Pathology, Emory University School of Medicine, c/o Harriett Hoerrner, Chief of Employment, Personnel Department, Emory University, Atlanta, Ga. 30322.**

An Equal Opportunity/Affirmative Action Employer

DIRECTOR OF OFFICE OF ACADEMIC CAREERS—Harvard Medical School is searching for a part-time director for the new Office of Academic Careers, established to identify and help remove any special barriers to the appointment and promotion of women and minority members in the Faculty of Medicine. Office to be available to all persons interested in academic careers. Requirements: doctoral degree, member of medical school faculty with preference for senior faculty member, and continuing commitment to academic activity (teaching/research/practice). Please send curriculum vitae to: **Eleanor G. Shore, M.D., Associate Dean for Faculty Affairs, Harvard Medical School, 25 Shattuck Street, Boston, Mass. 02115.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

BIOCHEMICAL ENGINEER/MICROBIOLOGIST

PPG Industries, Biochemicals Group, has openings in the following disciplines:

FERMENTATION MICROBIOLOGIST for studies in strain selection and improvement and in microbial physiology (Ph.D. only).

BIOCHEMICAL ENGINEER for studies in cell and enzyme immobilization systems and to scale up fermentation processes (M.S./Ph.D.).

MICROBIAL GENETIC ENGINEER for studies in recombinant DNA techniques and in biocatalysis (Ph.D. only).

Applicant must be a U.S. citizen or have a permanent visa.

To explore these outstanding opportunities, please send résumé, in confidence, to:

**Roger A. Crawford
Barberton Technical Center
PPG Industries
P.O. Box 31
Barberton, Ohio 44203**

An Equal Opportunity/Affirmative Action Employer



CURATOR OF HERPETOLOGY

The San Diego Natural History Museum is seeking a curator of herpetology. Duties include responsibility for a major collection, research and publication in systematics, and participation in exhibit and public education programs. Applicants should have a demonstrated record of excellence in research. Part-time university teaching may be a requirement of the position. Salary is \$17,000 or higher, commensurate with experience. Send curriculum vitae, a statement of research and teaching interests, and names of three references by 6 April to: **Director, San Diego Natural History Museum, P.O. Box 1390, San Diego, Calif. 92112.**

DIRECTOR OF CLINICAL MICROBIOLOGY. Available 1 July 1981. M.D. or M.D./Ph.D. with appropriate postgraduate training in pathology, particularly microbiology. Certification/eligibility by American Board of Pathology and experience in administration of medical microbiology laboratory highly desirable. Demonstrated interest/experience in teaching and research. Academic rank based upon experience; salary competitive. Curriculum vitae and three letters of recommendation by 20 March 1981 to: **Gary Long, Pathology Department, University of New Mexico School of Medicine, Albuquerque, N.M. 87131.** Affirmative Action/Equal Opportunity Employer.

DIRECTOR OF ACADEMIC ENDOCRINOLOGY LABORATORY. Ph.D. with experience in steroid and/or vitamin D receptors and RIA sought to participate in development of research program. Independent research encouraged. Contact: **John R. Higgins, M.D., Chief, Division of Endocrinology and Metabolism, Texas Tech University Health Sciences Center, 1400 Wallace Boulevard, Amarillo, Texas 79106.** Equal Opportunity Employer.

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

FACULTY POSITION IN NATURAL RESOURCE MANAGEMENT. One joint appointment in economics and environmental studies, beginning 1 July 1981, subject to availability of funding. Qualifications include Ph.D., notable academic record, and demonstrated ability in teaching and research scholarship. The candidate should have demonstrable research capabilities in the application of stochastic processes and optimization theory to the study of renewable natural resources. Teaching duties will include courses in environmental economics and quantitative methods in natural resource management. Salary and rank depend upon qualifications. Candidates should send a résumé, published and prepublished work, at least three letters of recommendation, and evidence of teaching performance to: **Llad Phillips, Chairman, Department of Economics, or Daniel B. Botkin, Chairman, Environmental Studies, University of California, Santa Barbara, California 93106.** Applications will be accepted until 15 April 1981. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DIRECTOR MSU/NSTL RESEARCH CENTER

Mississippi State University (MSU) invites applications and nominations for the position of Director, MSU/NSTL Research Center, at the National Space Technology Laboratories (NSTL), near Bay St. Louis, Miss.

Responsibilities include overall management and direction of the Center, primarily as an off-campus research facility and also as a graduate education and service extension of MSU; serving as resident liaison to the federal agencies at the NSTL and in the southern coastal zone of Mississippi, and to state and local agencies, businesses, industry, and community organizations in the area; aiding in establishing and expanding funded contract and grant research projects conducted by Center staff and MSU faculty to respond to the needs of these several groups; and serving as the Center's chief administrator, providing guidance in expanding into appropriate new areas of research, education, and service. The director reports to the Vice President for Graduate Studies and Research.

Preferred qualifications include an earned Ph.D. in one of the sciences or engineering, experience as a principal investigator on research grants and contracts, and administrative experience. Multidisciplinary research experience is desirable. Salary is commensurate with qualifications and experience. Date of appointment is 1 July 1981; the deadline for nominations/applications is 15 April 1981. Forward application materials, including at least three references, to: **Dr. Ralph Powe, Associate Vice President for Research, P.O. Drawer G, Mississippi State University, Mississippi State, Miss. 39762.**

MSU is an Affirmative Action/Equal Opportunity Employer.

FOUR FACULTY POSITIONS DEPARTMENT OF MARINE, EARTH AND ATMOSPHERIC SCIENCES NORTH CAROLINA STATE UNIVERSITY

Tenure-track positions at the level of assistant or associate professor are available in the following areas:

PHYSICAL OCEANOGRAPHER—Specializing in numerical modeling of oceanic flows;

GEOLOGICAL OCEANOGRAPHER—Specializing in quantitative sediment transport;

GEOPHYSICIST—All specialties considered; applied and exploration geophysics preferred; and

SEDIMENTARY GEOLOGIST—With an active research program in sedimentary petrology, paleontology, stratigraphy, or geochemistry.

Candidates will be expected to strengthen the graduate teaching and research programs. Applicants should forward a résumé and the names of three references by 31 March 1981 to: **Head, Department of Marine, Earth and Atmospheric Sciences, P.O. Box 5068, North Carolina State University, Raleigh, N.C. 27650.** Affirmative Action/Equal Opportunity Employer.

FACULTY POSITIONS IN BIOMEDICAL ENGINEERING, BOSTON UNIVERSITY COLLEGE OF ENGINEERING. At the assistant/associate professor levels in expanding Department of Biomedical Engineering for September 1981. Applicants should have an earned doctorate, be committed to quality teaching at both undergraduate and graduate levels, and have the desire to develop strong research programs. Collaboration with the Boston University School of Medicine or other departments may be facilitated through a joint faculty appointment. Candidates with backgrounds in mechanical design, electronics, computer engineering, or robotics are especially welcome. Opportunities for part-time (adjunct) faculty positions and for collaborative arrangements with nearby institutions involved in biomedical research and development are also available. There may also be an opportunity for a visiting appointment of 1 or 2 years duration to replace faculty on sabbatical leave. Also sought is an associate or assistant dean to lead and coordinate the graduate instructional and research programs of the College who may have a half-time appointment in the Biomedical Department. Candidate should send résumé, list of publications, names and addresses of at least three references, and a brief statement of teaching and research interests to: **Dr. Henry D'Angelo, Chairman, Engineering Search Committee, College of Engineering, 110 Cummings Street, Boston, Mass. 02115.** Boston University is an Equal Opportunity/Affirmative Action Employer.

ASSOCIATE DIRECTOR TOXICOLOGY LABORATORY

The Biotechs Laboratory, a separate facility operated as part of the Mellon Institute (a division of Carnegie-Mellon University), is seeking an Associate Director. This laboratory conducts a multi-disciplinary program of toxicological research related primarily to commercial resins, polymers, paints and specific chemical products. The continued growth of this program requires a professional person with education and experience in the major areas of toxicological investigations. In addition experience in supervisory responsibilities and a capacity to train younger professionals in laboratory methods and procedures would be helpful.

The laboratory is supported by a major chemical company and the research program and staff are totally committed to the program of this one sponsor.

The Biotechs Laboratory is located about 20 miles east of downtown Pittsburgh surrounded by an ideal suburban living area.

Competitive salary and benefits, modern facilities and challenging opportunities for growth make this an exceptional opportunity for an experienced professional ready for greater responsibility.

Please submit résumé and references, in confidence, to:

**Dr. G. A. Webb, Director
Environmental Division
Mellon Institute
4400 Fifth Avenue
Pittsburgh, PA 15213**

Wind Energy Specialist

Salary Ranges—\$3,284 - \$3,973 (monthly)

The California Energy Commission is seeking a qualified individual to direct the state's wind energy program by performing the following tasks:

- Develop and implement the Commission's program to promote and accelerate the development of wind energy in California.
- Plan, organize, and direct the activities of a professional staff involved in wind resource assessment, technology assessment and demonstrations, barrier identification and resolution, and the development of a market for wind energy.
- Present program results and policy recommendations to the Commission, administration, Legislature, and utility and public groups.

Desirable experience/qualifications include: experience in formulating and managing controversial and politically sensitive programs, promoting development and market creation for new technologies, developing energy policy, communicating and negotiating with top level executives in government and/or business, communicating effectively with policy makers.

To qualify for this position, the applicants must have four years of progressively responsible energy research, modeling, or demonstration project experience. (Research performed in the completion of a dissertation for a doctoral degree in a field of specialization appropriate to the research may be substituted for one year of the required general experience.) Must also have education equivalent to graduation from college supplemented by one year of postgraduate work.

This position is located in Sacramento. Please send resume to **Carol Johnson, California Energy Commission, Dept. 1977, 1111 Howe Avenue, MS 51, Sacramento, CA 95825, no later than March 30, 1981.** The California Energy Commission is an equal opportunity employer.

PH.D. CHEMIST OR FOOD SCIENTIST

Kellogg Company, one of the world's leading food manufacturers, has an opening for an Associate Research Scientist.

This opening exists in our Research Department to design and carry out highly creative and technically oriented project work in support of food research goals such as, improved nutrition, prolonged shelf-life, and new product development. This position assists the Group Leader as required and participates in the direction of and the planning for the chemistry group.

A Ph.D. in Organic Chemistry or a Ph.D. in Food Science along with undergraduate work in Organic Chemistry is required. Background in protein and carbohydrates is highly desirable.

This position offers a competitive starting salary, comprehensive benefits and the opportunity for growth and development.

If you are interested and think you may qualify, please send a letter and/or resume along with salary requirements and transcripts to:

Bill Steele

Kellogg's

235 Porter Street
Battle Creek, Mich. 49016

An Equal Opportunity Employer M/F/V/H

Charlotte, N.C.

AIR QUALITY RESEARCH

DUKE POWER COMPANY is the ninth largest investor-owned utility in the nation and is widely recognized for its environmentally safe and effective generating plants. Continuing efforts in this area have resulted in a challenging position in Air Quality Research in DUKE's Environmental Services Section.

Responsibilities include implementing ambient air quality studies, including dispersion modeling, data collection and report preparation. To report directly to the Environmental Engineer, the successful candidate will possess a B.S. in Environmental Engineering or related science and at least one year experience with atmospheric dispersion modeling. Familiarity with the CRSTER Model would be helpful.

DUKE POWER COMPANY offers exceptional opportunity for advancement, a competitive salary, comprehensive benefits and an ideal lifestyle in the beautiful Carolinas. For immediate, confidential consideration, send resume and salary history to: David Hardin, Dept. S, DUKE POWER COMPANY, P.O. Box 33189, Charlotte, N.C. 28242.

An Equal Opportunity/
Affirmative Action Employer

DUKE POWER

Lighting up the future

POSITIONS OPEN



EXECUTIVE VICE PRESIDENT

The American Association for Clinical Chemistry (AACC) is seeking to fill the newly defined position of **chief administrative officer** to replace retiring incumbent. The executive vice president will oversee development and operation of AACC's varied programs. Applicant should have advanced degree in a physical or biological science and a proven record of accomplishment in management.

Send résumé for application form to: Arleen Courtney, Office Manager, AACC, 1725 K Street, NW, Washington, D.C. 20006.

FACULTY POSITION PHARMACOLOGIST

Tenure-track assistant or associate professor to be appointed jointly in the College of Medicine's Department of Pharmacology and the College of Veterinary Medicine's newly proposed Department of Comparative and Experimental Pathology. Requirements: an earned doctoral degree (preferably with postdoctoral experience) with demonstrated research interests in either the regulation of cell function, transmembrane signaling, or pharmacokinetics. Responsibilities: develop and manage a strong, basic research program and direct and participate in the teaching of general pharmacology to veterinary medical students. Salary dependent on experience and qualifications. Reply with curriculum vitae, bibliography, statement of career and research goals, and names of three references to: **Dr. Stephen W. Russell, Director, Comparative and Experimental Pathology, Box J-145, JHMH, University of Florida, Gainesville, Fla. 32610.** Application deadline: 1 April 1981. *An Equal Opportunity/Affirmative Action Employer.*

Director, Institute for the Medical Humanities The University of Texas Medical Branch (UTMB) Galveston, Texas

The director is in charge of staff and programs and has the responsibility of designing and promoting the structure and the programs of the Institute and relating them to other elements of the Medical Center.

Candidates should be learned and experienced in the humanities and the social and behavioral sciences, particularly as regards professional training, teaching, and practice, and should be recognized as persons of sound medical understanding and experience. Candidates should show evidence of substantial scholarly accomplishments.

The director must be able to recruit persons of scholarly and pedagogic achievements or promise, attract fellows and graduate students, and guide, assist, stimulate, and support their work. The candidate will be expected to develop and maintain support from internal sources and appropriate state, federal, and foundation sources through local, regional, national, or international agencies, programs, and organizations. The director prepares and manages the Institute's budget and other fiscal matters.

The director must have or be qualified for tenure and full professorship, and have sound skills in writing and teaching students in various branches and stages of development throughout the University Medical Center. Commitment to and participation in community, state, and national affairs as they relate to the work and mission of the Institute are vital.

Interested persons should contact: **Melvyn H. Schreiber, M.D., Chairman, Medical Humanities Search, Department of Radiology, University of Texas Medical Branch, Galveston, Texas 77550.**

UTMB is an Affirmative Action Employer

POSITIONS OPEN

FACULTY POSITION

The Department of Biochemistry, State University of New York (SUNY) at Buffalo, Schools of Medicine, Dentistry and Pharmacy, is seeking an assistant or associate professor. Qualifications for this tenure-track position include a positive, long-term commitment to teaching, a demonstrated proficiency in research, and interest in training Ph.D. candidates. Preference will be given to physical biochemists working on protein-nucleic acid interactions or nucleic acid conformation and to enzymologists or biochemical endocrinologists working on the control of metabolic pathways. Complete applications must include curriculum vitae, a statement of long-term research objectives, and preprints or reprints of publications. Applicants should have three letters of recommendation sent to:

Dr. Alexander C. Browne
Department of Biochemistry
SUNY at Buffalo
102 Cary Hall
Buffalo, New York 14214

Applications should be postmarked no later than 31 March 1981.

An Equal Opportunity/Affirmative Action Employer

FACULTY POSITION in immunology. Applicants are invited for an opening in the Department of Microbiology at Emory University School of Medicine. Individuals who have demonstrated ability to do outstanding research in the areas of cellular immunology, immunogenetics, or molecular immunology are preferred, but applicants in any area of immunology will be considered. Appointment will probably be at the level of assistant professor. Please submit curriculum vitae and a summary of research interests, and have three letters of reference sent no later than 1 May 1981 to: **Dr. Linda R. Gooding, Immunology Search Committee, Department of Microbiology, 507 Woodruff Memorial Building, Emory University, Atlanta, Georgia 30322.**

An Equal Opportunity/Affirmative Action Employer

MARINE PHYCOLOGIST

A tenure-track position is available in the Biological Sciences Department for a marine phycologist with a serious interest in participating in introductory biology courses. Teaching duties include introductory biology courses, general phycology, introductory marine biology, and marine ecology. The successful applicant will be expected to guide upper division and graduate students in his/her field of specialization and to contribute to a program in marine biology. The University is an active member of the Southern California Ocean Studies Consortium; this program provides teaching and research facilities, including a 52-foot oceangoing vessel. Appointment is 9 months; rank and salary commensurate with qualifications. Interested persons should send a statement of professional interests and curriculum vitae no later than 1 April 1981 to: **Dr. Gilbert D. Brum, Chairman, Marine Phycologist Search Committee, Department of Biological Sciences, California State Polytechnic University, Pomona, Calif. 91768.** *An Equal Opportunity/Affirmative Action Employer. Women, minorities, disabled persons, and Vietnam-era veterans are encouraged to apply.*

University of California, Santa Barbara, **DEPARTMENT OF MECHANICAL AND ENVIRONMENTAL ENGINEERING**, invites applications for faculty positions in the following fields.

- **Mechanics and Materials:** Materials science and metallurgy, structural dynamics,
- **Thermal Sciences:** Heat transfer, energy conversion,
- **Ocean Engineering:** Coastal engineering, sediment transport, wave dynamics, and
- **Areas interfacing the above:** Structures and materials in an ocean environment, high temperature phenomena, fluid mechanics.

The department prefers to appoint tenure-track assistant professors. However, consideration will also be given to candidates for tenured associate and full professor positions. The requirements for assistant professor include an earned doctorate and a high promise of excellence in research and teaching; higher level appointments require proven excellence. The positions will remain open until filled. Applications should be sent to:

F. Milstein, Chairman
Department of Mechanical and
Environmental Engineering
University of California
Santa Barbara, Calif. 93106

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

POSITIONS OPEN

FACULTY POSITION FACULTY OF PHARMACY UNIVERSITY OF TORONTO

Applications are invited for a tenure-stream appointment commencing 1 July 1981. Priority will be given to candidates offering experience in the area of pharmacokinetics.

The successful applicant will have had postdoctoral experience and will be expected to continue with research and be involved in undergraduate and graduate teaching.

Applications with résumés and names of three references should be forwarded to:

Dean R. M. Baxter
Faculty of Pharmacy
University of Toronto
Toronto, Ontario, Canada M5S 1A1

CENTER FOR GENETICS University of Illinois at the Medical Center

The Center for Education and Research in Genetics of the University of Illinois at the Medical Center, Chicago, is seeking candidates for several positions at the level of **postdoctoral research associate or instructor**. These positions will involve research on mammalian cell genetics, gene transfer, gene regulation, and mutagenesis. Relevant laboratory experience is required. In addition, 2 years of postdoctoral research is required for appointment at the instructor level. Evidence of outstanding research potential is an important consideration.

Applicants should provide curriculum vitae, names of three references, and a brief statement of research interests. Applications should be sent by 15 April 1981 to:

Richard L. Davidson, Ph.D., Director
Center for Genetics
University of Illinois at the Medical Center
Box 6998
Chicago, Illinois 60680

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

GENETICIST. Qualified Ph.D. to teach genetics, another undergraduate course (for example, microbiology), a graduate course of choice, and establish an active research program. Salary: \$15,000 to \$18,000; nontenure-track assistant professor level position; 2-year minimum appointment. Send résumé and three letters of recommendation to: **Geneticist Search Committee, Biology Department, Saint Louis University, St. Louis, Mo. 63103.** *An Equal Opportunity/Affirmative Action Employer.*

LECTURER Department of Biological Sciences Columbia University

One or two full-time positions to teach laboratory courses. One course, to follow the department's introductory course in biology, stresses modern biology including genetics and molecular biology. A second is at a more advanced level and is an intensive research project-oriented laboratory course in cell and developmental biology. Some evening sessions are likely to be required. Candidates should have a Ph.D. and both teaching and research experience. Application deadline: 20 March 1981. Send résumé and list of three references familiar with scientific and teaching qualifications to: **Professor Eric Holtzman, 600 Fairchild, Department of Biological Sciences, Columbia University, New York, N.Y. 10027.**

Equal Opportunity/Affirmative Action Employer

MICROBIOLOGIST—Northeastern Illinois University, Chicago, Illinois 60625. Microbiologist, assistant professor, Ph.D. Added interest in virology or some other aspect of molecular biology. To teach courses in microbiology and other areas of specialization and in general biology. Send curriculum vitae and complete transcripts, including three letters of recommendation, by 15 April 1981 to: **Dr. Herbert F. Lamp, Chairperson, Biology.** *Affirmative Action/Equal Opportunity Employer.*

POST-Ph.D. POSITION. Analytical biochemist with mathematic, computer skills. Clinical research setting. To develop, maintain computerized analytical instrumentation, interfacing, protocols; train and supervise investigators in specimen analysis, data reduction and analysis. Chemistry, physiology, engineering backgrounds helpful. Curriculum vitae, three references, and salary range to: **Robert P. Auty, Ph.D., Beth Israel Hospital, 330 Brookline Avenue, Boston, Mass. 02215.** *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY POSITIONS

Growing, well-established, accredited school of chiropractic seeks quality teachers/scholars for basic science positions opening August 1981. Human **PHYSIOLOGY**. Preference will be given candidates with interests in digestion and biochemistry. Doctorate essential. Gross **ANATOMY**, preferably with interest in neuromusculoskeletal interrelationships. Doctorate or master's plus 30 required. Interested persons with those and **OTHER SPECIALTIES** relevant to preclinical sciences are invited to submit a letter discussing career goals in teaching and research. Enclose curriculum vitae, with names and addresses of three referees. **Basic Science Division, Northwestern College of Chiropractic, 1834 South Mississippi River Boulevard, St. Paul, Minn. 55116. Equal Opportunity Employer.**

FACULTY POSITION AVAILABLE—The Department of Anatomy is seeking applicants for a tenure-track position at the rank of assistant professor. Candidates for this position will be expected to teach gross anatomy in the first year, with the possible added teaching responsibility of neuroanatomy in the second year. It is preferred that the research focus of the applicants should be in the area of either developmental biology, reproductive biology, membrane transport, or other aspects of cell biology. A Ph.D. or M.D. degree is essential; postdoctoral research experience is preferred but not essential. The starting date for this position is 1 July 1981 or sooner. Qualified applicants are encouraged to send their curriculum vitae and three letters of recommendation to: **J. Robert Troyer, Ph.D., Professor and Chairman, Department of Anatomy, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, Pa. 19140. Equal Opportunity Affirmative Action Employer.**

GROUP LEADER IMMUNODIAGNOSTICS

We are a leading clinical diagnostics manufacturer with a research career position available for a group leader. This person will assume technical leadership and participate in the development of immunodiagnostic kits and reagent systems. Background should include broad knowledge of immunochemistry, biochemistry, organic chemistry, and immunology. Development of immunoassay kits or related experience is required. This is an opportunity for technical challenge and career growth in an achievement oriented environment. For confidential consideration, send résumé to: **Personnel Director, Department G52, BIO-RAD LABORATORIES, 2200 Wright Avenue, Richmond, Calif. 94804. Equal Opportunity Employer.**

MOLECULAR GENETICS Ph.D.'s

The INTERNATIONAL PLANT RESEARCH INSTITUTE (IPRI) invites applicants for its rapidly expanding programs in advanced molecular genetics. Applicants with significant records of frontier achievements are invited to join a strong team of innovative scientific leaders in the pleasant San Francisco area.

Send résumé with recent publications to:

DIVISION OF MOLECULAR GENETICS, IPRI, 853 Industrial Road, San Carlos, Calif. 94070.

Equal Opportunity Employer, M/F

DARTMOUTH-HITCHCOCK MEDICAL CENTER is searching for a Board-certified **PATHOLOGIST** to play a major role in surgical and anatomic pathology. This person would be expected to have an active interest in educational programs for residents and medical students, as well as a serious interest in participating in biomedical research. The level of appointment would be at the associate professor or professor level. Please direct inquiries to: **Howard M. Rawnsley, M.D., Chairman, Department of Pathology, Dartmouth-Hitchcock Medical Center, Hanover, N.H. 03755. Equal Opportunity Affirmative Action Employer.**

UNIVERSITY OF RIYADH SAUDI ARABIA

The College of Agriculture, University of Riyadh in Saudi Arabia invites applications for faculty posts (Assoc. and Asst. Professors) and Lecturers, Demonstrators and Technicians qualified in the different fields of specialization outlined below, for the academic year 1981-82.

An applicant for faculty membership should hold a Ph.D. or an equivalent qualification, or have obtained the title from a university accredited by Riyadh University. An applicant for a lectureship should hold a M.A. degree. Arabic is the medium of instruction.

Need Associate or Assistant Professor in the:

Soil and Land Reclamation Department

Soil Mineralogy, Soil Microbiology, Soil Morphology and Land Taxonomy, Soil Chemistry and Soil Physics.

Agricultural Economics and Rural Sociology Department

Agricultural Economics (Agr. Development) and Agricultural Economics.

Animal Production Department

Sheep Breeding and Wool Technology and Animal Production/Physiology.

Food Industries Department

Dairy Technology and Microbiology, Food and Dairy Chemistry, Meat and Fish Technology and Cereals Technology.

Plant Protection Department

Pesticides.

Need Lecturers in the:

Plant Production Department

2 Horticulture - M.S. in Landscaping or Ornamental Plants and Olericulture - M.S. in Olericulture.

Agronomy Department

Irrigation - M.S. in Agronomy.

Plant Protection Department

Entomology - M.S. in Agricultural Entomology.

Need Demonstrators in the:

Agricultural Economics and Rural Sociology Dept.

2 B.S. in Agricultural Economics and 2 B.S. in Rural Sociology and Agricultural Extension.

Plant Production Department

B.S. in Horticulture.

Food Industries Department

2 Food Industries Specialists and 2 Dairy Specialists.

Agronomy Department

2 B.S. in Agronomy.

Plant Protection Department

B.S. in Plant Pathology and B.S. in Entomology (Apiculture).

Animal Production Department

3 B.S. in Animal Husbandry.

Need other posts filled in the:

Soil Department

2 Laboratory Assistants - Soil Physics, Soil Microbiology (preferably graduates of specialized institutes or with previous university or research institute experience not less than 5 years).

Agricultural Economics and Rural Sociology Department

Department Secretary (Intermediate diploma with Arabic/English typing).

Food Industries Department

2 Food Industries Technicians - B.S. Food Industries or intermediate diploma with experience in Microbiology laboratories/Food Industries laboratories (Chemistry) and 2 Dairy Technicians - B.S. or intermediate diploma with relevant experience in Dairy laboratories.

Dirab Agricultural Experimental Station and University Nurseries:

1 Agricultural Machinery Engineer - B.S. in Mechanical Engineering plus experience.

3 Mechanics, heavy duty equipment - Machinery diploma plus experience.

1 Building Maintenance Technician - Intermediate education plus experience.

1 Fitter - Diploma plus experience.

1 Carpenter - Diploma plus experience.

1 Sanitary Plumber - Diploma plus experience.

3 Green House Technicians - B.S. or Agricultural diploma plus lengthy experience in green houses.

2 Crops and Forestry Technicians - Agricultural diploma plus experience.

1 Vehicles Electrician - Diploma plus experience.

7 Propagation Technicians - B.S. or diploma in Agriculture plus experience in propagation techniques.

2 Typists/Secretaries - Commercial diploma plus experience.

Please send application papers, along with nonreturnable photocopies of academic and specialized experience credentials to:

Dean, College of Agriculture

P. O. Box 2460

Riyadh, Saudi Arabia

Send duplicate materials to:

Recruitment Office

University of Riyadh

c/o Saudi Arabian Educational Mission

2425 West Loop South

Houston, Texas 77027 USA

Selected candidates will be advised for personal interviews.

POSITIONS OPEN

NEUROBIOLOGY POSTDOCTORAL RESEARCH ASSOCIATE. Studies of processing, transport, secretion, and action of neuropeptides in *Aplysia*. Emphasis is on molecular neurobiology, thus experience in biochemical techniques and knowledge of neurophysiology desirable. Available immediately. Please send letter with curriculum vitae and names of referees to: **S. Arch, Biology, Reed College, Portland, Oregon 97202. Affirmative Action/Equal Opportunity Employer.**

UNIVERSITY OF MELBOURNE DEPARTMENT OF PHYSIOLOGY

Applications are invited for two positions:

LECTURER/SENIOR LECTURER (continuing), Position Number 536012: Appointee should be established research worker who will set up and lead new research group and supervise graduate students. Substantial priming funds for equipment and maintenance available in first 2 years of appointment.

LECTURER (limited tenure), Position Number 536008: Appointment will be up to 3 years in first instance. Appointee will join either one of the research groups within department or, if appropriate, be allocated facilities and support for independent research.

Both appointees will have undergraduate teaching commitments in medical, science, and dental courses. Qualifications: Ph.D. in physiology or equivalent medical degree is essential.

Salary: Senior lecturer, A\$25,669 to A\$29,918; lecturer, A\$19,132 to A\$25,132 per annum.

For further information, contact: **Chairman of the Department, Professor Ian Darian-Smith.** Details of application procedures, together with conditions of appointment, available from: **Staff Officer, University of Melbourne, Parkville 3052, Victoria, Australia.** Applications should reach the Staff Officer by **27 March 1981.**

Position Available 1 July 1981

PHYSIOLOGICAL PSYCHOLOGIST position available as of 1 July 1981; assistant professorship; tenure-track. Individual interest in some aspect of psychobiological development sought. Ability to teach an undergraduate course in comparative psychology useful. The University of California stresses research and teaching excellence. Submit curriculum vitae and the name and address of three persons from whom we may request letters of reference to:

**Chair, Physiological Search Committee
Department of Psychology, Box C
University of California, Riverside
Riverside, Calif. 92521**

An Equal Opportunity/Affirmative Action Employer. Female and minority candidates are encouraged to apply.

Applications close 31 March 1981.

POSTDOCTORAL FELLOW

Ph.D. position available for tumor biology research involving cell kinetics, drugs, radiation, and immunobiology. NIH stipend. Available immediately. Send curriculum vitae and names of references to: **Lewis M. Schiffer, M.D., Director, Cancer Research Laboratories, Allegheny-Singer Research Corporation, 320 East North Avenue, Pittsburgh, Pa. 15212. An Equal Opportunity Employer.**

Postdoctoral Position in Clinical Chemistry—Two-year program beginning July 1981 in the clinical laboratory of a major medical oncology referral center. Applicants must have strong background in biological and/or analytical chemistry. Salary: \$14,900 per year. Send résumé and three letters of reference to: **Dr. W. Z. Borer, Division of Clinical Pathology, City of Hope National Medical Center, 1500 East Duarte Road, Duarte, Calif. 91010. Telephone: 213-359-8111, extension 2775.**

POSTDOCTORAL RESEARCH POSITIONS for biophysical studies of the spatial organization of electron transport systems in membranes. Two positions are available; one for a Ph.D. in physics or a related field with a background in magnetic resonance, and one for a Ph.D. in biochemistry or a related field. The specific projects will be determined by the interests of the candidates but will involve EPR and electron spin echo spectroscopy as major tools. Write to: **Dr. J. S. Leigh, Johnson Research Foundation, Department of Biochemistry and Biophysics, University of Pennsylvania School of Medicine, Philadelphia, Pa. 19104.**

POSITIONS OPEN

NEUROANATOMIST. The Department of Animal Physiology of the University of Tübingen (FRG) invites applications for a research associate position for independent neuroanatomical studies in the mammalian auditory system in close cooperation with neurophysiologists and for some teaching. Ph.D. required. Applications with three references should be sent before 1 April to: **Professor H.-U. Schnitzler, Institut Biologie III, Auf der Morgenstelle 28, D-7400 Tübingen, FRG.**

POSTDOCTORAL FELLOW, VASCULAR ENDOTHELIAL PHYSIOLOGY AND ATHEROSCLEROSIS. Position for Ph.D. to work on research projects on receptor dynamics and cellular aspects of atherogenesis. Previous postdoctoral training in relevant areas desirable. Knowledge of electron microscopy essential. Experience in endocytosis, receptor probes, and interactions of blood components with vascular tissues helpful. Salary depends on related experience. Submit curriculum vitae with publication list and three names of references to: **Dr. Shu Chien, Department of Physiology, Columbia Medical Center, 630 West 168 Street, New York, N.Y. 10032. An Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS RADIATION BIOLOGY MEDICAL PHYSICS UNIVERSITY OF WISCONSIN

Several positions are available in the area of radiation biology (for example, neutron radiation biology, hyperthermia, carcinogenesis) and medical physics (for example, radiation therapy, diagnostic and nuclear medicine physics). *An Equal Opportunity Employer.*

Send letter of application, including area of interest, curriculum vitae, and the names and addresses of three references, to:

**Dr. John R. Cameron
Medical Physics Division
University of Wisconsin
3321 Sterling Hall
Madison, Wis. 53706**

POSTDOCTORAL POSITION available immediately for studies concerning biochemical mechanisms underlying the hypersensitivity of hypophysectomized and adrenalectomized rats to the hypnotic effects of phenobarbital. Research includes work on alterations in brain proteins and a collaborative study with Dr. Mitchell Weinberger on interactions of the drug at glucocorticoid receptor sites. Please send curriculum vitae and names of three references to: **Dr. Mary J. Mycek, Department of Pharmacology, College of Medicine and Dentistry of New Jersey—New Jersey Medical School, 100 Bergen Street, Newark, New Jersey 07103. A nondiscriminatory, Affirmative Action Employer.**

POSTDOCTORAL POSITIONS available to participate in recombinant DNA research: (i) molecular cloning of virus envelope glycoprotein; construction of gene library from transformed cells, and (ii) transformation of mammalian cells by cloned HSV-2 DNA fragments; characterization of transformants and oncogenicity studies. Send curriculum vitae and telephone numbers and names of two references to: **Dr. W.-C. Leung (project i) or Dr. S. Bacchetti (project ii), Department of Pathology, McMaster University, Hamilton, Ontario, Canada L8N 3Z5.**

POSTDOCTORAL POSITION starting 1 September, for research in genetic epidemiology using segregation, linkage, and path analysis. Acceptable applicants should have Ph.D. or equivalent degree, with background in epidemiology or population genetics and strong research interest. Send résumé, statement of purpose, and names of three references to:

**Dr. Newton E. Morton, Director
Population Genetics Laboratory
University of Hawaii
1980 East West Road
Honolulu, Hawaii 96822**

Deadline: 30 April 1981.

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION. Applications are invited to fill a position in neuroimmunochimistry that involves a study of the active peptides of the anticephalitogenic spinal cord protein (SCP). A research background in protein and peptide purification and analysis of protein structure is essential. Salary: \$16,000 per year. Please send résumé and three letters of reference to: **Dr. Catherine F. C. MacPherson, Department of Psychiatry, University Hospital, University of Western Ontario, P.O. Box 5339, Station A, London, Ontario, Canada N6A 5A5.**

POSITIONS OPEN

POSTDOCTORAL POSITION in genetics to exploit genetic markers linked to the major histocompatibility complex of mammals and birds and to study effects of polymorphisms in sperm enzymes of mice on fertility. Applicants should have experience in electrophoretic techniques. Salary without previous postdoctoral experience: \$15,000. Laboratory directed by Dr. John L. VandeBerg. Send curriculum vitae, university transcripts, statements of current research interests and career goals, and the names and addresses of three references to: **Personnel Manager, Southwest Foundation for Research and Education, P.O. Box 28147, San Antonio, Texas 78284. We are an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS DEPARTMENT OF BIOCHEMISTRY UNIVERSITY OF MIAMI/ JACKSON MEMORIAL MEDICAL CENTER

Several postdoctoral research associate positions are available within the department. Specific areas of research are: (i) phosphoprotein phosphatases, isolation and characterization [Dr. E. Y. C. Lee, see *Adv. Cyclic Nucl. Res.* 13, 95 (1980)]; (ii) studies of protein-protein interaction sites in lactose synthase, structure and function of transferrin, including receptor interactions [Dr. K. Brew, see *J. Biol. Chem.* 255, 3377 (1980)]; and (iii) biosynthesis of microbial polysaccharides (Dr. E. E. Smith).

Inquiries should be addressed directly to the faculty member at: **Box 016129, Miami, Fla. 33101**, and should include curriculum vitae and the names of three referees.

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

POSTDOCTORAL/RESEARCH ASSOCIATE—Ph.D. in biochemistry or related field required. Biochemist to study interaction of chemical and carcinogens with liver proteins. Experience in protein isolation and characterization is desirable. Send résumé and supporting materials to: **Personnel Office, THE INSTITUTE FOR CANCER RESEARCH, 7701 Burholme Avenue, Philadelphia, Pa. 19111. Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE to study aspects of chloroplast development, including photosynthetic pigment biosynthesis. Ph.D. in biochemistry, botany, or related field, and prior laboratory experience in plant physiology required. Application deadline: 31 March 1981. Send curriculum vitae and names of three references to: **Dr. S. I. Beale, Division of Biology and Medicine, Box G, Brown University, Providence, R.I. 02912. Brown University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE (M.D. or Ph.D.) position available immediately to investigate the molecular biology of fibrinogen, plasma fibronectin (cold-insoluble globulin), their interactions with one another and with macrophages. A strong background in protein chemistry is required with experience in sequence analysis desirable. Immunology and cell culture background useful. This is an exceptional and challenging possibility for an individual who is capable of independent investigation in a programmatic setting. Faculty rank position with an opportunity for adjunct basic science appointment and graduate school teaching. Excellent laboratory facilities. Salary: \$22,000 plus, negotiable, depending on qualifications and experience. Send curriculum vitae plus statement of background, career goals, and research interests to: **Dr. Michael W. Mosesson, Department of Medicine, Mount Sinai Medical Center, 950 North 12 Street, P.O. Box 342, Milwaukee, Wisconsin 53201. An Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE. A biochemist or molecular pharmacologist to work on protein phosphorylation systems (protein kinases and substrate proteins) stimulated by cyclic nucleotides, calcium/phospholipids, or calcium/calmodulin in heart, brain, leukocytes, and other tissues. Apply before 1 April 1981 to: **Dr. J. F. Kuo, Department of Pharmacology, Emory University School of Medicine, Atlanta, Georgia 30322. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH POSITION

Available April 1981. Experience in mammalian cell culture, spheroids preferable. To research ultrasound bioeffects. Send résumé and two letters to: **Dr. Morton W. Miller, Box RBB, School of Medicine and Dentistry, University of Rochester, Rochester, N.Y. 14642.**

HEALTH PHYSICIST

Merck Sharp & Dohme Research Laboratories is currently seeking a qualified Health Physicist with a strong background in biology, biochemistry or cell biology. The selected candidate should have formal training, interests and experience in Health Physics as applied to the Research and Development efforts of a leading pharmaceutical company. This person will be required to train, educate and direct sound Health Physics disciplines in a changing research environment. Ability to adapt good Health Physics to a creative research organization and to offer practical guidance by maintaining strong interpersonal relations is required. Good opportunity for independent research related to current Health Physics problems will be encouraged.

Qualified applicants should possess a Ph.D. or equivalent experience in Health Physics. Other biological degrees may be acceptable depending on the degree of Health Physics experience. Merck Sharp & Dohme Research Laboratories, Division of Merck & Company, Inc. is an industry leader in the development of biological and pharmaceutical products. We are located in the northwestern suburbs of Philadelphia. Starting salary is commensurate with qualifications and is accompanied by excellent fringe benefits.

Please send curriculum vitae and salary requirements to: Donald E. Jackson

**Merck Sharp & Dohme
Research Laboratories**
West Point, Pa. 19486
Equal oppty. employer, m/f/h/v

KING FAISAL UNIVERSITY COLLEGE OF MEDICINE DAMMAN, SAUDI ARABIA FACULTY POSITIONS OPEN 1981-1982

King Faisal University College of Medicine, now in its seventh year, invites applications from qualified men and women for the 1981-1982 academic year in:

| | |
|---------------------|---------------------------|
| CHEMISTRY | PATHOLOGY |
| BIOLOGY | EPIDEMIOLOGY |
| PHYSICS | MICROBIOLOGY |
| BIOCHEMISTRY | PARASITOLOGY |
| ANATOMY | PHARMACOLOGY |
| PHYSIOLOGY | COMMUNITY MEDICINE |

Doctorate or equivalent degree required. Language of instruction is English. Interviews to be held in London and Houston during February and April 1981.

SALARIES are highly competitive and negotiable; comparable to other Saudi universities.

BENEFITS include free furnished housing, educational allowances, air tickets to and from Saudia Arabia once each year for a family of four, 60-day paid vacation, liberal overweight allowance. No Saudi income tax.

Send curriculum vitae with current telephone number and the names and addresses of three references to:

Dr. Tawfiq Tamimi
Dean, College of Medicine
King Faisal University
c/o Saudi Arabian
Educational Mission
2425 West Loop South
Houston, Texas 77027
OR
c/o P.O. Box 2
Sudbury-on-Thames
Middlesex TW16 5JP
England

principal scientist

Pharmaceutical company on the West Coast seeks Ph.D. or equivalent, with 5 to 10 years relevant experience, to manage product development activities of a large, multiproject program. Familiarity with the following disciplines is essential: pharmaceutical chemistry, mass transport, product development and package design. Individual should have an established record of achievements, publications and patents; should be self-motivated and innovative; and should be capable of supervising and managing a team of technical people, including senior professionals. This position reports to Vice President for Product Research and Development. Salary is commensurate with experience. Send resume and history of technical experience to Darlene Markovich, Dept. S-3, ALZA Corporation, 950 Page Mill Road, Palo Alto, CA 94304. We are an equal opportunity employer.

alza

RESEARCH OPPORTUNITY IN PHYSIOLOGICAL/BIOCHEMICAL BASIS OF ALCOHOLISM

The Veterans Administration's Department of Medicine and Surgery announces the 3rd round of research awards in the field of alcoholism. Successful candidates will receive 3 years of support to conduct research in a VA Medical Center. This program will bring together new investigators and existing VA laboratories so that knowledge, facilities and skills can be shared.

Applications are sought from researchers willing to prepare a formal research proposal to investigate the physiological and/or biochemical basis of alcoholism. The applicant may be at any stage of his or her career (junior, intermediate or senior). While academic affiliations are encouraged, successful candidates must conduct their research projects in the VA. The opportunity to apply to this program is open to all scientists regardless of present employment, e.g. VA, University, commercial organization, etc.

Each application will be forwarded to a selected host VA Medical Center. Formal research proposals will be developed by the applicant in collaboration with a co-investigator from the host VA Medical Center; proposals will be reviewed for scientific merit by a multidisciplinary panel of expert researchers.

Funding will be appropriate to individual needs; the initial 3 year study may lead to a tenured career within the VA system.

Interested doctoral degreed scientists should request an application package BEFORE APRIL 30, 1981:

From:
Dr. Robert Allen (151F)
VA Central Office
810 Vermont Avenue, N.E.
Washington, D.C. 20420
Phone: 202-389-2441

Or:
Dr. Marcus A. Rothschild
VA Medical Center
First Avenue at E. 24th Street
New York, N.Y. 10010
Phone: 212-686-7500 ext. 663

PATHOLOGIST

Ayerst Laboratories, a major ethical pharmaceutical firm, has an outstanding career opportunity for a Pathologist in our research division.

To qualify for this position, candidate must have a Ph.D., M.D., or D.V.M. degree. Board certification is desirable but not necessary. Responsibilities will include experimental design, histological sections, providing histological services for research as well as preparing reports for submission to government regulatory agencies.

Our facility is located in the scenic Adirondack Mountains-Lake Champlain region of New York State, within a short drive to Lake Placid, Montreat and the Vermont ski centers.

We offer a competitive starting salary with a full line of benefits including dental and prescription plans, relocation and interview expenses.

Resumes must include salary history and requirements. Send resume to:

Richard K. Mallard, Director of Personnel

Ayerst.

AYERST LABORATORIES

Rouses Point, New York 12979

An Equal Opportunity Employer M/F

POSITIONS OPEN

POSTDOCTORAL POSITION

Position available for individual interested in enzymology and regulation of RNA processing (*PNAS* 77, 837 (1980); *JBC* 255, 11233 and 11240 (1980)) or in supramolecular organization of the eukaryotic protein-synthesizing system [*Biochemistry* 19, 4978 (1980)]. Please contact: **Dr. Murrall Deutscher, Department of Biochemistry, University of Connecticut Health Center, Farmington, Conn. 06032.**

PROFESSOR AND CHAIRMAN DEPARTMENT OF PHYSIOLOGY The Texas College of Osteopathic Medicine

Applications are invited for the position of professor and chairman of the Department of Physiology, Texas College of Osteopathic Medicine. The Texas College of Osteopathic Medicine is a state-supported medical school dedicated to academic and research excellence. Applications are sought from individuals with an acknowledged history of providing quality education to medical and graduate students and who have demonstrated scholarly productivity in active research programs. Persons with primary interests in major organ systems are especially encouraged to apply. Candidates should demonstrate academic excellence, leadership, administrative skills, and an ability to attract and maintain research funding. Interested individuals should submit inquiries or letters of application with curriculum vitae and references to:

Robert W. Gracy, Ph.D.
Chairman of the Search Committee
Texas College of Osteopathic Medicine
Camp Bowie at Montgomery
Fort Worth, Texas 76107

The Texas College of Osteopathic Medicine is an Equal Opportunity/Affirmative Action Employer.

PROFESSOR AND CHAIR DEPARTMENT OF ANIMAL SCIENCE

The Department of Animal Science, University of California, Davis, seeks to fill a tenured position at the professor level.

Appointee is to provide leadership in teaching, research, and extension activities of the department and develop an effective rapport with educational organizations, industry groups, extension personnel, and governmental agencies. The successful applicant will serve as chair of the Department of Animal Science.

QUALIFICATIONS: Applicants must hold the Ph.D. degree in an appropriate discipline and have demonstrated scholarly achievements, leadership, and administrative ability; understanding of fiscal management; and an interest and skill in communication with industry groups.

APPLICATION PROCEDURE: To be certain of consideration, the application should be received by 15 May 1981. Applicants should submit curriculum vitae with a list and reprints of pertinent scientific publications and the names and addresses of at least four references to:

Professor B. S. Schweigert, Chairman
Department of Food Science and Technology
University of California
Davis, California 95616

In compliance with federal and state laws and university policy, the University of California does not discriminate on the basis of race, color, national origin, religion, sex, handicap, age, or against disabled veterans or veterans of the Vietnam era. The University of California is an Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSISTANT to study insulin action; available June 1981. M.D. or Ph.D. with minimum of 3 years of postdoctoral experience and publications. Experience with techniques of liver cell isolation, hormone action, and peptide purification desirable. Salary: \$18,700. Send curriculum vitae and names of references to: **R. Misbin, M.D., Department of Medicine, University of Florida, JHMC 226, Gainesville, Fla. 32610.**

RESEARCH ASSOCIATE (POSTDOCTORAL) POSITION to study the regulation and synthesis of the pyruvate dehydrogenase complex in human (variants) fibroblast lines and in the 3T3 cell line. Position available from early summer for a period of 2 years. Salary negotiable. Please send curriculum vitae and the names of two referees to: **Dr. M. S. Patel, Department of Biochemistry, School of Medicine, Case Western Reserve University, Cleveland, Ohio 44106.**

POSITIONS OPEN

PROJECT TECHNICAL DIRECTOR IN MARINE SCIENCE McNEESE STATE UNIVERSITY

The Office of Institutional Development invites applications for the position of project technical director of an offshore brine disposal study. Position available immediately. Applicants must have a Ph.D. with primary emphasis in marine biology, biological oceanography, or similar field, and prior experience in coordinating multidisciplinary marine research teams. Director is expected to manage all technical aspects of the study, including field activities, data synthesis, data interpretation, and report writing. Salary negotiable. Send curriculum vitae to: **Dr. Larry DeRouen, Director of Institutional Development, McNeese State University, Lake Charles, La. 70609.**

RESEARCH ASSOCIATE

BIOCHEMICAL ENDOCRINOLOGIST (Ph.D.) with training and experience in steroid hormone mechanisms to aid in investigation of cholecalciferol (vitamin D)-induction of a specific intestinal calcium-binding protein. Knowledge of tissue culture and immunoassay techniques helpful. Salary negotiable. Starting date: April 1981. Send résumé and names of three references to: **Dr. R. A. Corradino, Department of Physiology, 720 Veterinary Research Tower, New York State College of Veterinary Medicine, Cornell University, Ithaca, N.Y. 14853. An Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE

Ph.D. or equivalent with training in nucleic acid biochemistry to work on research related to experimental liver carcinogenesis. Salary negotiable. Position available immediately. Send résumés to: **A. David Gibson, Research Administrator, Department of Pathology, School of Medicine, University of Pittsburgh, Pittsburgh, Pa. 15261. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE IN DEVELOPMENTAL NEUROBIOLOGY. Position available at Stanford University Medical School beginning July 1981 for Ph.D. with experience in electron microscopy, to join ongoing studies on development of excitable tissues. Interested individuals should send curriculum vitae, three letters of reference, and reprints to: **Stephen G. Waxman, M.D., Ph.D., Neurological Unit (127), VA Medical Center, 3801 Miranda Avenue, Palo Alto, Calif. 94304. Stanford University is an Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATES IN PHARMACOLOGY (two). Available 1 May and 1 July. Desirable experience includes autonomic nerve and cardiovascular techniques (HPLC, radioimmunoassays, receptor-binding assays, and surgical procedures for hypertension animal models). Ph.D. in pharmacology or related field, plus demonstrated original pharmacology research required. Submit résumé with names and addresses of three references by 20 March to: **Dr. C. Su, Department of Pharmacology, Southern Illinois University School of Medicine, P.O. Box 3926, Springfield, Illinois 62708. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE: Immunology and Cell Biology. Applications are sought for a M.D. or Ph.D. with 2 years of postdoctoral training and experience and experience in tissue culture and immunological techniques. Research will be concerned with structure and function of nuclear and chromosomal antigens. Address applications to: **Division of Rheumatic Diseases, Department of Medicine, University of Colorado Health Sciences Center, Denver, Colorado 80262. University of Colorado is an Equal Opportunity/Affirmative Action Employer.**

STAFF POSITIONS

The Public Health Research Institute is seeking applicants for several staff positions. Candidates will be considered at any career level. Emphasis will be placed on eukaryotic cell biology, virology, and developmental biology, although exceptional candidates with other interests will be considered. Appointees will be expected to pursue a vigorous full-time independent research program. Interested individuals should send curriculum vitae, the names of three references, and a brief summary of their research interests to:

Dr. David Dubnau
Chairman, Recruitment Committee
The Public Health Research Institute
455 First Avenue
New York, New York 10016

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

DEPARTMENT OF PSYCHIATRY STATE UNIVERSITY OF NEW YORK (SUNY) AT BUFFALO

Psychiatrist with clinical, teaching, and research interests for geographic full-time faculty at major teaching hospital. Position involves half-time clinical and teaching responsibilities on acute inpatient unit and half-time research. Salary to \$45,000; generous benefits and additional earnings through Department Practice Plan. Board-eligible or -certified and New York State license or eligibility. Inquiries and résumé to: **Marvin I. Herz, M.D., Professor and Chairman, Department of Psychiatry, SUNY at Buffalo, School of Medicine, 462 Grider Street, Buffalo, New York 14215; telephone: 716-898-3251 or 4880. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH MICROBIOLOGIST

Norden Laboratories, animal health industry leader in innovative, productive research, has a new position available immediately. Doctorate degree (Ph.D. or Sc.D.) preferred with study/experience in bacterial metabolism and physiology, pathogenic microbiology and Gram-negative toxins. Must have demonstrated ability to design and conduct independent research studies in various areas of pathogenic bacteriology. Assignments will include identification and purification of toxins and manipulation of these products towards development of vaccines.

Norden Laboratories is a SmithKline Corporation company, offering top-notch benefits, including company-paid life, health, and dental insurance, pension plan, matched savings and employee stock purchase plan, and many extras. Salary is open, negotiable, and dependent on appropriateness of your credentials to our position.

Please send your résumé, in complete confidence, to:

James P. Judt, Personnel Manager
Norden Laboratories, Inc.
P.O. Box 80809
Lincoln, Nebraska 68501

An Equal Opportunity/Affirmative Action Employer

PHARMACEUTICALS Ph.D. TOXICOLOGIST Pharmaceuticals

Career opportunity with ethical Midwest pharmaceutical firm with excellent growth record. Responsibilities include supervision of general toxicology section and design of preclinical toxicity studies. Participate in preparation of IND's and NDA's. Requires Ph.D. in pharmacology with a minimum of 2 years of toxicology experience. All major benefits, including bonus program. Relocation benefits include equity loans and duplicate housing assistance.

Please send your salary history in confidence to:

Box 50, SCIENCE

An equal opportunity employer M/F

VETERINARY ANATOMIST. Tenure-track position available 1 September 1981; rank, salary, and starting date negotiable. Candidates should be knowledgeable in veterinary gross and/or applied anatomy and have a broad academic background and research interest in basic medical science. The D.V.M. and an anatomically related Ph.D. are preferred. Half-time teaching includes instruction to veterinary medical students. The individual must develop a research program. Interdepartmental research is encouraged. Address inquiries and applications (curriculum vitae, three references, and description of teaching and research interests) to: **Dr. William J. Banks, Screening Committee Chairman, Department of Anatomy, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, Colo. 80523. Deadline for submission of applications is 1 May 1981. An Equal Opportunity/Affirmative Action Employer. Equal Opportunity Office: 314 Student Services Building.**

Radiology/ Pharmacology

We have an excellent opportunity for a Radiologist/Pharmacologist with a minimum of 2 years experience beyond the Ph.D. level. Specific interest and experience in radio-paques will be viewed with favor.

In addition to an active role in the pre-clinical effort in radiopaques, the successful applicant will be given the appropriate facilities and technical staff to pursue new target organ seeking diagnostic agents.

Located near Albany, N.Y., we offer excellent salary and benefits and solid growth potential.

Send resume including salary requirement to:
Personnel Administrator



**STERLING-WINTHROP
RESEARCH INSTITUTE**
Division of Sterling Drug Inc.
Columbia Turnpike
Rensselaer, New York 12144
An equal opportunity employer, M/F



National Research
Council Canada

Conseil national
de recherches Canada

HEAD SPECTROSCOPY SECTION Ottawa

Applications are invited from scientists having an established record of personal achievement and leadership in spectroscopic research to serve as Head of the Spectroscopy Section of the Herzberg Institute of Astrophysics.

Research in the Section is concentrated on experimental and theoretical studies of atoms and molecules, in particular (but not exclusively) molecules of astrophysical importance. The laboratories are well equipped with a wide range of high resolution spectrometers and sources covering the spectrum from the near infrared to the vacuum ultraviolet. In addition there exists a variety of equipment for microwave and laser spectroscopy. The opportunity also exists, within the Institute, for radio astronomical investigations of interstellar molecules using the 46 meter telescope of the Algonquin Radio Observatory. The staff of the Section currently totals 22 of which 12 are scientific officers or research associates. Knowledge of both the English and French languages is essential for this position. Unilingual persons willing to undertake language training may also apply.

Salary will depend on qualifications and experience.

Apply in writing to the Employment Officer, National Research Council of Canada, Ottawa, Ontario, K1A 0R6. In reply, please quote HIA-89-S.

Canada

G. D. Searle & Co. Research & Development Division currently has two positions open within the department of Biological Research.

Section Head

Reporting to the Director of Biological Research, this position manages the Gastro-Intestinal technical staff, as well as conducting personal research. Requirements include extensive knowledge and experience in Gastro-Intestinal Pharmacology and a minimum of a doctoral degree or equivalent in appropriate Pharmacological or Physiological areas and 5 or more years of post-doctoral experience with some previous industrial supervisory experience.

Biochemical Pharmacologist

The Gastro-Intestinal Pharmacology section also has an opening for a Sr. Scientist with a Biochemical Gastro-Intestinal specialization. This position will be responsible for developing new cellular and subcellular methodologies examining the effects of therapeutic agents on the biochemical aspects of secretion and processes. These methods will be applied to programs directed toward the discovery and evaluation of agents for treatment of Gastro-Intestinal diseases. Requirements include a minimum of 5 or more years of post-doctoral experience including knowledge of enzymatic processes, methods of isolation and measurement, as well as cellular and subcellular approaches to drug evaluation. Experience with isolated or cultured cells useful.

We offer an environment of growth and challenge, competitive salary and benefits including relocation assistance. Qualified applicants are encouraged to send a detailed curriculum vitae including salary history and Publications to: Robert Rook.

SEARLE

Research & Development Division
G. D. Searle & Co.
8125-019
P. O. Box 5110 / Chicago, IL 60680

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

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 ☐ \$62 Canada, PUAS ☐ \$65 Foreign
☐ \$93 air-surface delivery via Holland

☐ **Subscriber rates**

☐ \$76 USA ☐ \$100 Canada, PUAS ☐ \$103 Foreign
☐ \$131 air-surface delivery via Holland

☐ Payment enclosed

☐ Bill me later

Name

Please print

Address

City

State

Zip

MW02

**ATTACH
LABEL
HERE**

POSITIONS OPEN

RESEARCH VETERINARIAN/ANIMAL FACILITY DIRECTOR

A full-time faculty position is now open for a veterinarian to develop independent and collaborative research, and to direct the research animal resources program for a new 35,000 sq. ft. animal facility. When opened in June 1981, this facility will provide biohazard containment areas and conventional animal housing to support ongoing and expanding basic and clinical research studies in biochemistry, infectious diseases, nutrition, oncology, pathology, pharmacology, and virology. Requirements for the position are: D.V.M.; 3 to 5 years of experience or postdoctoral training; ACVP or ACLAM Board-certification or Board-eligibility. Graduate training or experience in comparative pathology is desirable. Salary is commensurate with experience and qualifications. Send curriculum vitae and references to: **Dr. Mark Costlow, Chairman, Veterinarian Search Committee, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, Tennessee 38101.**

An Affirmative Action/Equal Opportunity Employer

TEACHING OVERSEAS. The Department of Chemistry at the American University of Beirut (AUB) invites applications for faculty positions, available 1 October 1981, in the following fields: analytical (instrumentation); inorganic-analytical; organic (natural products); and physical (spectroscopy). Appointments are normally made in the rank of assistant professor and for a 3-year period. Postdoctoral research experience is preferred. Interested persons may send their curriculum vitae and inquiries to: **The Chairman, Department of Chemistry, American University of Beirut, Beirut, Lebanon.** The department has a faculty of 12, an undergraduate B.S. program, and an M.S. program with research and thesis. *AUB is an Equal Opportunity/Affirmative Action Employer.*

ADVANCED STUDY INSTITUTE

NATO ADVANCED STUDY INSTITUTE Maratea, Italy 1 to 12 June 1981 COSMOCHEMISTRY AND THE ORIGIN OF LIFE

For particulars, apply to the Director of the Institute:

**Professor Cyril Ponnamperna
Laboratory of Chemical Evolution
University of Maryland
College Park, Maryland 20742
Telephone: 301-454-5676**

COURSE

ELECTRON MICROSCOPY. For those desiring to use TEM in biological research, the course will provide practical training in preparation of biological specimens, use and maintenance of Zeiss 9S-2 EM, darkroom procedures, and micrograph interpretation. Certificate or graduate credit awarded. Tuition: \$475; two identical sessions, 6 to 22 July and 27 July to 12 August. For brochure and registration form, contact: **Dr. Dan Scheirer, Department of Biology, Northeastern University, Boston, Mass. 02115; telephone: 617-437-2256, 2260.**

GRADUATE STUDY

GRADUATE STUDIES IN PHARMACOLOGY

The Department of Pharmacology offers graduate courses and research training in the areas of autonomic, biochemical, and cardiovascular pharmacology. The program provides all the basic courses in biochemistry, physiology, and general pharmacology with specialized instruction in several cardiovascular areas, including the neural and hormonal control of the circulation, the cerebral circulation, the microcirculation, and biochemical studies on neurotransmission at monoamine synapses in the periphery and CNS. NIH predoctoral traineeships and teaching and research assistantships are available for financial support. Interested candidates with a degree in any area of basic science should write now for further information to: **Dr. Mustafa F. Lokhandwala, Chairman, Department of Pharmacology, University of Houston, Houston, Texas 77004.**

CONFERENCE

THIRD INTERNATIONAL CONFERENCE ON DIAGNOSTIC IMMUNOLOGY

The Third International Conference on Diagnostic Immunology will be held from 16 to 21 August 1981 at New England College, Henniker, New Hampshire. The conference, which is sponsored by the Engineering Foundation, will focus on Immunologic Aspects of Cancer. Sessions will be divided into seven major topics of interest including tumor specific antigens, T cell subsets, interferon, and monoclonal antibodies in disease diagnosis.

The symposium is primarily reserved for invited principal contributors. However, sessions have been set aside for unsolicited papers. English will be the language used for all presentations. The symposium will be limited to 150 participants. Selection of participants will be based on their participation in the conference and on maintenance of a balance for hospital, industry, and the academic community. Applications may be obtained from: **The Engineering Foundation, 345 East 47 Street, New York, N.Y. 10017.** For further information concerning the conference program, contact:

**Dr. Albert A. Luderer, Conference Co-chairman
Biosciences Research Department
Corning Glass Works
Sullivan Science Park FR-64
Corning, N.Y. 14830**

ASSOCIATESHIP

POSTDOCTORAL AND SENIOR POSTDOCTORAL RESEARCH ASSOCIATESHIPS IN MUSCLE BIOLOGY
National Aeronautics and Space Administration (NASA), in conjunction with the National Research Council, sponsors a Resident Research Associateship Program at Ames Research Center, Moffett Field, California. Opportunities are available to conduct research relative to biochemical, endocrine, and neurotrophic mechanisms underlying disuse atrophy of skeletal muscle. Regular (within 5 years of Ph.D.) and senior associateship applicants must apply by 15 April or 15 August 1981 for competitive reviews of candidates held by the National Research Council. Detailed information on the research program can be obtained from: **Dr. Stanley Ellis, NASA-Ames Research Center, Moffett Field, Calif. 94035 telephone: 415-965-5757.** Application materials may be obtained from: **Associateship Office, JH608F2, National Research Council, 2101 Constitution Avenue, NW, Washington, D.C. 20418.**

FELLOWSHIPS

PREDOCTORAL FELLOWSHIPS IN PHYSIOLOGY. Training in cardiovascular, cell, endocrine, muscle, neuro-, renal, and respiratory physiology. Applicants must submit GRE scores (verbal, quantitative, and one advanced test). Deadline for application is 15 April 1981. For application materials, write: **Department of Physiology, West Virginia University Medical Center, Morgantown, W. Va. 26506.**

HARVARD SCHOOL OF PUBLIC HEALTH POSTDOCTORAL FELLOWSHIPS



Interdisciplinary Programs in Health (IPH) invites applications from promising graduates of advanced degree programs in the natural or social sciences interested in turning to research and training in environmental health problems. The program focuses on both scientific research and assessment and analysis of public policy.

Fellows will be appointed for terms of 1 or 2 years, possibly renewable. Deadline for applications is 24 April 1981. Expected decision date is 29 May 1981. Expression of interest is particularly invited from qualified women and minority candidates.

For information, write to:

**Professor Donald F. Hornig
Director, IPH
Harvard School of Public Health
665 Huntington Avenue
Boston, Massachusetts 02115**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS IN REPRODUCTIVE BIOLOGY. Applications are invited for postdoctoral fellowships in the Laboratory of Human Reproduction and Reproductive Biology of Harvard Medical School. The laboratory is an interdisciplinary center for research on biological problems in reproduction. The laboratory provides research opportunities in the anatomical, physiological, endocrinological, and biochemical approaches to ovarian testicular function, cytokinesis, and molecular biology, fertilization, the preimplantation mammalian embryo, neuroendocrine physiology, behavioral embryology, and contraceptive development. Send complete curriculum vitae including a statement of research interests and names of at least three references to: **Kenneth J. Ryan, M.D., Director, Laboratory of Human Reproduction and Reproductive Biology, Harvard Medical School, 45 Shattuck Street, Boston, Mass. 02115.** *Harvard is an Equal Opportunity Employer.*

HYPERTENSION RESEARCH FELLOWSHIPS. Fellowships in hypertension research for 2 years, with option of one or more additional years of clinical training for qualified applicants, are available at the Mayo Clinic and Mayo Graduate School of Medicine. This NIH-funded multidisciplinary program provides research training in hypertension by faculty in nephrology, endocrinology, cardiovascular disease, clinical pharmacology, pediatrics, biochemistry, and physiology. Applicant should have the M.D. or Ph.D. degree and hold a permanent visa if not a citizen of the United States. Degree programs leading to the master's or Ph.D. degrees are available to individuals with the M.D. degree. For further information, write to: **R. M. Weinshilboum, M.D., Director, Multidisciplinary Hypertension Research Training Program, Mayo Clinic, Rochester, Minn. 55901.**

Mayo Clinic is an Equal Opportunity/Affirmative Action Institution.

NIH POSTDOCTORAL FELLOWSHIP in Basic and Clinical Immunology, Medical University of South Carolina. Position available 1 July 1981; salary commensurate with experience. We are a highly motivated department with more than 140 publications last year and we provide an interdisciplinary environment for research. Research training is available in immunogenetics, cellular immunology, immunochimistry, cancer immunology, immunology of aging and clinical immunology, and so forth. We also provide an intellectually stimulating and unique geographic (year-round fishing, golfing, sailing, and tennis) environment. Contact

**H. Hugh Fudenberg, M.D.
Department of Basic and Clinical
Immunology and Microbiology
Medical University of South Carolina
Charleston, S.C. 29425**

An Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL RESEARCH FELLOWSHIP available immediately for a recent Ph.D. in biochemistry. Candidate expected to work on isolation of mRNA's for cytochrome oxidase and cytochrome P-450 and to clone cDNA's to study transcriptional regulation of the respective genes. Research training in basic techniques of biochemistry, mitochondrial cytochromes and cytochrome P-450, computer programming, and recombinant DNA technology is required. Salary: \$19,351 per year. Send curriculum vitae and three letters of recommendation to: **Dr. M. Rabinowitz, University of Chicago, 950 East 59 Street, Chicago, Ill. 60637.**

POSTDOCTORAL FELLOWSHIP. Available July 1981 for studies on herpes simplex viruses-virology, immunology, epidemiology, cancer. Applicants should have Ph.D., D.D.S., M.D., or equivalent and should be U.S. citizens or permanent residents. Salary commensurate with training. Send curriculum vitae to: **Dr. Andre J. Nahmias, Emory University School of Medicine, 69 Butler Street, SE, Atlanta, Georgia 30303.**

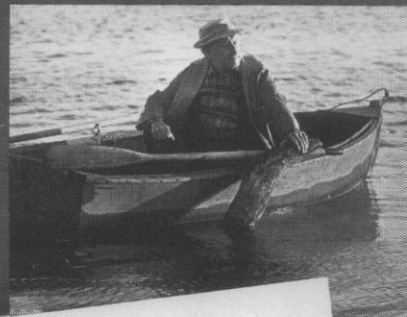
MARKETPLACE

Quality control chromatographic standards, clinical standards and analytical standards, custom synthesis specialists, and professionally known chemical consultants.

May we help you? Please write to:

**JSR Research Associates
P.O. Box 584
Havertown, Pa. 19083**

No! No! We shall NOT leave the molecular biologist up the creek without a paddle!



Dear Kodak:

Over the years I have enjoyed the advertising which Kodak has directed toward the scientific community. It has been interesting, informative, and well done. I find, however, that a recent ad (*Science*, March 7, 1980) expresses an idea which seems to be at variance with company policy.

My colleagues and I have been informed that Kodak will no longer supply its Kodak X-Omat R film because there is insufficient demand for it. I cannot overestimate the importance of this film for the current technologies of recombinant DNA, DNA sequencing, and gene mapping. Another film you offer requires a longer exposure. In the best case, an experiment which can be done overnight with Kodak X-Omat R film might require several days with the other film, while in the worst the experiment cannot be done at all because the half-life of the isotope limits the exposure which can be made.

It is thus disconcerting to me to read that Kodak still keeps up its payments on its collaborative bargain with science in the form of certain products short on appeal to the world at large. I would hope that Mr. Eastman's bargain today would range from stars, very large and very distant, to genes, very small and very near.

Sincerely,

The letter, one of many such, is right. The properties of Kodak X-Omat R film have indeed made it the choice for most¹ autoradiography of gel electrophoresis separations. Generations² of molecular biologists have been brought up on it. Then one day in a box of the favored product they find notice of its discontinuance in favor of products that better serve radiologists.

We hadn't appreciated how many of those boxes had been going to people who are not radiologists.

Let those people be advised that their film is now very, very available from the same sources in 35 x 43 cm, 8 x 10 in., and 13 x 18 cm sizes under the name Kodak X-Omat AR film.

The added "A" merely indicates that the blue tint in the base, which radiologists seem to prefer but which molecular biologists don't need, particularly when they want to make copies of their autoradiograms, is gone.

It can be processed manually, of course, but a laboratory that is still processing film by hand or depends on some other department's film processor really ought to ask about the table-top Kodak X-Omat M20 processor³, the lowest in price that we offer. Drop a line to Eastman Kodak Company, Department 740-B, Rochester, New York 14650. Might as well ask also for Kodak Pamphlet No. M3-508, "Autoradiography of Macroscopic Specimens."

¹Kodak SB film gives equivalent or possibly a bit better results for fluorography with H³, but it requires a longer processing cycle than given by up-to-date processing machines. Kodak no-screen film is more sensitive for direct recording of p³², Ca⁴⁵, C¹⁴, and S³⁵, but base fog is somewhat higher.

²A generation of molecular biologists is considerably shorter than the usually reckoned 30 years.

³We'll be showing this processor March 1-6, 1981, at the Dallas meeting of the American Society for Microbiology.





"After 21 years we needed another centrifuge and we chose a Sorvall®...again."

"We were convinced our new centrifuge should be another Sorvall®—an RC-5B," said Lisa Brown, Senior Microbiologist in the Berkeley Laboratory of the National Food Processors Association. "Our old RC-1, purchased in 1959 for microbiology work, continues to run flawlessly in the Chemistry Section."

"The new RC-5B is now the workhorse of our Microbiology Lab. It supplies a vital step in the production of spore crops of *Clostridium botulinum* and

other heat resistant organisms used in our research."

Centrifuge reliability is critically important for work flow scheduling and the preparation of quality research specimens. The Sorvall® RC-5B Super-speed Refrigerated Centrifuge has two features which particularly please the lab staff: rapid acceleration and dynamic braking, both of which shorten run times. The RC-5B also has the advantage of accepting NFPA's stock of bottles and

tubes used in the RC-1.

More than 30 years of experience and innovative engineering mean that you can expect the same reliability and outstanding performance for every centrifuge in the Sorvall® line—from table-top to ultracentrifuges. Get our latest brochure on the RC-5B and other models you may need. Call us, or write: DuPont Company, Biomedical Products Division, Room X-38287, Wilmington, DE 19898.

Call DuPont for centrifuges you can rely on: 800-441-7943

Sorvall® Centrifuges

