

somewhat less thorough than the chapters that focus on chemistry.

The description of spatial structure and pattern formation in chemical systems is quite nice. The study of this subject is much more complicated than the study of the temporal structure alone, since mathematical modeling entails the study of nonlinear partial differential equations, analysis of which is much more difficult. However, a great deal of progress has been made in understanding how waves propagate in chemical systems and what forms they can take. The study of the underlying chemical mechanisms is used to construct a class of models that are analyzed to yield both qualitative and quantitative aspects of these spatially inhomogeneous states. Since the Belousov-Zhabotinskii reaction takes place in an excitable medium, the descriptions of wave propagation in this system can be applied to other excitable media like nerve or cardiac muscle tissue.

The final chapter has a completely different character. It contains a treatment of chemical oscillations from historical and statistical perspectives.

The book presents a nice distillation of the advances in this field in the last decade or two. The (intentional) limitation of the book to oscillatory behavior excludes much recent work on chaotic dynamics, but the inclusion of this work would probably have required another volume. Though the book contains chapters by many authors, the subject matter is treated in a coherent fashion. There is clear evidence of serious editing in the selection and ordering of material as well as in the cross referencing between papers. The book should prove valuable to anyone wishing to pursue research on chemical oscillations.

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## Books Received

**Analysis of Exploration and Mining Technology for Manganese Nodules.** Published in co-operation with the United Nations by Graham and Trotman, London, 1984 (U.S. distributor, Crane, Russak, New York). xii, 140 pp., illus. \$24.50. Seabed Minerals Series, vol. 2.

**Analytic Geometry.** V. A. Ilyin and E. G. Poznyak. Mir, Moscow, 1985 (U.S. distributor, Imported Publications, Chicago). 232 pp., illus. \$7.95. Translated from the Russian edition (Moscow, 1981) by Iren Aleksanova.

**Antioxidant Adaptation.** Its Role in Free Radical Pathology. Stephen A. Levine with Parris M. Kidd. Biocurrents Division, Allergy Research Group, San Leandro, Calif., 1985. xvi, 367 pp., illus. \$60.

**Cognitive Learning and Memory in Children.** Progress in Cognitive Development Research. Michael

Pressley and Charles J. Brainerd, Eds. Springer-Verlag, New York, 1985. xiv, 250 pp. \$33. Springer Series in Cognitive Development.

**Cognitive Psychology and Its Implications.** John R. Anderson. 2nd ed. Freeman, New York, 1985. xxii, 472 pp., illus. \$25.95. A Series of Books in Psychology.

**Cohabiting with Computers.** Joseph F. Traub, Ed. Kaufmann, Los Altos, Calif., 1985. x, 185 pp. \$15.

**College Algebra.** Karl J. Smith and Patrick J. Boyle. 3rd ed. Brooks/Cole, Monterey, Calif., 1985. x, 502 pp., illus. \$29.50.

**Commodore 64 Assembly Language.** Bruce Smith. Chapman and Hall, New York, 1985. iv, 193 pp., illus. Paper, \$17.95.

**Community Participation in Health and Development in the Americas.** An Analysis of Selected Case Studies. Pan American Health Organization, Washington, D.C., 1984. xiv, 75 pp., illus. Paper, \$8. Special Publication No. 473.

**The Comparative Development of Adaptive Skills.** Evolutionary Implications. Eugene S. Gollin, Ed. Erlbaum, Hillsdale, N.J., 1985. viii, 280 pp., illus. \$36.

**Comparison of Thin Film Transistor and SOI Technologies.** H. W. Lam and M. J. Thompson, Eds. North-Holland, New York, 1984. xvi, 321 pp., illus. Cloth. Materials Research Society Symposia Proceedings, vol. 33. From a symposium, Albuquerque, N.M., Feb. 1984.

**Composers and the Computer.** Curtis Roads, Ed. Kaufmann, Los Altos, Calif., 1985. xxii, 201 pp., illus. \$24.95. The Computer Music and Digital Audio Series.

**Comprehensive Dictionary of Engineering and Technology.** Richard Ernst. Cambridge University Press, New York, 1985. Two volumes. Vol. 1, French-English. viii, 1085 pp. + appendix. \$100. Vol. 2, English-French. viii, 1399 pp. \$110.

**The Ending of Time.** J. Krishnamurti and David Bohm. Harper and Row, San Francisco, 1985. 268 pp. Paper, \$6.95.

**Hematologic Cytology of Storage Diseases.** H. G. Hansen and E. Graucob. Springer-Verlag, New York, 1985. vi, 87 pp., illus. \$58.

**Historical Monitoring.** A Technical Report. Monitoring and Assessment Research Centre, University of London, London, 1985. xxvi, 323 pp., illus. Paper, \$30. MARC Report No. 31.

**Hormone Action and Testicular Function.** Kevin J. Catt and Maria L. Dufau, Eds. New York Academy of Sciences, New York, 1984. xvi, 708 pp., illus. Paper, \$163. Annals of the New York Academy of Sciences, vol. 438. From a workshop, Bethesda, Md., Oct. 1983.

**How Life Learned to Live.** Adaptation in Nature. Helmut Tributsch. MIT Press, Cambridge, Mass., 1985. xii, 218 pp., illus. Paper, \$7.95. Translated from the German edition (Stuttgart, 1976) by Miriam Varon. Reprint, 1982 edition.

**The Human Body and Why It Works.** Raymond L. Powis. Prentice-Hall, Englewood Cliffs, N.J., 1985. viii, 232 pp., illus. \$17.95; paper, \$9.95. Frontiers of Science.

**Human Evolution.** An Introduction to Man's Adaptations. Bernard Campbell. 3rd ed. Aldine, New York, 1985. xxvi, 477 pp., illus. \$39.95; paper, \$16.95.

**Information in Biological Systems.** The Role of Macromolecules. Werner Holzmüller. Cambridge University Press, New York, 1984. xii, 147 pp., illus. \$32.50; paper, \$9.95. Translated from the German edition (Berlin, 1981) by Manfred Hecker.

**Inherited Ataxias.** Clinical Aspects and Biology. André Barbeau, Stefano Di Donato, and David A. Strumpf, Eds. Masson Italia Periodici, Milan, 1984. 191 pp., illus. Paper, \$10. *Italian Journal of Neurological Sciences*, Supplement 4, 1984. From a symposium, Milan, Nov. 1984.

**Innovation in the Public Sector.** Richard L. Merritt and Anna J. Merritt, Eds. Sage, Beverly Hills, Calif., 1985. 312 pp. \$25. Advances in Political Science, 4. From a conference.

**Inquiry into Life.** Sylvia S. Mader. 4th ed. Brown, Dubuque, Iowa, 1985. xxii, 796 pp., illus., + appendices. Cloth.

**Intellectual Development.** Birth to Adulthood. Robbie Case. Academic Press, Orlando, Fla., 1985. xx, 461 pp., illus. \$39.50. Developmental Psychology Series.

**Interferon.** Norman B. Finter, Ed. Vol. 3, Mechanisms of Production and Action. Robert M. Freidman, Ed. Elsevier, New York, 1984. xx, 396 pp., illus. \$92.50.

**Keep Off the Grass.** Gabriel G. Nahas. 2nd ed. Eriksson, Middlebury, Vt., 1985. xvi, 300 pp. Paper, \$8.95.

**The Kidney.** Physiology and Pathophysiology. Donald W. Seldin and Gerhard Giebisch, Eds. Raven, New York, 1985. Two volumes lii, 2162 pp., illus., + index. \$245.

**Language Learnability and Language Development.** Steven Pinker. Harvard University Press, Cambridge, Mass., 1984. xvi, 435 pp., illus. \$29.50. Cognitive Science Series, 7.

**Late Cretaceous Palaeoclimates of the Southern Hemisphere.** J. C. Vogel, Ed. Balkema, Rotterdam, 1984 (U.S. distributor, International Publishers Service, Accord, Mass.). xii, 520 pp., illus. \$40. From a symposium, Swaziland, Aug. 1983.

**Leaders in the Study of Animal Behavior.** Autobiographical Perspectives. Donald A. Dewsbury, Ed. Bucknell University Press, Lewisburg, Pa., 1985 (distributor, Associated University Presses, Cranbury, N.J.). 512 pp., illus. \$59.50. Animal Behavior Series.

**Learning in Science.** The Implications of Children's Science. Roger Osborne and Peter Freybert, with Beverley Bell et al. Heinemann, Portsmouth, N.Y., 1985. viii, 198 pp., illus. Paper, \$12.

**The Life and Death of Stars.** Donald A. Cooke. Crown, New York, 1985. x, 193 pp., illus. \$29.95.

**Manuel d'Education Comportementale Clinique.** Ghislain Magerotte. Mardaga, Brussels, 1984. 204 pp., illus. Paper, 850 BF. Psychologie et Sciences Humaines, 134.

**Mass Murder.** America's Growing Menace. Jack Levin and James Alan Fox. Plenum, New York, 1985. xvi, 252 + plates. \$16.95.

**Masters Theses in the Pure and Applied Sciences.** Vol. 28. Wade H. Shafer, Ed. Plenum, New York, 1984. xviii, 300 pp., illus. \$85.

**Maternal Nutrition and Lactational Infertility.** John Dobbing, Ed. Raven, New York, 1985. xx, 149 pp., illus. \$23.50. Nestlé Nutrition Workshop Series, vol. 9. From a workshop, Broadway, Worcestershire, England, Sept. 1984.

**Mathematics for Chemists.** P. G. Francis. Chapman and Hall, New York, 1984. x, 193 pp., illus. \$33; paper, \$15.95.

**Mathematics for Seismic Data Processing and Interpretation.** A. R. Camina and G. J. Janacek. International Human Resources Development Corporation, Boston, 1985. xviii, 255 pp., illus. \$44.

**Medical Genetics.** Past, Present, Future. Kare Berg, Ed. Liss, New York, 1985. xvi, 539 pp., illus. \$68. Progress in Clinical and Biological Research, vol. 177. From a symposium, Oslo, Norway, Aug. 1984.

**A Musical View of the Universe.** Kalapalo Myth and Ritual Performances. University of Pennsylvania Press, Philadelphia, 1985. xvi, 344 pp. + plates. \$35. University of Pennsylvania Publications in Conduct and Communication.

**Natural Resource Conservation.** An Ecological Approach. Oliver S. Owen. 4th ed. Macmillan, New York, and Collier Macmillan, London, 1985. xiv, 657 pp., illus. Cloth.

**Neural Grafting in the Mammalian CNS.** Anders Björklund and Ulf Stenevi, Eds. Elsevier, New York, 1985. xxiv, 709 pp., illus. \$157.50. Fernström Foundation Series, vol. 5. From a symposium, Lund, Sweden, June 1984.

**Neurobiology of Gangliosides.** Alfredo Gorio and Bernard Haber, Eds. Liss, New York, 1985. xviii pp. + pp. 145-522, illus. \$48. Reprinted from the *Journal of Neuroscience*, vol. 12, No. 2/3.

**Neurochemical Techniques in Insect Research.** H. Breer and T. A. Miller, Eds. Springer-Verlag, New York, 1985. x, 324 pp., illus. \$59.50. Springer Series in Experimental Entomology.

**Nuclear Energy.** A Sensible Alternative. Karl O. Ott and Bernard I. Spinrad, Eds. Plenum, New York, 1985. xx, 386 pp., illus. \$25.

**Nuclear Winter and Associated Effects.** A Canadian Appraisal of the Environmental Impact of Nuclear War. Royal Society of Canada, Ottawa, 1985. 382 pp., illus. Paper, C\$15.

**Observation, Experiment, and Hypothesis in Modern Physical Science.** Peter Achinstein and Owen Hannaway, Eds. MIT Press, Cambridge, Mass., 1985. xii, 379 pp. \$35. Studies from the Johns Hopkins Center for the History and Philosophy of Science. A Bradford Book.

**On the Shoulders of Giants.** A Shandean Postscript. The Vicennial Edition. Robert K. Merton. Harcourt Brace Jovanovich, San Diego, 1985. xx, 300 pp., illus. \$14.95. Reprint, 1965 edition.

**On the Trail of the Ancient Opium Poppy.** Mark David Merlin. Fairleigh Dickinson University Press, Rutherford, N.J., 1984. 324 pp., illus. \$45.

**On the Way to Self.** Ego and Early Oedipal Development. Johanna Krout Tabin. Columbia University Press, New York, 1985. xxii, 362 pp. \$30.

**Only Mothers Know.** Patterns of Infant Feeding in Traditional Cultures. Dana Raphael and Flora Davis. Greenwood, Westport, Conn., 1985. xviii, 159 pp., illus. \$25. Contributions to Women's Studies, no. 54.

**Optical Fiber Communications.** Vol. 1, Fiber Fabrication. Tingye Li, Ed. Academic Press, Orlando, Fla., 1985. xii, 363 pp., illus. \$54.

(Continued on page 884)

## BOOK REVIEWS

(Continued from page 853)

**Origin of the Domestic Dog.** The Fossil Record. Stanley J. Olsen. University of Arizona Press, Tucson, 1985. xiv, 118 pp., illus. \$19.95.

**The Origins of War.** From the Stone Age to Alexander the Great. Arthur Ferrill. Thames and Hudson, New York, 1985. 240 pp., illus. \$19.95.

**Orthomodular Lattices.** Algebraic Approach. Ladislav Beran. Reidel, Boston, 1985 (distributor, Kluwer, Hingham, Mass.). xx, 394 pp. \$69. Mathematics and Its Applications (East European Series).

**Oscillations and Traveling Waves in Chemical Systems.** Richard J. Field and Mária Burger, Eds. Wiley-Interscience, New York, 1985. xxii, 681 pp., illus. \$85.

**Out of This World.** An Illustrated Guide to Space Technology and Exploration. Arco, New York, 1985. 121 pp. \$14.95.

**Oxford Surveys in Information Technology.** Vol. 1. P. Zorkoczy, Ed. Oxford University Press, New York, 1984. x, 267 pp., illus. \$80.

**Das Phänomen des Polarlichts.** Geschichtsschreibung, Forschungsergebnisse und Probleme. Wilfried Schröder. Wissenschaftliche Buchgesellschaft, Darmstadt, Germany, 1984. 156 pp., illus. Paper, 37.50 DM Erträge der Forschung, Band 218.

**Philanthropy and Jim Crow in American Social Science.** John H. Stanfield. Greenwood, Westport, Conn., 1985. xii, 217 pp. \$29.95. Contributions in Afro-American and African Studies, No. 82.

**The Photochemistry of Atmospheres.** Earth, the Other Planets, and Comets. Joel S. Levine, Ed. Academic Press, Orlando, Fla., 1985. xxiv, 518 pp., illus. \$79.50.

**Photometry and Polarization in Remote Sensing.** Walter G. Egan. Elsevier, New York, 1985. xii, 503 pp., illus. \$68.

**Photophysics and Photochemistry in the Vacuum Ultraviolet.** S. P. McGlynn, G. L. Findley, and R. H. Huebner, Eds. Reidel, Boston, 1984 (distributor, Kluwer, Hingham, Mass.). xvi, 959 pp., illus. \$99. NATO ASI Series C, vol. 142. From an institute, Lake Geneva, Wis., Aug. 1982.

**Physical Properties of Amorphous Materials.** David Adler, Brian B. Schwartz, and Martin C. Steele, Eds. Plenum, New York, 1985. xiv, 443 pp., illus. \$62.50. Institute for Amorphous Studies Series.

**The Physics of Chaos and Related Problems.** Royal Swedish Academy of Sciences, Stockholm, 1985. 221 pp., illus. Paper, \$72. *Physica Scripta*, vol. T9, 1985. From a symposium, Gräfvällan, Sweden, June 1984.

**The Pleasures of Entomology.** Portraits of Insects and the People Who Study Them. Howard Ensign Evans. Smithsonian Institution Press, Washington, D.C., 1985. 238 pp., illus. Paper, \$14.95.

**The Political Economy of Coal.** Ferdinand E. Banks. Lexington (Heath), Lexington, Mass., 1985. xvi, 272 pp., illus. \$29.

**Polymeric Liquid Crystals.** Alexandre Blumstein, Ed. Plenum, New York, 1985. x, 457 pp., illus. \$75. Polymer Science and Technology, vol. 28. From a symposium, Washington, D.C., Aug. 1983.

**Polymers.** The Origins and Growth of a Science. Herbert Morawetz. Wiley-Interscience, New York, 1985. xviii, 306 pp. \$47.50.

**Potential Flows.** Computer Graphic Solutions. Robert H. Kirchhoff. Dekker, New York, 1985. xiv, 181 pp., illus. \$45. Mechanical Engineering, 37.

**Power from the North.** Robert Bourassa. Prentice-Hall, Englewood Cliffs, N.J., 1985. x, 182 pp., illus., + plates. \$17.95.

**Practical Flow Cytometry.** Howard M. Shapiro. Illustrations by the author. Liss, New York, 1985. xviii, 295 pp., illus. \$49.50.

***Pseudomonas aeruginosa.*** New Therapeutic Approaches from Basic Research. D. P. Speert and R. E. W. Hancock, Eds. Karger, Basel, 1985. viii, 176 pp., illus. \$63. Antibiotics and Chemotherapy, vol. 36. From a conference, Vancouver, B.C., Canada, June 1984.

**Psychoactive Drugs and Sex.** Ernest L. Abel. Plenum, New York, 1985. viii, 234 pp. \$27.50.

**Psychology.** Being Human. Zick Rubin and Elton B. McNeil. 4th ed. Harper and Row, New York, 1985. xxvi, 594 pp., illus. Cloth.

**Quand l'Enfant Parle du Langage.** Clairelise Bonnet and Joëlle Tamine-Gardes. Mardaga, Brussels, 1984. 145 pp. Paper, 580 BF. Psychologie et Sciences Humaines, 136.

**Reducing Hazardous Waste Generation.** An Evaluation and a Call for Action. National Academy Press, Washington, D.C., 1985. xii, 76 pp. Paper, \$4.

**Reindustrialization and Technology.** Roy Rothwell and Walter Zegveld. Sharpe, Armonk, N.Y., 1985. vi, 282 pp., illus. \$30; paper, \$14.95.

**Relativistic Mechanics, Time and Inertia.** Emil Toccaci. C. W. Kilmister, Ed. Reidel, Boston, 1984 (distributor, Kluwer, Hingham, Mass.). x, 259 pp.

\$54. **Fundamental Theories of Physics.** Translated from the Romanian edition (Bucharest, 1980).

**Reservoir Engineering Techniques Using FORTRAN.** Mihir K. Sinha and Larry R. Padgett. International Human Resources Development Corporation, Boston, 1984. xii, 224 pp. \$45.

**The Reticuloendothelial System.** A Comprehensive Treatise. Vol. 8, Pharmacology. John W. Hadden and Andor Szentivanyi, Eds. Plenum, New York, 1985. xxii, 469 pp., illus. \$72.50.

**The Return to Cosmology.** Postmodern Science and the Theology of Nature. Stephen Toulmin. University of California Press, Berkeley, 1985. vi, 283 pp. Paper, \$9.95. Reprint, 1982 edition.

**The Rhythm of Being.** A Study of Temporality. Howard Trivers. Philosophical Library, New York, 1985. xiv, 346 pp. \$22.50.

**Robotics.** Marvin Minsky, Ed. Anchor/Doubleday, Garden City, N.Y., 1985. 317 pp., illus. \$19.95.

**Rocks and Minerals.** Pat Bell and David Wright. Collier (Macmillan), New York, 1985. 192 pp., illus. Paper, \$8.95. Macmillan Field Guides.

**Rubber Processing and Production Organization.** Philip K. Freakley. Plenum, New York, 1985. xvi, 455 pp., illus. \$59.50.

**Science Goes to the Dogs.** Cartoons by S. Harris. ISI Press, Philadelphia, 1985. viii, 110 pp. Paper, \$7.95.

**Seawatch.** The Seafarer's Guide to Marine Life. Paul V. Horsman. Facts On File, New York, 1985. xiv, 256 pp., illus. \$19.95.

**Songs from Unsung Worlds.** Science in Poetry. Bonnie Bilyeu Gordon, Ed. Birkhäuser, Boston, 1985. xxvi, 230 pp., illus. \$14.95; paper, \$11.95.

**Sonoran Desert Spring.** John Alcock. University of Chicago Press, Chicago, 1985. viii, 194 pp., illus. \$19.95.

**Space, Time and Causality.** An Essay in Natural Philosophy. J. R. Lucas. Clarendon (Oxford University Press), New York, 1984. x, 206 pp. \$28; paper, \$10.95.

**Spectral Techniques in Digital Logic.** S. L. Hurst, D. M. Miller, and J. C. Muzio. Academic Press, Orlando, Fla., 1985. xvi, 314 pp., illus. \$79.50.

**Statistical Mechanics.** Shang-Keng Ma. World Scientific, Singapore, 1985 (U.S. distributor, Taylor and Francis, Philadelphia). xxvi, 548 pp., illus. \$67; paper, \$30. Translated from the Chinese by M. K. Fung.

**Stochastic Programming with Multiple Objective Functions.** I. M. Stancu-Minasian. Editura Academiei, Bucharest, and Reidel, Boston, 1985 (distributor, Kluwer, Hingham, Mass.). xvi, 334 pp. \$59. Mathematics and Its Applications (East European Series). Translated from the Romanian edition (Bucharest, 1980) by Victor Giurgutiu.

**Sudden Death of Athletes.** Ernst Jokl. Thomas, Springfield, Ill., 1985. xviii, 124 pp. \$19.75.

**Teacher Expectancies.** Jerome B. Dusek, Vernon C. Hall, and William J. Meyer, Eds. Erlbaum, Hillsdale, N.J., 1985. xiv, 387 pp. \$39.95.

**Technological Transition in Cartography.** Mark Stephen Monmonier. University of Wisconsin Press, Madison, 1985. xx, 282 pp., illus. \$25.

**Temporal Order.** L. Rensing and N. I. Jaeger, Eds. Springer-Verlag, New York, 1985. x, 325 pp., illus. \$36. Springer Series in Synergetics, 29. From a symposium, Bremen, Germany, Sept. 1984.

**Theory and Application of Drilling Fluid Hydraulics.** Alun Whittaker, Ed. International Human Resources Development Corporation, Boston, 1985. xiv, 203 pp., illus. \$27. The EXLOG Series of Petroleum Geology and Engineering Handbooks.

**Theory and Measurement.** Henry E. Kyburg, Jr. Cambridge University Press, New York, 1984. viii, 273 pp. \$39.50. Cambridge Studies in Philosophy.

**The Threat of Nuclear War.** A New Zealand Perspective. Royal Society of New Zealand, Wellington, 1985. iv, 83 pp., illus. Paper, NZ\$10. The Royal Society of New Zealand Miscellaneous Series, 11.

**Tissue Culture in Forestry and Agriculture.** Randolph R. Henke *et al.*, Eds. Plenum, New York, 1985. xviii, 390 pp., illus. \$55. Basic Life Sciences, vol. 32. From a symposium, Knoxville, Tenn., Sept. 1984.

**Vertical Seismic Profiling.** Technique, Applications, and Case Histories. A. H. Balch and Myung W. Lee. International Human Resources Development Corporation, Boston, 1984. xiv, 488 pp., illus. \$58.

**Vietnam Veterans.** The Road to Recovery. Joel Osler Brende and Erwin Randolph Parson. Plenum, New York, 1985. xx, 270 pp. \$17.95.

**Viral Hepatitis and Liver Disease.** Girish N. Vyas, Jules L. Dienstag, and Jay H. Hoofnagle, Eds. Grune and Stratton, Orlando, Fla., 1984. xxviii, 728 pp., illus. \$69.50.

**William Whiston.** Honest Newtonian. James E. Force. Cambridge University Press, New York, 1985. xvii, 208 pp. \$37.50.

**World Politics.** The Menu for Choice. Bruce Russett and Harvey Starr. 2nd ed. Freeman, New York, 1985. xiv, 617 pp., illus. \$22.95.

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**Chemist/Physician, Ph.D.,** native German. Experience in nucleic acid chemistry, molecular biology, virology (including hybridoma techniques, immunassay, L4 laboratory); trained in medical parasitology. Seeking research position in molecular biology/medicine. Box 187, SCIENCE. X

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**Clinical Immunologist.** Ph.D. (1982). Clinical research in human humoral immunology; academic research in murine cellular immunology. Clinical laboratory experience in management; in clinical trials, evaluation, and use of commercial assays; in microcomputers and commercial database systems; in teaching residents, graduate students. Publications. Desires position at medical center or in biomedical industry. Box 184, SCIENCE. X

**Ecotoxicologist.** Ph.D., 13 years of research experience. Bioaccumulation, contaminant mobility, and effects on plants and animals. Bioassays, biomonitoring, and field validation. Publications. Seeks research position with industry, government, or consulting firm. Box 185, SCIENCE. X

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**NMR Spectroscopist.** Ph.D. 1985. Five years of magnetic resonance experience including solid state deuterium NMR. Fully trained to manage NMR facility. Biochemical and analytical applications. Experienced scientific programmer: Fortran, graphics, assembly languages. Publications. Williams, 777F Mountainwood Road, Charlottesville, Va. 22901. Telephone: 804-977-3059. X

**Pharmacologist/Immunologist,** Ph.D. 1982. Japanese 3½ years of postdoctoral work in England and United States. Publications in cellular immunology microbiology, inflammation, drug screening. Experience in RIA, ELISA, tissue culture, microscopy, immunofluorescence, experimental animal systems. Available immediately. Box 157, SCIENCE. 8/30; 9/6, 9/13

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Rohm and Haas Company, a leading multinational chemical firm, has an immediate opening for a Senior Toxicologist at the corporate research center in Spring House, PA — in pleasant countryside near Philadelphia. The position is for an experienced toxicologist to provide liaison between Toxicology and the specialty chemicals business of Rohm and Haas Company worldwide.

Your primary responsibility will be to plan and monitor toxicology programs for specialty chemicals, as well as for U.S. premanufacturing notices and European premarketing notices. Liaison with regulatory agencies in the U.S. and in Europe will be required. Incidental travel to Europe is expected.

You should have a Ph.D. in a health-related discipline or a D.V.M. degree. A strong background in chemistry and at least three years of experience in industrial toxicology are necessary.

Rohm and Haas offers an excellent salary and benefits program, including relocation assistance. We enjoy an interactive research environment conducive to professional advancement, and we promote from within.

Candidates should have U.S. citizenship or permanent residency. Please send a detailed resume, listing references, in confidence to:

Recruiting and Placement #3485



An Equal Opportunity Employer M/F

## RESEARCH SCIENTISTS Drug Metabolism

### Pharmacokinetics

The individual selected will possess a Ph.D. with a specialization in Pharmacokinetics, a knowledge of biopharmaceutics and analytical chemistry; 0-2 years' experience required. The selectee will supervise laboratory personnel and be involved in the preparation of protocols and reports for clinical studies.

### Drug Disposition

The individual selected will possess a Ph.D. in pharmaceutical chemistry, biochemistry, pharmacology or a related discipline. In addition familiarity with pharmacokinetics, radiochemistry methods, HPLC, GC, TLC, statistical methods and animal handling techniques are required. The selectee will supervise laboratory personnel and will be involved in the preparation of protocols and reports for preclinical studies.

McNeil offers a modern research facility, competitive salary and benefits package, as well as an opportunity for professional advancement here in our suburban Philadelphia location. For immediate consideration, please send curriculum vitae and salary requirements, in confidence, to: **G. Brown, Personnel, McNeil Pharmaceutical, Spring House, PA 19477 - 0776**



A Johnson & Johnson Company

An Equal Opportunity Employer m/f/h/v.

## POSITIONS OPEN

**ASSISTANT PROFESSOR.** The Department of Entomology invites applications for a 9-month, tenure-track position with optional summer appointment, effective 1 January 1986. Responsibilities will be full-time teaching during 9-month academic year, including undergraduate courses in introductory entomology, field crop entomology and a graduate course in economic entomology. The successful candidate will be expected to supervise M.S. students, develop a research program in field crop or vegetable insect pest management, and generate extramural support. Qualifications include a Ph.D. in entomology or closely related area, a sound background in integrated pest management, insect identification, experimental design and analysis, and a broad understanding of agriculture. Salary commensurate with experience. Send a letter of application, complete résumé, and three letters of reference to: **Dr. James Wangberg, Chairperson, Department of Entomology, Texas Tech University, Lubbock, Tex. 79409. Telephone: 806-742-2828.** Deadline is 15 October 1985. *Texas Tech University is an Affirmative Action/Equal Opportunity Employer.*

**ASSISTANT PROFESSOR OF BIOCHEMISTRY AND MOLECULAR BIOLOGY**—The Department of Biochemistry and Molecular Biology, Louisiana State University (LSU) School of Medicine in Shreveport, invites applications for two tenure-track positions at the assistant professor level. Candidates with a strong background in molecular biology, membrane biochemistry, and molecular virology are especially encouraged to apply; however, outstanding candidates in other areas of biochemistry will definitely be considered. Applicants should submit curriculum vitae, description of future research program, and have three letters of reference sent by 15 October 1985 to: **Dr. Richard Courtney, Head, Department of Biochemistry and Molecular Biology, L.S.U. Medical Center, 1501 Kings Highway, Shreveport, La. 71130.**

*Affirmative Action/Equal Opportunity Employer.*

**UNIVERSITY OF UTAH.** As part of a cooperative program with the Department of Biology, the Department of Chemistry is inviting applications for a tenure-track **ASSISTANT PROFESSORSHIP** for individuals whose research interests are in the area of structure and function of biological macromolecules. The selected candidate is expected to demonstrate excellence and creativity in research and to play an active role in teaching. Preference will be given to individuals who apply modern chemical methods to the study of proteins or nucleic acids in areas which complement existing programs. Send résumé, including a description of research plans, and three letters of reference by 1 October 1985 to: **Professor C. D. Poulter, Department of Chemistry, University of Utah, Salt Lake City, Utah 84112.** *The University of Utah is an Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR.** Applications are invited for a position at the level of assistant professor (tenure-track) in the Department of Chemistry at Stanford University with primary research and teaching interests in inorganic chemistry. Applicants must be strongly motivated toward creative research and have a commitment to teaching undergraduates as well as graduates. In applying, send curriculum vitae, list of publications, a brief statement of research interests (three pages or less) and, in addition, have three letters of recommendation sent to: **Professor John Ross, Chairman, Department of Chemistry, Stanford University, Stanford, California 94305.** *Stanford is committed to Equal Opportunity through Affirmative Action in employment, and we are especially eager to identify minority persons and women with appropriate qualifications.* Applications should be received by 1 November 1985.

### ASSISTANT PROFESSOR— MICROBIOLOGY/IMMUNOLOGY

Applications from career-oriented microbiologists are invited for a tenure-track position at the assistant professor level. This position involves a 25 percent commitment to teaching medical microbiology and infectious diseases and a 75 percent commitment to research. Excellence in teaching and a vigorous and productive research program in any sub-discipline of microbiology or immunology are expected. Applicants should submit a letter of application, curriculum vitae, and names of at least three references to: **Gerald J. Tritz, Ph.D., Chairman, Department of Microbiology and Immunology, Kirksville College of Osteopathic Medicine, 800 West Jefferson Street, Kirksville, Mo. 63501.** *We are an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### ASSISTANT PROFESSOR BIOPHARMACY

The Swiss Federal Institute of Technology at Zurich announces an opening in the Department of Pharmacy for an assistant professor to teach biopharmacy together with other faculty members.

A Ph.D. degree and active involvement in research in the field of biopharmacy are required.

This position will be supported for 6 years at the most.

For applications, send curriculum vitae, brief statement of research interests, and the list of publications by 10 August 1985 to: **The President of ETHZ, Professor H. Ursprung, ETH-Zentrum, 8092 Zurich, Switzerland.**

### ASSISTANT/ASSOCIATE PROFESSOR IN IMMUNOLOGY

The Department of Microbiology invites applications for a faculty appointment at the Medical College of Ohio. Candidates must have a Ph.D. or M.D., at least 2 years of postdoctoral experience, and well-developed research goals. Individuals with interest in molecular-genetic approaches are particularly encouraged to apply, though others will be considered. The position represents a 12-month, tenure-track appointment and involves the pursuit of an independent research program; participation in teaching graduate, medical, and nursing students; and participation in departmental and college activities such as the seminar programs. Send curriculum vitae, names of three references, and a two- to three-page statement of research goals to: **Dr. Earl H. Freimer, Chairman, Department of Microbiology, Medical College of Ohio, C.S. Number 10008, Toledo, Ohio 43699.**

*Equal Opportunity Employer*

### ASSISTANT OR ASSOCIATE PROFESSOR IN PHARMACOLOGY/TOXICOLOGY Molecular Pharmacology/Toxicology (Drug Metabolism) Carcinogenesis/Genotoxicology Immunopharmacology/Toxicology Renal Pharmacology/Toxicology

Two tenure-track faculty positions in the above areas are available in the Department of Pharmacology and Toxicology at the University of Mississippi Medical Center in Jackson. Rank depends on experience. Candidates must have at least 2 years of postdoctoral training and a record of research accomplishment. On the assistant professor level, candidates should be committed to developing a strong, independent, fundable research program and to participate in medical, dental, and graduate teaching in one of the above areas. On the senior faculty level, candidates should have a record of peer reviewed grants, research publications, and participation in teaching. Complete curriculum vitae, including a brief statement of research interests, and the names of individuals who may be contacted as references should be sent to:

**Dr. I. K. Ho  
Professor and Chairman  
Department of Pharmacology and Toxicology  
University of Mississippi Medical Center  
2500 North State Street  
Jackson, Mississippi 39216-4505**

*The University of Mississippi Medical Center is an Equal Opportunity Employer, M/F/H/V.*

### ASSISTANT RESEARCH BIOCHEMIST POSITION

The Department of Biochemistry and Biophysics, University of California, Davis, invites applications for a full-time (11 months/year) appointment as an assistant research biochemist. A Ph.D. or equivalent degree in biochemistry or molecular biology and postdoctoral experience in recombinant DNA methodology is required. Preference will be given to individuals with expertise in handling mRNA, in vitro translation, cDNA and genomic cloning, DNA sequencing, and gene transfection and expression. Experience in protein chemistry is also desirable. Applications must be received by 1 October 1985. Applicants should submit a résumé, undergraduate and graduate academic transcripts, copies of publications, outline of research experience and interests, and the names and addresses of three referees to: **Don M. Carlson, Chair, Search Committee, Department of Biochemistry and Biophysics, University of California, Davis, California 95616.**

*The University of California is an Equal Opportunity Employer and invites applications from all qualified individuals.*

## POSITIONS OPEN

### ASSOCIATE DIRECTOR

The American Type Culture Collection (ATCC) has new position of **associate director for science (ADS)**. Five departments and 60 professional scientists responsible for 40,000 reference strains of algae, bacteria, fungi, protozoa, animal and plant cell lines and viruses, plasmids, DNA vectors, and oncogenes. ADS will promote and coordinate scientific efforts of the collections and ancillary research; develop new programs for interaction among collections; participate in fund raising activities; and plan and implement scientific activities.

Should have research achievements, responsible supervisory administrative experience, and peer recognition equivalent with senior level positions. Salary commensurate.

Submit résumé, salary expectations, and three references to: **Personnel Office, American Type Culture Collection, 12301 Parklawn Drive, Rockville, Maryland 20852.** *Equal Opportunity Employer.*

**BIOCHEMIST Ph.D.** Protein biochemist needed with experience in immunochemistry and immunoassay development. A strong background in organic chemistry, extensive protein conjugation, and good analytical skills are required. Experience interacting with scientists in other disciplines is essential. Salary commensurate with qualifications. NeoRx is a multidisciplinary company, developing cancer diagnostic and therapeutic products. Send curriculum vitae to: **Personnel, NeoRx Corporation, 410 West Harrison Street, Seattle, Washington 98119.**

**BIOPHYSICS POSTDOCTORAL POSITIONS** available to do structural studies on membrane proteins, using X-ray crystallography and/or CD and NMR spectroscopy. Send curriculum vitae and two letters of reference to: **B. A. Wallace, Department of Biochemistry and Molecular Biophysics, Columbia University, 630 West 168 Street, New York, N.Y. 10032**

*Columbia University is an Equal Opportunity/Affirmative Action Employer*

### CELL BIOLOGY AND PHYSIOLOGY WASHINGTON UNIVERSITY SCHOOL OF MEDICINE ST. LOUIS, MISSOURI

The Department of Cell Biology and Physiology, Washington University School of Medicine, St. Louis, Missouri, is expanding its commitment to research in the following areas: (i) membrane protein function and biogenesis; (ii) assembly, function, and movement of intracellular organelles; (iii) cell motility and contractility; and (iv) cell-cell and cell-matrix interactions. Individuals who employ novel biophysical and recombinant DNA methodologies are especially encouraged to apply. Tenure-track positions are available for successful candidates who will be expected to develop an independent research program and to participate in the training of medical and graduate students. Please submit curriculum vitae and the names of three references to: **Dr. Philip Stahl, Department of Cell Biology and Physiology, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, MO. 63110.** *An Affirmative Action/Equal Opportunity Employer.*

**CELLULAR IMMUNOLOGIST.** Cellular immunologist with specific interest in infections and inflammation. Appointment as instructor or assistant professor in the Department of Surgery, UMDNJ-Rutgers Medical School, to join a research group studying surgical implants and prostheses. Submit curriculum vitae and three references to: **Ralph S. Greco, M.D., Professor and Chief, Section of General Surgery, UMDNJ-Rutgers Medical School, CN 19, New Brunswick, N.J. 08903.** *An Equal Opportunity/Affirmative Action Employer, M/F/H/V.*

### CHIEF OF STAFF

The Milwaukee VA Medical Center is seeking an experienced physician for the position of **Chief of Staff**. The Medical Center is a Dean's Committee Hospital affiliated with the Medical College of Wisconsin, and has 683 acute beds, a 200-bed Nursing Home Care Unit, and a 400-bed Domiciliary. Applicants should have administrative experience, ideally within the VA system, and should have experience in clinical teaching and/or investigation. Academic appointment in the appropriate department is available based on prior experience. Send curriculum vitae and three references to: **Thad C. Hagen, M.D., Chief, Medical Service, VA Medical Center, 5000 West National Avenue, Milwaukee, Wis. 53193,** by 13 September 1985. *An Equal Opportunity Employer.*

# CENTER FOR ADVANCED RESEARCH IN BIOTECHNOLOGY

The University of Maryland and the National Bureau of Standards have jointly established the Center for Advanced Research in Biotechnology (CARB) to provide a unique forum for collaborative research among academic, government and industrial scientists. CARB's research facility is being constructed at the Shady Grove Life Science Center in Rockville, Maryland in close proximity to the NIH, the FDA, the USDA and at the heart of one of the nation's major centers of commercial biotechnology development.

CARB will initially focus on establishing what is expected to be the world's finest facility for the determination and analysis of the structure of macromolecules. The goals of CARB's research are to radically reduce the time and effort required to determine the atomic structure of proteins and to effectively model and predict their properties. This focused thrust will help build the foundation for the rapidly emerging field of protein engineering.

Toward this end, CARB will integrate a multidisciplinary team of scientists and engineers with state-of-the-art instrumentation and facilities, some of which will truly be one of a kind. CARB will draw upon the considerable expertise at NBS in physical and chemical measurement technology and will have access to unique research facilities including the research reactor's neutron diffraction facility and NBS's new CYBER 205 supercomputer. CARB will house scientists from the University of Maryland and the National Bureau of Standards as well as a large population of visiting scholars and industrial fellows, postdoctoral investigators and graduate students.

**CARB** is seeking **SENIOR RESEARCH SCIENTISTS** to staff research programs in the following areas. Senior Research Scientists should have an established research record in relevant disciplines and a demonstrated ability to obtain research support. Successful candidates will generally qualify for joint, tenure-track appointments of the University of Maryland. Salary and rank will be commensurate with training and experience.

## RESEARCH PROGRAMS

**PROTEIN CRYSTALLIZATION** has as its goal the development of general methodology and instrumentation for the routine and rapid growth of high-quality, single crystals of macromolecules and macromolecular complexes suitable for x-ray and neutron diffraction analysis. CARB will strive to develop a science of macromolecular crystallization from detailed studies of lattice interactions in protein crystals and development of methods for the real-time analysis and control of crystal growth. Novel application of site-directed mutagenesis for the preparation of heavy atom derivatives will be investigated. Methods for the growth of two-dimensional crystals will also be developed including monolayer and epitaxial approaches. In addition, the solid-state properties of protein crystals will be investigated.

**X-RAY AND NEUTRON DIFFRACTION** will include projects in all aspects of the crystallographic process with a target of reducing the time required to solve the structure of a new protein to a matter of weeks. Projects will include development of a tunable x-ray source for anomalous scattering methods, and development of automated map-fitting tools and refinement methods.

**HIGH-FIELD 2D NMR** will focus on determining the solution structure of macromolecules and will include instrument development work (1500 MHz) with particular emphasis on automated data reduction and resonance assignment.

**ELECTRON MICROSCOPY** will focus exclusively on three-dimensional studies of macromolecules and will include development of a scanning tunneling microscope for these applications.

**MOLECULAR MODELING** will include applications of supercomputers, multiprocessors and expert systems to molecular modeling development of an extensive macromolecular structure database for protein engineering and molecular graphics.

For additional information or to submit a resume contact:

**Kevin M. Ulmer—Director**  
**Center for Advanced Research in Biotechnology**  
**University of Maryland**  
**3300 Metzgerott Road, Adelphi, Maryland 20783**  
**(301) 853-3601**



*The University of Maryland and the National Bureau of Standards are Equal Opportunity/Affirmative Action Employers.*

# THE UNIVERSITY OF MARYLAND

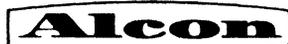
## Senior Scientist Neurophysiology of Vision

As a rapidly expanding \$350 million plus, multi-national pharmaceutical manufacturer, Alcon Laboratories is presently building its overall capability to generate new technology in the 1980-90's. The primary thrust of this effort is the development of innovative new drugs to treat certain eye diseases. We have an immediate need for a Senior Scientist to assume immediate or eventual leadership of a new Neurophysiology/Psychophysics group within the Basic Research Group.

Minimum requirements include a Ph.D. in a field involving Electrophysiology, Neurophysiology, or Psychophysics; experience in vision research or related field of expertise; and familiarity with recording and analyzing evoked potentials from the brain. Responsibilities will include the development of animal models for assessing visual function changes in ocular diseases such as glaucoma, retinopathies, or posterior inflammation using the tools of electrophysiology and psychophysics as appropriate.

This position offers an excellent opportunity for professional recognition and growth. We offer highly competitive starting salaries, company paid benefits, an excellent profit sharing plan, and a desirable Fort Worth location with recreational, cultural, and economic advantages indigenous to the Sunbelt. If you are seeking a career opportunity involving challenging work within a dynamic state-of-the-art research environment, please send resume with salary history to:

**Sherry H. Rightmer - Employment Supervisor**



Alcon Laboratories, Inc.  
P.O. Box 1959  
Fort Worth, Texas 76101  
Equal Opportunity Employer, M/F/V/H

## TECHNICAL SPECIALIST

### ■ Environmental Data Analysis Program

Prepare integrated analyses of the results from scientific research for a broad range of environmental issues important to the electric utility industry. You'll design and implement approaches for comparing, analyzing, integrating and presenting the often complex findings of research, sometimes involving scientific disciplines that may be outside your original scope of professional expertise. This also involves selecting, managing and editing the findings of consulting scientists. The ability to effectively express findings in written reports, public presentations and management briefings is key.

Professional qualifications must include at least 4 yrs. experience in scientific research, analysis or evaluation in the Ecological or Environmental Health Sciences, plus a Masters degree in Science or Engineering; PhD preferred. Proven ability to utilize computer technology in scientific and statistical modeling and data analysis is a strong asset. Travel in U.S. required.

EPRI, located on the San Francisco Peninsula, is a unique R&D firm chartered to provide research and development for all segments of the U.S. electric utility industry. We offer a stimulating environment, competitive salaries and comprehensive benefits. For immediate consideration, please send resume, including salary requirements to F. Schaeffler, Employment Department SC-559, EPRI, 3412 Hillview Avenue, P.O. Box 10412, Palo Alto, CA 94303. An equal opportunity employer.

**EPRI**  
ELECTRIC POWER  
RESEARCH INSTITUTE

## POSITIONS OPEN

### CELLULAR NEUROBIOLOGIST

Postdoctoral position available immediately to study cellular events underlying axon growth using giant invertebrate neurons in culture and techniques such as high resolution video microscopy and gel electrophoresis. Send curriculum vitae and names of three references to:

**Dr. Daniel J. Goldberg**  
Department of Pharmacology  
Columbia University  
630 West 168 Street  
New York, N.Y. 10032

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

### CHAIR OF MICROBIOLOGY/IMMUNOLOGY

The School of Medicine and the College of Science and Engineering of Wright State University invite applications and nominations for the position of chair of the Department of Microbiology and Immunology. The candidates should have an M.D., or Ph.D., or both; and have demonstrated leadership and productivity in teaching, research, and academic administration. Those in the areas of immunology and of molecular science are especially sought although candidates from all relevant fields will be considered. The department offers courses at the baccalaureate, graduate, and undergraduate medical school levels, and participates in the Biomedical Sciences Ph.D. Program. The department is part of both the School of Medicine and the College of Science and Engineering.

Nominations and applications should be sent to: **Robert Weisman, Ph.D., Chair of Search Committee for M/I Chair, Wright State University, 234 Biological Sciences Building, Dayton, Ohio 45435.** Applications should include curriculum vitae and the names of three references. The closing date for applications is 15 November 1985.

*Wright State is an Equal Opportunity/Affirmative Action Employer.*

**CYTOGENETICS TECHNICIANS:** Positions available immediately for persons experienced in karyotyping human chromosomes. Minimum 6-months clinical cytogenetics laboratory experience necessary. Beginning salary \$20,000 to \$24,000 depending on experience. Résumé and references required. Contact: **Dr. Carl Goodpasture, Assistant Director, Vivigen, Inc., 550 St. Michael's Drive, Santa Fe, New Mexico 87501. Telephone: 505-988-9744.**

### UNIVERSITY OF FLORIDA Institute of Food and Agricultural Sciences DEAN FOR RESEARCH

Responsible for basic and applied research programs in agriculture and related areas. The statewide research programs are located in 23 on-campus departments, 23 outlying centers, the School of Forest Resources and Conservation, and the College of Veterinary Medicine. The Dean reports to the Vice President for Agricultural Affairs. Earned doctorate degree in agriculture or closely related scientific field is required.

Applicants are to submit a résumé and names of five references by 15 October 1985 to: **G. W. Isaacs, Agricultural Engineering Department, Rogers Hall, Gainesville, Fla. 32611.**

### DIRECTOR, Hopkins Marine Station (HMS) Department of Biological Sciences Stanford University

The Department of Biological Sciences of Stanford University seeks a distinguished biologist to serve as professor and director of the Hopkins Marine Station. The director will hold an endowed chair and will be appointed as professor of biological sciences at Stanford University. The director will be expected to provide scientific leadership with an established, vigorous research program in the area of cell, developmental, molecular, environmental, organismal, and/or population biology. The director's responsibilities include the provision of leadership for faculty expansion and for development of innovative teaching programs at the Station.

Applicants should submit curriculum vitae and the names of three persons willing to serve as references to:

**Chairman, HMS Search Committee**  
Department of Biological Sciences  
Stanford University  
Stanford, Calif. 94305

*Stanford is an Equal Opportunity Employer.*

## POSITIONS OPEN

### DIRECTOR OF SCIENCE

The RP Foundation Fighting Blindness seeks a highly qualified individual as Director of Science. Requirements include a doctorate in science, continuing interest in new developments in science, experience in grants administration, and strong skills in writing and public speaking for lay and medical audiences. Previous experience in visual science helpful. Position has responsibilities in two areas: research and foundation affairs. Salary and benefits are commensurate with experience and responsibilities. *Equal Opportunity Employer.* Applicants should send curriculum vitae and bibliography, plus references to: **Robert Gray, Executive Director, RP Foundation Fighting Blindness, 8331 Mindale Circle, Baltimore, Md. 21207.**

### ENDOCRINOLOGIST AND NEUROBIOLOGIST:

two postdoctoral research positions are available 1 December 1985 to study the cerebral neuroendocrine regulation of insect postembryonic development. Training in the areas of biochemical methods, immunohistochemistry, neurophysiology, and peptide purification is desirable. Send résumé, reprints, and three letters of reference to: **Dr. W. E. Bollenbacher, Department of Biology, Coker Hall 010A, University of North Carolina, Chapel Hill, N.C. 27514.** Application deadline: 1 October 1985. *The University of North Carolina is an Equal Opportunity/Affirmative Action Employer.*

### ENVIRONMENTAL CHEMISTS

The California Public Health Foundation has available in Berkeley several positions to conduct chemical analysis, develop standardized methodologies, and carry out focused research on environmental contamination under contract to the California State Department of Health Services.

The positions are divided into five levels, so a wide range of knowledge and abilities can be considered. Applicants may be recent college graduates in chemistry, chemists with undergraduate degrees with various levels of experience, or chemists with master's and Ph.D. degrees with varying amounts of research experience. All individuals should demonstrate interest and capability in conducting analyses with environmental materials.

The ideal candidate will have experience conducting research using state-of-the-art instrumentation and developing new processes and procedures to analyze hazardous chemicals in minute quantities in virtually any form.

The Foundation is a not-for-profit California corporation providing a variety of services to the public health scientific community associated with implementation of government policies. Applicants should send a résumé or curriculum vitae to: **Philip Brodzinsky, P.O. Box 520, Berkeley, California 94701.** *The Foundation is an Equal Opportunity Employer.*

The Department of Neurology at the University of Michigan is seeking applications for tenure-track, university-based **FACULTY POSITIONS** at the instructor to assistant professor level. Applicants should be Board-qualified or eligible in neurology. Curriculum vitae and three letters of recommendation should be sent to: **Kenneth L. Casey, M.D., Chairman, Neurology Recruitment Committee, Neurology Service, Veterans Administration Medical Center, 2215 Fuller Road, Ann Arbor, Michigan 48105.** *The University of Michigan is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION IN ENDOCRINOLOGY DIRECTOR, DIABETES CENTER

Applications are invited for a position at the level of assistant professor to establish and direct a Diabetes Center in the Section of Endocrinology and Metabolism at Rush Medical College and the Rush-Presbyterian-St. Luke's Medical Center. Successful candidates should be Board-certified in medicine and endocrinology and have strong clinical and research interests in a diabetes-related area.

Responsibilities include participation in teaching and patient care within a division newly committed to both clinical and basic research in the role of hormones in the etiology and development of atherosclerosis. Inquiries and résumé to:

**John D. Bagdade, M.D.**  
Section of Endocrinology and Metabolism  
Rush-Presbyterian-St. Luke's Medical Center  
1753 West Congress Parkway  
Chicago, Ill. 60612

*Equal Opportunity/Affirmative Action Employer*

30 AUGUST 1985

# Infectious Diseases Research



An equal opportunity employer

The Department of Immunology and Infectious Diseases at Pfizer Central Research is seeking an individual with a PhD in the biological sciences and at least two years of post-doctoral training. You will be part of a multidisciplinary project team involved in the development of contemporary approaches to the control of infectious diseases. Experience in animal infection models and animal pharmacokinetics and the assay of bioactive compounds and metabolites in biological fluids is desired. Duties will include setting up a laboratory, supervising technologists and contributing to planning of projects and the advancement of product candidates in the infectious disease area.

This position offers an excellent opportunity for professional recognition and career growth. Publication of important findings will be encouraged. We also offer a competitive compensation, benefit and relocation package and the opportunity to live in an attractive Connecticut shore community. Please send resume and brief description of research interest to **Jerry K. Larson, PhD, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.**

## CAREER OPPORTUNITIES

Nicolet, a leader in computerized biomedical instrumentation, is entering a new and exciting high technology project.

### SENIOR SOFTWARE ENGINEER

We are seeking a Senior Software Engineer to work on the development of a new generation of biomedical instrumentation. The candidate selected for this position must have experience and the ability to generate innovative user interfaces utilizing high resolution graphic displays and keyboards. Qualifications include working experience with C, UNIX\* and the MC68000 family of microprocessors.

### SPEECH/ACOUSTICS SOFTWARE ENGINEER

We are seeking an experienced Software Engineer to work on a development project involving signal processing for the hearing impaired. The position available will work on instrumentation, human interface software and signal processing algorithms. Applicants must have a BS in electrical or computer engineering and direct experience in software based product development and/or speech/acoustic signal processing techniques.

Nicolet is a rapidly growing, high technology company located in the rolling woodlands of Madison, Wisconsin. With a metropolitan population of 335,000, the Madison community places a high priority on education, quality of life and recreation in a four-seasons climate. The Madison area boasts affordable housing prices and a reasonable cost of living.

We offer an excellent salary, progressive relocation package, medical, dental, life and LTD insurance, 401(k) retirement savings plan, PAYSOP, stock purchase plan, and on-site fitness center. If you are interested in pursuing these opportunities, send your credentials to **Robert W. Lovely, Nicolet Biomedical Instruments, P.O. Box 4287, Madison, WI 53711-0287. (608) 273-5036.** Nicolet is an equal opportunity employer M/F/H.

\* UNIX is a trademark of Bell Laboratories.

 Nicolet

**Kuwait**  
**University of Kuwait Health Science Centre**  
**Faculty of Medicine**

**Medical Science and Clinical Appointment**

Applications are invited for the following appointments in the Faculty of Medicine:

**Anatomy**

- a. Assistant/Associate Professor —1 post  
in Gross Anatomy

Candidates should have teaching experience in Topographic Anatomy. Current and active research experience may be in areas of Neuroanatomy, Histology, Growth and development or Gross Anatomy.

**Psychiatry**

- a. Associate Professor —1 post  
b. Assistant Professor —1 post

Candidates should have experience in teaching and/or research in clinical psychiatry, preference will be given to suitable candidates *who speak Arabic*.

**Medicine**

- a. Associate/Full Professor —1 post  
in Dermatology

**Paediatrics**

- a. Associate Professor —2 posts  
in Paediatric endocrinology  
Allergy or gastroenterology

**Physiology**

- a. Associate/Full Professor —2 posts

Preference will be given to general systemic physiologists with balanced experience in teaching and research.

**Pharmacology**

- a. Associate/Full Professor —1 post  
in Toxicology
- b. Associate Professor in —1 post  
Clinical Pharmacology

The applicant for the post of Toxicology should have experience in teaching and toxicological services, such as therapeutical drug monitoring and toxicological screening.

**Surgery**

- a. Professor ENT —1 post  
b. Associate Professor ENT —1 post  
c. Associate Professor in —1 post  
Anaesthesia
- d. Associate Professor in —1 post  
Orthopaedic Surgery

Candidates for surgical posts should have at least 5 years clinical and teaching experience. They should also possess a Ph.D. or higher professional medical qualifications (e.g. F.R.C.S.) in their respective fields.

**Diagnostic Radiology**

- a. Professor —1 post  
b. Associate Professor —2 posts  
c. Assistant Professor —1 post

Experience in one or more of the following areas is needed; Body-CT, Orthopedic Radiology, Paediatric Radiology, GI and GU Radiology, and US Interventional Radiology.

**Nuclear Medicine**

- a. Full Professor —1 post  
b. Assistant Professor —2 posts

Experience in research and ability to teach are highly required. Candidates must have been involved in undergraduate and postgraduate teaching and basic and clinical research. Knowledge of computers applied to medicine is desirable.

**Organ Transplantation**

- a. Assistant/Associate Professor —2 posts  
in Transplantation Surgery

Applicants should have a background of general, vascular or urological surgery, possess the Fellowship of the Royal College or be certified by a recognised Board of Surgery or their equivalent. They should have 2 to 3 years of training in any area of clinical organ transplantation.

For the Associate Professor another additional 3 to 4 years of practice in clinical transplantation surgery are required.

- b. Assistant Professor in Experimental Surgery —1 post

Applicants should have a background in surgery or immuno-biology, possess a surgical Fellowship or a Ph.D. or equivalent and have 2 to 3 years of experience in surgical research preferably in an area related to Organ Transplantation.

- c. Assistant/Associate Professor in Clinical Bone Marrow Transplantation —1 post

Applicants should have a background in haematology, oncology or immunology, with Postgraduate Fellowship, Membership of Certifying Board in the speciality and have 2 to 3 years of training in Clinical Bone Marrow Transplantation.

For the position of Associate Professor 3 to 4 years of experience in clinical Bone Marrow Transplantation will be preferred.

- d. Assistant/Associate Professor in Transplant Intensive Care —1 post

Applicants should have a background in Anaesthesia, Respiratory Care or Metabolism, possess the appropriate Fellowship, Membership or appropriate Board Certification or equivalent and have 3 to 4 years of experience in the field.

### **Biochemistry**

- a. Associate Professor —2 posts  
b. Assistant Professor —1 post

### **Histopathology/Cytology:**

- a. Full Professor —1 post  
b. Associate Professor —1 post  
c. Assistant Professor —1 post

### **Clinical Chemistry:**

- a. Full Professor —1 post

### **Haematology:**

- a. Associate Professor —1 post

### **Microbiology, Virology and Immunology**

#### **Clinical Immunologist:**

- a. Associate Professor —1 post  
1. Candidate should be experienced in Clinical Immunology with a minimum of 3 years experience in the routine operation of a routine clinical immunology laboratory.

2. Candidate should have a Ph.D./MD and Professional qualification e.g. M.R.C. Path or American Board or equivalent degree.

#### **Clinical Virologist:**

- a. Professor/Associate Professor —1 post  
1. Will be responsible for viral serology unit which mainly involves hepatitis and rubella serology. He will be responsible for cell culture laboratory, virus isolations and preparation of viral antigens and antiserum. Both jobs include teaching, research and clinical work.  
2. Clinical Virology experience. MD, Ph.D. MRCPATH or equivalent. Internationally known for work in clinical virology.

#### **Virologist:**

- a. Associate Professor/Assistant Professor 1 post  
Job description: Basic virology research, or molecular virology. Teaching undergraduates and postgraduates. Research in basic virology. Ph.D. with sound research experience.

### **Community Medicine and Behavioural Sciences**

- a. Associate Professor in Medical Psychology —1 post  
Applicants should be able to demonstrate teaching and research competence. Preference will be given to candidates who have experience in teaching introductory and medical psychology courses to medical and allied health students, and who are interested in contributing to the development of postgraduate programmes.  
b. Associate/Full Professor in Epidemiology —1 post  
Assistant/Associate Professor —1 post  
in Epidemiology  
Applicant should be able to demonstrate teaching and research competence in the application of epidemiological methods to either etiological or health services development problems. The successful candidate is expected to take active part in undergraduate and post graduate teaching, using field demonstration and small group teaching techniques. He would be encouraged to follow his own line of research in addition to assisting the Department, Faculty and Ministry staff in the design and conduct of quantitative studies.

**Kuwait**  
**Medical Science and Clinical Appointment**  
(Continued from previous page)

**REQUIREMENTS FOR EMPLOYMENT**

Applicants should possess a Ph.D. or higher professional qualification, i.e. F.R.C.S., M.R.C.P. etc. in their respective speciality and have conducted and published research in their field. Professors should have 14 years' experience, 4 as an associate professor or its equivalent, i.e. senior lecturer or reader. Associate Professors should have 9 years' experience, 4 as an assistant professor or its equivalent, i.e. lecturer.

**CONDITIONS OF APPOINTMENT**

**Salaries:** Total monthly salaries will be within the following scales according to qualifications and experience (1KD = £2.5, US\$3.30 approx.):

Professors with clinical appointments	=	KD1210–KD1370 (8 increments).
Professors medically qualified with medical science appointments	=	KD1140–KD1300 (8 increments).
Professors non-medically qualified	=	KD1070–KD1230 (8 increments).
Associate Professors with clinical appointments	=	KD989–KD1149 (8 increments).
Associate Professors medically qualified with medical science appointments	=	KD932–KD1092 (8 increments).
Associate Professors non-medically qualified	=	KD875–KD1035 (8 increments).
Assistant Professors with clinical appointments	=	KD768–KD928 (8 increments).
Assistant Professors medically qualified with medical science appointments	=	KD724–KD884 (8 increments).
Assistant Professors non-medically qualified	=	KD680–KD840 (8 increments).

**Clinical Supplements:** In addition to the above university salaries there will be a monthly clinical supplement paid by the Ministry of Public Health for 10 months a year to medical school staff with clinical service commitments. These are:

Professor and Chairman	KD250	Associate Professor	KD150
Professor	KD200	Assistant Professor	KD100

**Conference:** A member is entitled to attend one academic conference a year which would be subject to the University rules and regulations.

**Gratuity:** There is a gratuity of one month basic salary for each year employed payable on termination of contract.

**Housing:** Suitable furnished, air-conditioned accommodation, electricity and water free of charge.

**Medical Care:** Free, comprehensive treatment is available in Kuwait under the State Health Service.

**Travel:** Air tickets are provided from the country of recruitment for the appointee, spouse and up to 3 dependent children under 20 years. Thereafter, return air tickets are issued annually to the country of citizenship or permanent residence. On termination of contract, air tickets are provided to the country of recruitment. A baggage and freight allowance is also provided.

**Vacation:** 60 days paid annual leave and various national holidays.

**Education:** This is provided free in State Schools where the instruction is in Arabic. Staff who have to send their children to non-Arabic schools in Kuwait will have the tuition fees of up to a maximum of 3 children met by the University.

**Taxation:** There is no income tax in Kuwait. Currency is transferable without restriction.

**METHOD OF APPLICATION**

Curriculum vitae in duplicate which should include the names of 3 referees, personal particulars, qualifications with dates, career history, teaching experience, research accomplishments and where appropriate clinical experience should be sent to the **Director of Planning and Academic Staff Recruitment, Faculty of Medicine, University of Kuwait, Health Science Centre, P.O. Box 24923, Safat, Kuwait**, to arrive no later than 30th October, 1985.

**Kuwait**  
**University of Kuwait**  
**Health Science Centre**  
**Faculty of Medicine**

Applications are invited for the post of Chief Technician in the Departments of Surgery, Paediatrics and Community Medicine and Behavioural Science, and Microbiology (Virology and Immunology). Candidates should have experience as a clinical laboratory technician and hold the FIMLS, or equivalent qualification with 15 years' experience including training. The successful candidate's duties will be of a multi-discipline nature and will be both in laboratory and in the field.

Salary will be in the range KD450–512 per month, (KD1=£2.5, US\$3.30 approx.) There is no income tax in Kuwait and currency is transferable without restriction. Free furnished, air-conditioned accommodation is provided, and electricity and water supplied free of charge. Sixty days paid annual leave for each completed year of employment, and annual economy class return air tickets to the country of citizenship or permanent residence are provided for the appointee, spouse and three dependent children. Free medical treatment is available under the State Health Service.

**Applications should be submitted to: The Director of Planning and Academic Staff Recruitment, Faculty of Medicine, University of Kuwait Health Science Centre, P.O. Box 24923 Safat, Kuwait, with detailed curriculum vitae in duplicate, recent passport photograph, and the names of three referees, to arrive not later than 30th October, 1985.**

## POSITIONS OPEN

**EXPERIMENTAL CANCER RESEARCHER**—with experience, to independently perform various microscopy and related tests for use in diagnoses, prevention or treatment of cancer, and allied diseases. Utilize human and experimental pathology. Full-time, \$11.25 per hour. Requires B.S./Medical Studies plus 5 years of experience or 5 years of related experience in surgical and autopsy pathology. Send résumé to: **American Health Foundation, 320 East 43 Street, New York, N.Y. 10017.**

**EXTENSION FRUIT ENTOMOLOGIST:** Assistant/Associate/or Full Professor. 12-month, tenure-track position in fruit extension and research available 1 January 1986, in the Department of Entomology at the New York State Agricultural Experiment Station. Extension responsibilities (70 percent): providing fruit arthropod control recommendations, providing leadership for implementation of IPM in fruit plantings, and preparing extension literature. Research (30 percent) will focus on the development of IPM programs in tree fruits. Field experience and training in tree fruit entomology and extension is desired. Send curriculum vitae, transcripts, and names of five references to: **H. Reissig, Chairman, Search Committee, Department of Entomology, New York State Agricultural Experiment Station, Cornell University, Geneva, N.Y. 14856.** Application deadline 1 October 1985. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

### FACULTY POSITIONS IN MICROBIOLOGY

Tenure-track faculty positions. Applicants are expected to develop an independent research program and must have solid training and research experience in **MOLECULAR VIROLOGY, MOLECULAR BIOLOGY, MOLECULAR PATHOGENESIS, MOLECULAR GENETICS, or MOLECULAR IMMUNOLOGY.** Teaching responsibilities are limited and include participation in courses for graduate and medical students. Curriculum vitae, names of three references, and a summary of research interests should be sent to:

**Dr. Dennis J. O'Callaghan**  
Professor and Chairman  
Department of Microbiology and Immunology  
Louisiana State University Medical Center  
1501 Kings Highway  
Shreveport, La. 71130

*Affirmative Action/Equal Opportunity Employer*

**FACULTY POSITION** available, tenure-track, in molecular genetics, with a special interest in membranes. Applicants should have research background in recombinant DNA technology (preferably also in somatic cell genetics) and working knowledge of membrane proteins. M.D. and/or Ph.D. in appropriate field required. Successful candidate will hold tenure-track appointment (assistant or associate professor, depending upon qualifications) in Department of Physiology and Molecular Biophysics at Baylor College of Medicine. Joint appointments in relevant academic departments also possible. Laboratory space and basic equipment provided and initial laboratory support available. Successful candidate will devote majority of his/her effort to establishing and maintaining an independent research program related to the main interests of the department. The department is building a strong program in membrane biophysics with expertise in electrophysiology, membrane biochemistry, reconstitution, and modelling. Send curriculum vitae, a brief description of past and present research experience, and names of three or more references to: **Dr. A. M. Brown, Incoming Chairman, Physiology and Molecular Biophysics Department, Baylor College of Medicine, One Baylor Plaza, Houston, Texas 77030.** *An Equal Opportunity/Affirmative Action Employer.*

### GENETIC ANALYSIS OF HORMONE ACTION

**POSTDOCTORAL POSITION,** available in May 1986, to study the role of GTP-binding regulatory proteins in transmembrane signaling in *S. cerevisiae*. Ph.D., preferably with expertise in yeast genetics, will isolate and characterize yeast mutants with lesions that affect cyclic AMP synthesis, cell proliferation, and sporulation. Goals include identification of protein components, in addition to RAS proteins and catalytic adenylate cyclase, that may be involved in transmembrane signaling in yeast. Salary between \$16,000 and \$23,000, depending upon past experience. Send letter describing interests, plus curriculum vitae, and names and addresses of three referees to: **Henry R. Bourne, M.D., 1210 Medical Sciences Building, University of California—San Francisco, Calif. 94143.** *The University of California is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

30 AUGUST 1985

## POSITIONS OPEN

**FACULTY POSITION—MOLECULAR BIOLOGIST.** Tenure-track opening for a molecular biologist at the assistant or associate professor level in the Department of Chemistry and Biochemistry at Texas Tech University for the fall semester of 1986. Experience with recombinant DNA techniques and/or related molecular biological methods required. Prior to 16 October 1985, applicants should forward a résumé and description of proposed research and arrange to have three letters of recommendation sent to: **Professor Phill-Soon Song, Department of Chemistry and Biochemistry, Texas Tech University, Lubbock, Texas 79409.** *Texas Tech University is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION

The Department of Molecular Biophysics and Biochemistry (MB&B), Yale University, is inviting applications for an assistant professor with experience and research interests in the broad areas of biophysics and biophysical chemistry, such as macromolecular structure, energetics, and spectroscopy. Applications must be received by 15 October 1985; they should be sent to: **Dr. Alan Garen, Chair, Search Committee, Department of MB&B, Yale University, New Haven, Conn. 06520.**

*Yale University is an Equal Opportunity Employer and invites applications from all qualified individuals.*

## GENETIC ENGINEERING

Candidates for postdoctoral fellow, research assistant, and senior scientist positions are invited to apply to the Wadley Institutes, which is a non-profit cancer research center. It has been a leader in improving cancer chemotherapy such as the initial clinical development of cisplatin and L-asparaginase chemotherapy. The molecular genetics program has become a major component of the Institutes and has been involved in the isolation, manipulation, and analysis of human lymphokine genes such as human interferon, tumor necrosis factor and others; development of prokaryotic and eucaryotic vector systems; analysis of gene expression including oncogenes; and manipulation of oligonucleotide probe hybridization.

Centrally located to other Dallas biomedical research institutions, Wadley Institutes offers an ideal environment for scientific and individual development. Send curriculum vitae, select publications, and three letters of reference to:

**Dr. Arthur P. Bollon**  
Chairman, Department of Molecular Genetics  
Director of Genetic Engineering  
Wadley Institutes of Molecular Medicine  
9000 Harry Hines Boulevard  
Dallas, Texas 75235

### DEPARTMENT OF MOLECULAR BIOLOGY OF VANDERBILT UNIVERSITY

We invite applications for a tenure-track position, the rank dependent upon qualifications. Scientists with experience and research programs in the areas of structural, molecular, cellular, or developmental biology are invited to apply. Candidates qualifying for a senior rank should have a record of distinguished contributions. Other candidates should have already demonstrated their research capabilities. Responsibilities will include development of a strong independent program of research and participation in the teaching program. *Women and minority candidates are especially encouraged to apply.* Please send curriculum vitae, list of publications, summary of research plans, and three letters of reference to: **Dr. Oscar Touster, Chairman, Department of Molecular Biology, Vanderbilt University, Nashville, Tenn. 37235.** Applications are requested by 1 October 1985, but will be accepted as long as necessary to fill the position.

*An Affirmative Action/Equal Opportunity Employer*

**MOLECULAR BOTANIST:** Tenure-track position for an assistant or associate professor reopened. Ph.D. and postdoctoral experience required. Candidates must have a research interest in molecular biology with a botanical orientation. Development or continuation of a research program with external funding is expected. Teaching will include general biology, molecular biology, and botanical physiology. Submit curriculum vitae, three letters of recommendation, current reprints, and a statement of research interests to: **Dr. Jean Wooten, Box 5018, Department of Biological Sciences, University of Southern Mississippi, Hattiesburg, Miss. 39406-5018.** Closing date: 1 October 1985. *An Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

**TWO POSITIONS: IMMUNOCHEMIST and MICROBIOLOGIST.** Young, rapidly growing biotechnology company has immediate openings for two innovative recent Ph.D. scientists.

1) **IMMUNOCHEMIST**—Strong background in attachment chemistry, cell separation, and familiarity with monoclonal antibodies.

2) **MICROBIOLOGIST**—Experience in the growth of bacterial cells including scale-up for large fermentation systems, electron microscopy, and elemental analysis.

If you are interested in a position with a young, aggressive company with excellent opportunities for challenges and rewards, please send your curriculum vitae and the names of three references to: **Ms. T. Black, BMC Corporation, 301 East 47 Street, Suite 6A, New York, N.Y. 10017.**



### IMMUNOLOGIST

Nova Pharmaceutical Corporation, a young company dedicated to the discovery of novel therapeutic and diagnostic products using the most current techniques, has an immediate opening for an immunologist/geneticist/molecular biologist with 2 to 6 years of postdoctoral training and at least 1 year of industry experience. Some previous chemistry background is preferred, and experience with hybridoma techniques and ELISA assays is essential.

Nova occupies new facilities at the Francis Scott Key Medical Center in Baltimore, and has strong intra-campus links with The Johns Hopkins University, NIDA, and NIA. Nova has a full complement of chemical, biochemical, and pharmacological support personnel.

Nova offers competitive salaries and an excellent benefits package. For further information, please submit a current résumé with salary requirements to:

**Lydia K. Cumor**  
Personnel Director  
Nova Pharmaceutical Corporation  
5210 Eastern Avenue  
Baltimore, Maryland 21224-2788

*An Equal Opportunity/Affirmative Action Employer*

**MANAGER, INHALATION TOXICOLOGY**—Major contract toxicology group seeking M.S. or Ph.D. level individual for position of manager of inhalation reporting to Department Director. Successful applicant must demonstrate strong working knowledge of current inhalation technology, good personnel administrative skills, and working knowledge of EPA/FDA GLP's. Responsibilities include the day-to-day direction of the department supervisor and approximately 15 staff members involved in acute/chronic inhalation programs. Send résumé to: **Box 181, SCIENCE.**

**MUSCLE BIOPHYSICIST POSTDOCTORAL ASSOCIATE:** Available immediately to study intact cardiac muscle with laser diffraction analysis and controlled mechanical perturbations, shortening of normal and hypertrophied cardiac myocytes, and comparisons of function of slow and fast single skeletal muscle fibers with normal and hypertrophied cardiac muscles. A background in physics or engineering and computer skills are desirable. Call or write for pre-prints and send curriculum vitae and two letters of recommendation to: **Burt Hamrell, M.D., Ph.D., Department of Physiology and Biophysics, College of Medicine, University of Vermont, Burlington, Vt. 05405.** Telephone: 802-656-4170. *An Affirmative Action/Equal Opportunity Employer.*

### MUSHROOM RESEARCH SCIENTIST

The Microbiology Division of NPI, a leading biotechnology company, invites applications for the position of senior scientist to develop efficient production techniques for exotic edible mushrooms. Applicants must have a Ph.D. in microbiology or a related field with experience in fungal genetics, biochemistry of fungal development, and solid state fermentation, to lead research toward selection of superior strains, mushroom breeding and improved mushroom cultivation techniques. Please send a résumé and names and addresses of three references to: **Dr. R. K. Kulkarni, NPI, 417 Wakara Way, Salt Lake City, Utah 84108.**

**THE DEPARTMENT OF ANIMAL AND POULTRY SCIENCE, UNIVERSITY OF GUELPH, Guelph, Ontario** is seeking applications for four **tenure-track faculty positions** at the assistant professor rank. These positions include two molecular geneticists, an avian embryologist, and a digestive physiologist. Qualifications and responsibilities are as follows: (i) molecular geneticist to develop a strong research program in identification, transfer, and expression of genes in poultry and other animals. The appointee will be an integral part of a university team approach to manipulation of the genome of farm animals. (ii) Avian molecular geneticist—will be expected to have basic training in molecular genetics with an interest in quantitative genetics. Teaching responsibilities will include contribution to an undergraduate course in quantitative genetics and to graduate courses in genetics as applied to animal improvement. (iii) Avian embryologist—expertise is required in an area which will lead to a better understanding of fertility, embryonic development, and neonatal performance of domestic birds. (iv) Digestive physiologist—background and training in the gastrointestinal system and its ancillary organs, as well as an interest in poultry are highly desirable. Incumbents for these positions will be expected to develop strong individual research programs, collaborate with other faculty in multidisciplinary projects, participate in the graduate and undergraduate academic programs, and interact with the poultry industry. For each position a Ph.D. in a relevant basic discipline is required. Postdoctoral experience is advantageous but not essential. Excellent experimental facilities for poultry, laboratory, and large animals are available. Applicants should indicate position(s) of interest and submit a complete résumé, transcripts, and three letters of reference to: **Dr. G. K. Macleod, Acting Chairman, Department of Animal and Poultry Science, University of Guelph, Guelph, Ontario, Canada, N1G 2W1. Closing date for receipt of applications is 31 October 1985. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.** These positions are subject to final budgetary approval.

**MANAGING DIRECTOR**  
**Boyce Thompson Institute**  
**at Cornell University**

Applications and nominations are invited for the position of managing director of Boyce Thompson Institute for Plant Research at Cornell University. Boyce Thompson Institute (BTI) is a non-profit, privately endowed organization conducting research on plants and plant pests. The Institute is located in a facility completed in 1978 on the campus of Cornell University and is affiliated with the College of Agriculture and Life Science. BTI has an annual budget of \$7 to \$8 million and employs approximately 125 scientists and support staff, 60 at the Ph.D. level.

The managing director serves as chief executive officer and is responsible for formulation of Institute policy, evaluation of productivity of research programs, selection of scientific personnel, recruitment of research support, and overall operation of the Institute and interaction with Cornell University administration.

Selection will be based upon experience, consistent with the goals of the Institute, which include basic and applied research in the plant sciences relevant to national and world agriculture. Previous scholarly endeavor, organizational ability, and success in recruiting research support will be considered. Applicants should send curriculum vitae, bibliography, and names of five professional people acquainted with the applicant's background to: **Dr. Leonard H. Weinstein, Chairman of the Screening Committee, Boyce Thompson Institute at Cornell University, Ithaca, N.Y. 14853.** Nominations should also be sent to Dr. Weinstein. All applications and nominations should be submitted as soon as possible, but not later than 15 October 1985. *An Affirmative Action/Equal Opportunity Employer.*

**POSITIONS OPEN**

**MOLECULAR BIOLOGY OF BRAIN TUMORS**

The Division of Neurosurgery and the Department of Medical Microbiology and Immunology have an opening for a **research faculty position** for an individual with a primary interest in oncogenes. Candidates should possess a strong background in molecular biology and research experience and interests in some aspect of the role of oncogenes in tumorigenesis. The successful candidate will be expected to develop a strong, independent research program as part of an ongoing research effort in the biology of brain tumors. The position includes a liberal start-up package in an environment with strong support in molecular biology and the neurosciences. Appointment is on a 12-month basis, salary is commensurate with experience, and the starting date is negotiable. Applicants should send curriculum vitae, a summary of research plans, and the names of at least three references to: **Stephen Zimmer, Ph.D., Department of Medical Microbiology and Immunology, University of Kentucky College of Medicine, 800 Rose Street, Lexington, Kentucky 40536-0084. The University of Kentucky is an Equal Opportunity Employer, M/F.**

**MOLECULAR/DEVELOPMENTAL BIOLOGISTS.**

Two postdoctoral positions are available October 1985 for persons interested in utilizing the transgenic model to study mechanisms of gene regulation. One associate is sought to develop microprocedures for evaluating gene incorporation rates into early embryos and to evaluate vector systems for improving transgenesis. Another associate is sought to study genetic regulation of growth and construct DNA libraries, isolate genes from existing libraries, and develop constructs for creation of transgenic mice and farm animals. Candidates must demonstrate a proven ability to perform a standard array of recombinant DNA procedures. Salary: \$26,000 per year. **NER-PA-014.** Please send résumé by (5 weeks after ad) to: **Dr. R. J. Wall, U.S. Department of Agriculture (USDA), Agricultural Research Service, ASI, Reproduction Laboratory, Building 200, Room 16, BARC-East, Beltsville, Md. 20705. An Equal Opportunity Employer.**

**DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY**  
**BOWMAN GRAY SCHOOL OF MEDICINE**  
**MOLECULAR IMMUNOLOGIST**

The Department of Microbiology and Immunology, Bowman Gray School of Medicine of Wake Forest University, invites applications for a tenure-track position at the level of **ASSISTANT PROFESSOR.** The department is currently expanding its faculty with research interests in the general area of molecular immunology. Qualified candidates must have at least 2 years of postdoctoral training in immunology and molecular biology and research interests in areas such as lymphokines, immunoglobulins, immunoparasitology, tumor immunology, or membrane receptors (for example, surface structures involved in T and B cell activation). Applicants should submit curriculum vitae, a statement on the direction of their future research, and the names of three references to: **Dr. Steven B. Mizel, Chairman, Department of Microbiology and Immunology, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, N.C. 27103.** The last date for receipt of applications is 15 October 1985. *Wake Forest University is an Equal Opportunity/Affirmative Action Employer.*

**NEUROPATHOLOGIST**  
**WAYNE STATE UNIVERSITY SCHOOL OF MEDICINE**  
**DETROIT, MICHIGAN**

The Department of Pathology of the Wayne State University, School of Medicine, is seeking an academically oriented individual to develop a comprehensive program including the research, teaching, and service aspects of neuropathology. Laboratory space is available. Applicants must be Board-certified or eligible and licensable in the state of Michigan. This position will be available on or before 1 July 1986. Academic rank and salary are dependent upon experience. Interested individuals should send curriculum vitae, personal statement, and three letters of reference to:

**Joseph Wiener, M.D.**  
**Professor and Chairman**  
**Department of Pathology**  
**Wayne State University**  
**School of Medicine**  
**540 East Canfield**  
**Detroit, Michigan 48201**  
**Telephone: 313-577-1102**



**POSITIONS OPEN**

**MOLECULAR BIOLOGIST**—The Department of Pathology in the College of Medicine at the University of Florida is seeking a molecular biologist (Ph.D. and/or M.D.) to fill a tenure-track position at the assistant or associate professor level. Research experience in human molecular genetics, especially involving the HLA complex is highly desirable. The successful candidate will be expected to develop an independent research program in human molecular genetics, participate in the education and training of graduate students, and provide technical expertise for the development of a Clinical Pathology Laboratory of Molecular Biology. Starting date for position is 1 January 1986.

Applicants should submit their curriculum vitae, plus copies of three publications which best exemplify their work, and the names of three referees to: **Raul C. Braylan, M.D., Professor Box J-275, Department of Pathology, University of Florida College of Medicine, Gainesville, Florida 32610.** Recruiting deadline is 1 November 1985.

*Equal Opportunity/Affirmative Action Employer*

**NUTRITIONAL BIOCHEMIST.** Research experience in human nutrition, fatty acids, and/or vitamins A and E. Trace metal analysis desirable. Research project into the biochemical epidemiology of cancer. Send curriculum vitae to: **Dr. N. J. Haley, American Health Foundation, Dana Road, Valhalla, N.Y. 10595.**

**PEDIATRIC HEMATOLOGY/ONCOLOGY RESEARCH**—The Department of Pediatrics at the Medical College of Wisconsin is seeking an established investigator with current support or demonstrated ability to attract extramural grant support. The investigator will be affiliated with the Midwest Children's Cancer Center at Milwaukee Children's Hospital. Substantial clinical and laboratory facilities, as well as financial resources, will be made available to the investigator. For further information, please contact: **Starkey D. Davis, M.D., Professor and Chairman, Medical College of Wisconsin, Department of Pediatrics, P.O. Box 1997, Milwaukee, Wis. 53201, or telephone: 414-933-4689.**

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

**POSTDOCTORAL FELLOW**

**UNIVERSITY OF MICHIGAN:** Unexpected opening for postdoctoral fellow. Position open 1 October 1985. Laboratory involved in developing, evaluating in vitro and in vivo monoclonal antibodies for purposes of scintigraphic tumor diagnosis and therapy. Ph.D. in immunology, molecular biology, or chemistry desirable. Salary is in excess of \$20,000 per year. Send curriculum vitae with letter of application and three references to: **Richard L. Wahl, M.D., Division of Nuclear Medicine, Box 21, W5514, University of Michigan Medical Center, Ann Arbor, Mich. 48109-10.**  
*A Non-Discriminatory, Affirmative Action Employer.*

**SCRIPPS INSTITUTION OF OCEANOGRAPHY** invites applications for a **POSTDOCTORAL FELLOWSHIP (POSTGRADUATE RESEARCHER)** in any aspect of marine geology, marine geochemistry, or marine geophysics. Support is for 12-months beginning early 1986, and appointee may seek extramural support in collaboration with a permanent academic staff member of the Institution for a second year. Salary will be approximately \$26,000, depending upon experience and publications. Preference will be given to recent Ph.D.'s. No moving expenses can be paid. Send names of three references, bio-bibliographic material, including a list of publications, copies of pertinent publications, abstract of dissertation, and a statement of research interests for the duration of the fellowship to: **Dr. LeRoy M. Dorman, Chair, Geological Research Division, A-020, Scripps Institution of Oceanography, La Jolla, Calif. 92093.** Deadline for application is 31 October 1985. *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL FELLOW IN HUMAN IMMUNOGENETICS.** Immediately available 2-year position working in areas of histocompatibility, transplantation, and regulation of human T-cell responses to influenza virus, including: graft vs. host disease, T-cell clone biology, immunochemistry of T-cell surface molecules, structure and function of human alloantigens. Send curriculum vitae to: **David D. Eckels, Ph.D., Blood Center of Southeastern Wisconsin, 1701 West Wisconsin Avenue, Milwaukee, Wisconsin 53233.**

International Youth Year 1985



## SCIENTIST

The Canadian Red Cross Society is seeking a Scientist for the Immunochemistry Section of the National Reference Laboratory.

**Responsibilities:** The successful candidate will be required to develop, implement and maintain programs related to the procurement of plasma for the production of specific immunoglobulins; and to supervise and train staff.

**Qualifications:** M.Sc. or Ph.D. in Immunochemistry/Immunology/Protein Chemistry, with hospital clinical laboratory experience and/or post doctoral experience. Good administrative, managerial, analytical and communication skills are required.

The Society offers a comprehensive compensation package. Successful candidate must be willing to relocate to Ottawa within 1 to 2 years.

All applications will be subject to Canadian immigration guidelines.

Interested candidates are invited to submit a detailed resume (including the names of three references) no later than September 27, 1985, to:

**Director of Personnel.**

The Canadian Red Cross Society

95 Wellesley Street East, Toronto, Ontario M4Y 1H6



## Ph.D. Molecular Biologist

Merck Sharp & Dohme Research Laboratories is currently seeking a Molecular Biologist to join the Department of Virus and Cell Biology. The selected candidate will be expected to supervise a multidisciplinary program dealing with molecular cloning and expression of a variety of eukaryotic proteins.

Requirements for this position include a Ph.D. in the Biological Sciences or the equivalent with at least three years of postdoctoral experience involving cDNA cloning, expression vectorology, serology, protein purification, and DNA sequencing. Experience in directing other scientists and a high degree of self-motivation as well as demonstrated communication skills are also required.

An excellent salary and benefits program accompany this position at our modern and spacious laboratories located northwest of Philadelphia.

Please send resume with salary requirements to: Jacques P. Kueny

**Merck Sharp & Dohme  
Research Laboratories**  
West Point, PA 19486

EEO / AA / VH / EMPLOYER



**MERCK & CO., INC.**

## MANAGER Department of Animal Resources



An equal opportunity employer

Pfizer Central Research invites applications for the position of Manager in the Department of Animal Resources. The successful candidate must have a Doctor of Veterinary Medicine degree with specialty training in laboratory animal medicine and be board certified or board eligible in laboratory animal medicine. Candidates are required to have demonstrated capabilities in facility and personnel management roles.

You will report to the Director, Animal Resources and have primary responsibility for the management of a large diversified animal facility which supports a multidisciplinary research program. Those reporting to you include a clinical veterinarian, an operations supervisor, and a group of area supervisors. Duties also include supervision of veterinary care programs, disease surveillance practices, and provision of technical advice and assistance to research scientists.

In addition to an excellent potential for career growth, this position provides an opportunity to contribute to all levels of experimental work in a stimulating professional environment. We offer an excellent salary, benefit and relocation package plus an attractive southeastern Connecticut shore location. Qualified applicants should submit their resume in confidence to: Dr. J. K. Larson, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.

## ACADEMIC PHARMACOLOGIST

The City University of New York Medical School, an integrated BS-MD program at The City College of New York, is undergoing expansion to a degree-granting medical college. The Program in Pharmacology seeks to recruit one additional faculty member immediately. An essential commitment of the candidate should be to teaching in and helping to shape a medical school course in Pharmacology. Candidates should be actively committed to research. Preference will be given to those who have demonstrated scholarly ability. Applications are encouraged from clinical pharmacologists, basic pharmacologists (or those from allied basic sciences), pharmacists or those whose interests are in even broader areas of therapeutics. Applicants should hold the doctoral degree but a background in medicine, basic science or pharmacy are all appropriate.

The rank and salary will be commensurate with qualifications and experience.

Applications including a curriculum vitae, salary history and the names of 3 professional references, must be postmarked by September 15, 1985. Appointment can occur anytime after the September 15 deadline. Please respond to: **John P. Morgan, M.D., Director of the Pharmacology Program, CUNY Medical School, Room J903.**



**The City College  
of CUNY**  
Convent Ave at 138th St  
New York, NY 10031  
An EO/AA Employer M/F

## CANADA

### DIRECTOR OF RESEARCH

The Hospital for Sick Children, Toronto, Canada is seeking a leading scientist, M.D. or Ph.D., as Director of its Research Institute.

The Hospital for Sick Children is the largest paediatric hospital in North America and is the Department of Paediatrics, Faculty of Medicine of the University of Toronto. Located in central Toronto in close proximity to the University and other major teaching hospitals. Medical Staff and Investigators hold appointments at the University.

The Research Institute is a broadly based organization with an international reputation in medical research. A staff of 743 includes 70 full-time and 80 part-time investigators, 143 post and predoctoral fellows and full support services with a budget of \$25 million per annum.

Evidence of leadership capabilities and demonstrated excellence in a specific area of research are essential requirements for this position.

Nominations or applications which should include a curriculum vitae should be sent to:

**Mr. J. Douglas Snedden**  
President  
The Hospital for Sick Children  
555 University Avenue  
Toronto, Ontario, Canada  
M5G 1X8



## POSITIONS OPEN

### POSTDOCTORAL POSITION IN FETAL ENDOCRINOLOGY

Available both immediately and for July 1986. Position supported by NIH Training Grant. Various aspects of the regulation of fetal and placental growth and differentiation by growth factors and hormones are under investigation. A successful candidate should have a strong background in endocrinology, physiology, and/or cell biology. For further information, write to: **Dr. Lawrence D. Longo, Division of Perinatal Biology, Department of Physiology, School of Medicine, Loma Linda University, Loma Linda, Calif. 92350. Equal Opportunity Employer.**

### THE JOHNS HOPKINS UNIVERSITY

**POSTDOCTORAL POSITION IN HUMAN GENETICS** to investigate chromatin structure and molecular mechanisms of X chromosome inactivation. Projects include: mechanisms of chromosome inactivation and reactivation, molecular basis for late replication, evolution of X dosage compensation, and applications to human disease. Expertise in recombinant DNA or protein chemistry useful. Send credentials and names and telephone numbers of two references to: **Dr. Barbara R. Migeon, CMSC 10-04, The Johns Hopkins Hospital, Baltimore, Md. 21205.**

**POSTDOCTORAL POSITION** available immediately to study the cell biology and biochemistry of the mammalian heat shock (stress) response. Studies in progress include: mechanism of stress protein induction; isolation, characterization, structure, and function of stress proteins; isolation and characterization of RNP's containing stress proteins and determination of in vivo function; molecular basis of acquired thermotolerance; hyperthermosensitivity of transformed cells. Send curriculum vitae and list of three references to: **Dr. William J. Welch, Cold Spring Harbor Laboratory, P.O. Box 100, Cold Spring Harbor, N.Y. 11724.**

**POSTDOCTORAL POSITION AVAILABLE IMMEDIATELY** to work in a well-established laboratory on molecular aspects of autoimmune disease. Experience in recombinant DNA technologies and a comprehensive background in immunological concepts desired. Send curriculum vitae and names of three references to: **Dr. Daniel J. Noonan, Department of Immunology/IMM3, Scripps Clinic and Research Foundation, 10666 North Torrey Pines Road, La Jolla, California 92037.**

**POSTDOCTORAL POSITION** available immediately to study the role of calcium in secretion from mast cells and basophils. Applicants should have a Ph.D. or equivalent research experience in biophysics, cell biology, or a related biological science. Some experience or interest in electrophysiological techniques is desirable, but not essential. Send curriculum vitae, research experience, and the names of three references to: **Dr. Clare Fewtrell, Department of Pharmacology, N.Y.S. College of Veterinary Medicine, Cornell University, Ithaca, N.Y. 14853-6401.**

*Cornell University is an Affirmative Action/Equal Opportunity Employer/Educator.*

**POSTDOCTORAL POSITIONS** available in the Division of Basic Immunology to conduct research into the cellular and molecular aspects of accessory cell function for T cell recognition of antigen. Please send curriculum vitae to: **Drs. Howard Grey or Robert Chesnut, Department of Medicine, National Jewish Center for Immunology and Respiratory Medicine, 1400 Jackson Street, Denver, Colo. 80206.**

**POSTDOCTORAL POSITION** immediately available in an active Cardiac Physiology Research Laboratory located in a medical school setting. Our group has a special interest in tracer kinetics and metabolism, and is seeking individual with similar pre- or postdoctoral experience. Excellent potential for full-time faculty appointment. Send brief statement of research interests, experience, and curriculum vitae to: **Jeffrey A. Leppo, M.D., Department of Nuclear Medicine, University of Massachusetts Medical Center, Worcester, Mass. 01605.**

**POSTDOCTORAL POSITION** available January 1986 for recent Ph.D. in cell biology or biochemistry to study mechanisms of intestinal membrane transport. Experience in isolation, reconstitution, and/or photoaffinity labeling of membranes is desirable. Send curriculum vitae and names of three references to: **Dr. F. A. Wilson, Division of Gastroenterology, The Milton S. Hershey Medical Center, The Pennsylvania State University, Hershey, Pa. 17033. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available immediately in the Botany Department at the University of California at Davis to work on development of a weed population dynamics model. Experience in plant ecology, modelling, FORTRAN programming essential; knowledge of weed biology desirable. Send curriculum vitae and names of three references to: **Dr. Robert F. Norris, Botany Department, University of California, Davis, Calif. 95616.**

**POSTDOCTORAL POSITIONS IN BIOCHEMISTRY AND MOLECULAR BIOLOGY** of selenium. One position to study selenium metabolism using perfusion techniques and HPLC. Candidates should have a Ph.D. in biochemistry or nutritional biochemistry, with background in metabolism. The second to study the structure and regulation of glutathione peroxidase. Requires Ph.D. in molecular biology, biochemistry or a related field, and experience in recombinant DNA technology. Send résumé and three letters of recommendation by 20 September to: **Dr. Roger A. Sunde, Department of Nutrition and Food Science, University of Arizona, Tucson, Ariz. 85721. An Equal Opportunity/Affirmative Action Employer.**

**A POSTDOCTORAL POSITION** to study the molecular biology, replication, and persistence of murine coronaviruses will be available starting in the summer of 1985. Projects available for study include the mechanism of MHV-specific RNA synthesis and splicing, antibody-induced down regulation of coronavirus gene expression, and biochemical analysis of series of temperature-sensitive mutant. Individuals with experience in recombinant DNA techniques or molecular virology are encouraged to apply. Interested applicants should send their curriculum vitae and the names of three references to: **Dr. Julian Leibowitz, Department of Pathology and Laboratory Medicine, University of Texas Health Science Center, P.O. Box 20708, Houston, Texas 77225. An Equal Opportunity Employer. Women and minorities are encouraged to apply.**

**POSTDOCTORAL POSITION** available for research in molecular neurobiology involving mechanisms of biosynthesis of the catecholamine biosynthetic enzymes. Ph.D. in biochemistry, cell or molecular biology, familiarity with recombinant DNA research, immunochemical techniques, cell culture, protein and/or nucleic acid purification desirable. Competitive salary, attractive setting, and benefits. Send curriculum vitae and three reference names, or call: **Dr. Esther L. Sabban, Department of Biochemistry, New York Medical College, Valhalla, New York 10595. Telephone: 914-993-4069 or 914-993-4055. Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** available immediately for research in enzymology and regulation of DNA methyltransferases/DNA methylation transcriptional control mechanisms. Background and experience in protein chemistry/recombinant DNA technology desired. Send curriculum vitae and names of three references to: **Dr. Jean-Numa Lapeyre, Section of Experimental Pathology, Box 85E, The University of Texas System Cancer Center, Houston, Texas 77030. Telephone: 713-792-7607. Equal Opportunity/Affirmative Action Employer.**

Applications are invited for **TWO POSTDOCTORAL RESEARCH POSITIONS**. One will examine mitochondrial gene transmission in mammals using both molecular techniques and oocyte microinjection. The other will investigate gene expression in higher plant mitochondria. Both require experience in the manipulation of nucleic acids through recombinant techniques and/or the enzymology of nucleic acid metabolism. Two or three years of support are possible at competitive salaries commensurate with experience. Applications and names of two referees should be sent to: **Drs. William W. Hauswirth and Philip J. Laipis, Department of Immunology and Medical Microbiology, Box J-266 JHMH, University of Florida, Gainesville, Florida 32611.**

**RESEARCH ASSISTANT PROFESSOR** (non-tenured track), to study bacterial chemotaxis as part of a research group. Background in molecular genetics or protein structure/chemistry preferred. Five-year position involves light teaching load. Salary \$24,000 to \$28,000, depending on qualifications. Must have Ph.D. and postdoctoral training. Send curriculum vitae and three reference letters to: **Dr. G. L. Hazelbauer, Biochemistry/Biophysics, Washington State University, Pullman, Wash. 99164-4660. Washington State University is an Equal Opportunity/Affirmative Action Employer.**

## PROFESSIONAL STAFF POSITIONS NATIONAL RESEARCH COUNCIL

Applications are invited for three staff positions with the National Research Council.

PROJECT DIRECTOR is sought to manage a study to analyze the literature and examine the relationship between diet and the spectrum of chronic, degenerative diseases such as heart disease, osteoporosis, and cancer. The incumbent will assist a panel of experts in preparation of two reports. Responsibilities include data collection, analysis, preparation of background papers and management of administrative and scientific aspects of the study.

Applicants should have a Ph.D. or equivalent in nutritional biochemistry, toxicology, epidemiology, public health or related fields and five years' related experience, including two years of managerial experience.

STAFF SCIENTISTS (2) are needed to assist the Project Director and panel of experts in the collection of data, analysis and preparation of background papers for a two year study.

Applicants should have a Ph.D. or equivalent in nutritional biochemistry, toxicology, epidemiology, public health, or related fields and two years of related experience.

Research experience and familiarity with the data base on diet and chronic diseases is desirable for all positions.

For immediate consideration, please submit resume to:

**Dr. Sushma Palmer**  
**FOOD AND NUTRITION BOARD**  
**COMMISSION ON LIFE SCIENCES**  
**National Research Council**  
2101 Constitution Avenue, N.W.  
Washington, DC 20418

An Equal Opportunity Employer

## TOXICOLOGY SYMPOSIUM

Current Perspectives on Animal Selection  
and Extrapolation in Toxicity Testing  
and Human Risk Assessment

*Sponsored by the Monsanto Company  
and to be held in St. Louis, Missouri, U.S.A.  
on October 28-31, 1985.*

Sessions will include current regulatory attitudes toward animal selection; use of human data in animal selection; important anatomic and physiologic differences between animal species and man; role of metabolic, pharmacokinetic, and genetic factors as determinants of susceptibility; use of present knowledge in selecting animal species and strains in carcinogenicity and reproductive studies; and the application of experimental animal data to the monitoring of human populations.

*Pre-registration is required  
and attendance is limited.*

*For additional information, please contact:*

Laurie Cook  
Monsanto Company  
Environmental Health Laboratory  
645 South Newstead Avenue  
St. Louis, Missouri 63110  
(314) 694-7963

Syntex is progressive. A life science innovator in the research, development, manufacture and marketing of healthcare products. We're seeking talented professionals to help us continue our lead in the vital healthcare industry. Consider these opportunities.

### STAFF RESEARCHER

You will be responsible for carrying out a research program involving cellular and biochemical effects of polypeptide hormones encompassing receptor binding and mechanism of action studies. Requires a strong background in Biochemistry and Cell Biology, and a PhD/MD with 5 years' postdoctoral experience. Familiarity with membrane receptor and protein biochemistry, cell biology, and immunology would be helpful.

### DEPARTMENT HEAD

#### MEMBRANE BIOLOGY AND BIOCHEMISTRY

This critical position in our Institute of Biological Sciences requires specialized knowledge of membrane receptors to which biological effector molecules and drugs are bound and how such binding produces effects in a variety of pharmacologically important cell types. Mechanisms involved include those mediated by cyclic nucleotides, protein kinase C and steroid hormone receptors. Experience in managing a research group is necessary. The preferred candidate will also have a knowledge of pharmacokinetics, mathematical modeling of receptor binding and the kinetics of cellular responses. We require an MD or PhD in biochemistry or related field with training in and general knowledge of the biomedical sciences, as well as a minimum of 5 years' postdoctoral experience.

### POSTDOCTORAL FELLOW

An opportunity exists to join a growing research program studying molecular and cellular events in malignancy. Requires PhD/MD with 0-2 years' postdoctoral experience in cell Biology/Biochemistry. Unique opportunities exist for utilization of novel inhibitors to probe specific biochemical mechanisms involved in invasion and metastasis. Vigorous interaction with other research groups both within Syntex, as well as in the scientific community (including publication) is highly encouraged.

**Additional openings exist in various disciplines in Chemistry and Biochemistry.**  
**Experience required, BS/MS/PhD.**

Please send your resume, including salary requirements to Syntex Corporation, Professional Employment, Dept. KR, 3401 Hillview Avenue, Palo Alto, CA 94304. We are an equal opportunity employer.



## POSITIONS OPEN

### POSTDOCTORAL POSITION IN IMMUNOLOGY.

Position to produce monoclonal antibodies to swine major histocompatibility complex antigens and to collaborate in studies of expression of these antigens after gene microinjection in embryos and to study the effects of these genes on immune responses to infectious agents. Salary \$20,000 to \$25,000 per year. NER-PA-016. Send curriculum vitae and three letters of recommendation by 5 weeks after date of issue to: **Dr. Joan Lunney, U.S. Department of Agriculture, ARS, Animal Parasitology Institute, Building 1040, BARC-E, Beltsville, Md. 20705. An Equal Opportunity Employer.**

### POSTDOCTORAL (RESEARCH ASSOCIATE)—

Position available October 1985, to investigate the cell and molecular biology of nerve and neuromuscular regeneration. In vivo and culture models available to study the interaction of basal lamina molecules with proteases and their inhibitors. M.D., M.D./Ph.D., or Ph.D. in cell or neurobiology, with experience in nerve/muscle culture, protein purification, and/or EM studies of synapse formation. Stipend: NIH NRSA equivalent for U.S. citizen or permanent resident; M.D. may qualify for entry position in VA Career Award track. Send résumé, with curriculum vitae and names of three persons qualified to act as references to: **Barry W. Festoff, M.D., Neurobiology Research Laboratory (151), VA Medical Center/University of Kansas, 4801 Linwood Boulevard, Kansas City, Missouri 64128. An Equal Opportunity Employer.**

**RESEARCH ASSOCIATE:** Ph.D. in Food Science with emphasis on food microbiology and toxicology. Demonstrated ability in *C. botulinum* and anaerobic microbiology research. Successful candidate will be responsible for research proposals and projects relating to *C. botulinum*, hemicellulose, and food toxicology. Forty hours per week, \$18,900 per year. Submit résumé, transcripts, and three letters of recommendation by 30 September 1985 to: **Virginia Employment Commission, Job Order Number VA5535014, Department 3008, P.O. Box 61, Roanoke, Va. 24002. Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### POSTDOCTORAL RESEARCH ASSOCIATE

A position is available immediately to identify and study genes which are important in the early stages of chick limb development. A Ph.D. in biological science is necessary. Experience in recombinant DNA techniques and cell culture and an interest in developmental biology are desirable.

Send curriculum vitae and three letters of recommendation or names, addresses, and telephone numbers of three references to:

**Dr. William B. Upholt**  
Department of Oral Biology  
University of Connecticut Health Center  
Farmington, Conn. 06032  
*An Affirmative Action/Equal Opportunity Employer, M/W/H*

### POSTDOCTORAL RESEARCH FELLOW

To participate in a program of study of molecular aspects of repair following ionizing radiation treatment of human tumor cell lines.

**Requirements:** Ph.D. in biochemistry or cell biology with a strong background in cell cycle kinetics and immunochemistry. Send résumé and the names of two references:

**Anatoly Dritschilo, M.D.**  
Department of Radiation Medicine  
Georgetown University Medical Center  
3800 Reservoir Road, NW  
Washington, D.C. 20007

**RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW,** mission-oriented research into stabilization, preservation, transplantation, and viability assessment of endocrine tissue, vascular tissue, and bone marrow. Background in cell biology/physiology. Training in tissue and organ culture, histochemistry, viability assessment, RIAs, cryobiology, surgery, and computerized data analysis helpful. Possible academic appointment. Salary negotiable. Available immediately. Contact: **Dr. Harvey Bank, Department of Pathology, Medical University of South Carolina, Charleston, S.C. 29425;** for further information, telephone 803-792-4466.

## POSITIONS OPEN

### THE ERNA AND JAKOB MICHAEL VISITING PROFESSORSHIPS 1986-1987

### THE JOSEPH MEYERHOFF VISITING PROFESSORSHIPS 1986-1987

The Weizmann Institute of Science, Rehovot, Israel, offers a limited number of visiting professorships in the Natural and Exact Sciences.

The visiting professorships are intended for candidates already holding the rank of full professor or equivalent and will be for a duration of 2 months to 1 year.

Deadline for submission of completed applications is: 31 December 1985.

For further information or application forms, please contact: **The Academic Secretary, The Weizmann Institute of Science, Rehovot 76100, ISRAEL.**

**RESEARCH TECHNOLOGIST** position available for an individual with B.S. or M.S. degree in biochemistry, microbiology, or genetics. Full-time, permanent position with responsibilities for in situ hybridization, radiation transformation, transfection, isolation and manipulation of nucleic acids, and DNA cloning. Send current résumé and two letters of reference to:

**David F. Stefanik, M.D.**  
Department of Radiation Medicine  
Vincent T. Lombardi Cancer Research Center  
3800 Reservoir Road, NW  
Washington, D.C. 20007

*An Affirmative Action/Equal Opportunity Employer.*

## ASSISTANT CARDIOVASCULAR PHARMACOLOGIST

Abbott Laboratories is continuing in its traditional role as a leader in pharmaceutical research. Our research commitment has been strengthened by the formation of our new Discovery Group, as we focus on the development of new therapeutic entities. A position is now available for an individual with a BS/MS Degree and strong leadership abilities.

This position will be responsible for the efficient running of a CV laboratory. Qualified candidates will have experience with standard tissue baths preparation, studies in conscious and anesthetized animals involving acute and chronic instrumentation, and computer data handling. A theoretical background in CV pharmacology is required; RIA experience preferred.

As a \$3.1 billion medical care leader, Abbott offers excellent salaries and benefits including profit sharing and stock retirement plan. We are headquartered in an attractive suburban area on the Lake Michigan shoreline, 30 miles north of Chicago. For confidential consideration, send resume with salary history to: **Christopher George/Corporate Placement.** Abbott is an Affirmative Action Employer.

**ABBOTT**  
ABBOTT PARK IL 60064

"HEALTH CARE WORLDWIDE"

## THE UNIVERSITY OF ADELAIDE

invites applications from both men and women for the following position:

### LECTURER (Tenurable)

(Reference: E1083) in the Department of Entomology. In the Waite Agricultural Research Institute, the Department of Entomology is concerned principally with research and teaching in the applied ecology of insects and in associated physiological and behavioural studies. Many of the department's research and teaching activities are directed toward the fundamental aspects of crop protection and pest management.

The appointee will be required to undertake original research, supervise postgraduate students, and teach undergraduate courses. The department would be particularly interested to receive applications from entomologists with a strong interest and expertise in either insect behaviour, especially that concerned with host finding, or one aspect of insect toxicology, including especially the ecological effects of pesticides and pesticide application in relation to pest management. However, applicants with expertise in other areas of entomology would be considered. An aptitude for field work and for providing instruction in field courses is highly desirable. The position is available immediately.

Further information concerning the duties of the position may be obtained from: **the Chairman of the Department of Entomology, Professor D. E. Pincock, telephone: 08-78-7901, extension 269.**

Holders of full-time, tenured or tenurable academic appointments have the opportunity to take leave without pay on a half-time basis for a specific period of up to 10 years where this is necessary for the care of children.

*It is University policy to encourage women to apply for consideration for appointment to tenurable academic appointments.*

**INFORMATION** about the general condition of all appointments may be obtained from the Senior Registrar (Personnel) at the University.

**SALARY** per annum: A\$26,236 × 7 - A\$34,467

**APPLICATIONS, IN DUPLICATE,** quoting reference number E1083 and giving full personal particulars (including whether candidates hold Australian permanent residency status), details of academic qualifications and names and addresses of three referees should reach: **the Senior Assistant Registrar (Personnel) at the University of Adelaide, GPO Box 498, Adelaide, South Australia, 5001, Telex UNIVAD AA 89141** not later than 16 October 1985.

The University reserves the right to make enquiries of any person regarding any candidate's suitability for appointment, not to make an appointment, or to appoint by invitation.

## DIRECTOR

### CANCER RESEARCH CENTER OF HAWAII

The Cancer Research Center is an organized research unit of the University of Hawaii, housed in its own new building adjacent to the Queen's Medical Center in downtown Honolulu. The Director is responsible for providing executive leadership, direction and management for the research and administrative affairs of the CRCH, which consists of five programs: (1) Basic Science, (2) Clinical Science, (3) Epidemiology, (4) Data Resources, and (5) Cancer Control. The Director must also develop and coordinate productive relationships within the University of Hawaii, the State of Hawaii, federal and local agencies involved in cancer research, the medical community and the lay public. The total budget is nearly \$4 million including about \$900,000 from State of Hawaii general funds.

Candidates should have: an earned doctorate degree, M.D. or Ph.D.; a record of demonstrated leadership and administrative ability; national and international recognition in cancer research; experience in working with external agencies that support cancer research; and a record of successful grant procurement and research achievement. Salary is negotiable depending on qualifications and experience. The Directorship is non-tenurable, but it is expected that the selectee will qualify for early tenure in a related academic department or research institute.

To apply send current resume and the names, addresses and telephone numbers of at least five (5) references to Robert L. Pecsok, Dean of Natural Sciences, 235 Bilger Hall, 2545 The Mall, University of Hawaii, Honolulu, HI 96822. Telephone: (808) 948-6451.

Closing date is September 30 or later if position has not been filled.

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

# MICROBIOLOGIST

MOLECULAR DIAGNOSTICS, INC., organized in 1981, is a biotechnology research group affiliated with BAYER AG of West Germany and its subsidiary, Miles Laboratories, Inc. The company functions independently as a basic research facility guided by an internationally recognized Scientific Board. Areas of research include molecular and cellular genetics, nucleic acid chemistry, and immunochemistry and microbiology. We are currently expanding our scientific staff and offer an outstanding opportunity for a Ph.D. Microbiologist with appropriate qualifications.

Applicants should be able to demonstrate ability and interest in developing antibody-based immunochemical assays for the rapid diagnosis of human pathogens. Candidates' expertise must include the growth of a variety of human pathogens and serological analysis using immunofluorescence and other analytical techniques. Knowledge of protein chemistry and monoclonal antibody technology would be desirable.

Applicants must have at least two years of postdoctoral experience and be able to demonstrate capabilities for carrying primary research program responsibilities and for directing scientific personnel. The candidate should be able to function effectively in an informal but challenging research environment which includes academic ties. This position, which is available immediately, offers attractive compensation, generous benefits, and an excellent opportunity for personal and professional growth.

Molecular Diagnostics is located in a large, attractive, and well-equipped facility, 10 minutes from New Haven and 90 minutes from New York City.

**Please send a curriculum vitae along with a statement of research interest and capabilities in confidence to Research Director, Molecular Diagnostics, Inc., 400 Morgan Lane, West Haven, CT 06516.**

An Equal Opportunity Employer M/F

*molecular  
diagnostics, inc* 

## Protein Chemist

American Cyanamid requires the services of a Protein Chemist at the Ph.D. level to assist in developing our biotechnology program at the Agricultural Research Division in Princeton, N.J.

The remuneration will be competitive, commensurate with applicant's experience.

Interested candidates are invited to submit a full curriculum vitae, a list of publications, and the names and addresses of three references to the Employment Office.



**American Cyanamid Company**  
Agricultural Research Division  
P.O. Box 400  
Princeton, NJ 08540

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No Agencies Please

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 \$60 USA     \$84 Canada     \$87 Foreign  
 \$125 air-surface delivery via Holland

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 \$98 USA     \$122 Canada     \$125 Foreign  
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## POSITIONS OPEN

**PSYCHOPHYSICS.** Research laboratory affiliated with Yale University has a postdoctoral research position available immediately. Projects deal with perception in several sense modalities. Appointment will run through 30 June 1987. Send curriculum vitae and names of three references to: **Dr. Lawrence E. Marks, John B. Pierce Foundation Laboratory, Inc., 290 Congress Avenue, New Haven, Conn. 06519.** An Equal Opportunity/Affirmative Action Employer.

### RESEARCH ASSISTANT PROFESSOR

The Department of Pharmacology, State University of New York (SUNY)/Upstate Medical Center wishes to hire an M.D. or Ph.D. with 3 to 5 years of postdoctoral experience in cardiac electrophysiology at the cellular level. One goal is to study electrical interactions between previously dissociated pairs of adult sinoatrial pacemaker cells. Prior experience with current and voltage clamp techniques, as well as with cable analysis at the experimental and theoretical levels are required. Please send complete curriculum vitae and names of three references to: **Dr. Jose Jalife, Department of Pharmacology, SUNY/Upstate Medical Center, 766 Irving Avenue, Syracuse, N.Y. 13210.** Equal Opportunity/Affirmative Action Employer.

**RESEARCH CHEMIST**—The Chemical & Metallurgical Division of GTE Products Corporation produces tungsten and molybdenum chemicals, lamp phosphors, carbides, cobalt powders, refractory metals, rod and wire, silicon nitride, and ceramic parts. Job duties would be responsible for planning and conducting research and development activities in new inorganic luminescent materials for use in medical radiography and in cathode-ray tubes. The work involves the synthesis and characterization of these materials using highly sophisticated synthesis techniques and state-of-the-art measurement equipment. Also responsible for writing technical reports, patent disclosures, and so on. Education and experience: Ph.D. in solid state inorganic chemistry plus 0-3 years in an industrial research laboratory. Salary range \$29,500 to \$44,500. Submit résumés to: **Office of Employment Security, 387 York Avenue, P.O. Box 351, Towanda, Pa. 18848, Job Order Number 4027001, Attention: Richard Stetz.** Equal Opportunity Employer.

**RESEARCH FELLOW**, 1-year term appointment, subject to renewal. Accession and catalog a fossil fish collection from Brazil. Also write factual text for illustrated atlas and catalog, and conduct systematic research on the collection. The ideal candidate will have the following credentials: (i) Ph.D. in the natural sciences area desired, (ii) a background in ichthyology or paleoichthyology, (iii) previous publications experience. A knowledge of bony fishes also is desired. The starting salary is \$17,000 per annum with excellent benefits. To apply, send résumé along with references to: **Jerome Williams, Personnel Department, The American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.** An Equal Opportunity/Affirmative Action Employer, M/F/H.

The Department of Pathology of the University of Illinois College of Medicine at Chicago has an immediate opening for academically oriented **SURGICAL PATHOLOGIST/PULMONARY PATHOLOGIST**. Salary and rank dependent on experience and credentials. Applicants must be certified in anatomic pathology. The appointee is expected to share in teaching and service duties while continuing research activities. This is an excellent opportunity within the nation's largest medical school system. Applications, including curriculum vitae and the names of three references, should be submitted to: **Jose R. Manaligod, M.D., Ph.D., The Department of Pathology, University of Illinois at Chicago, 1853 West Polk Street, Chicago, Ill. 60612.** Affirmative Action/Equal Opportunity Employer

**SYSTEMATIC BOTANIST.** The Department of Botany, Smithsonian Institution, has two staff positions open (available 1 December 1985 and 1 May 1986). Candidates should have an active research program in monographic and floristic botany and a demonstrated interest in one or more large tropical terrestrial or marine plant groups. Salary at GS-11/12 level (\$26,381 to \$31,619). Send a statement of research goals, curriculum vitae, OPM Standard Form 171 (available on request), and names of three references to: **Office of Personnel Administration, Smithsonian Institution, 900 Jefferson Drive, SW, Washington, DC 20560.** An Equal Opportunity Employer. Closing date: 31 October 1985.

## POSITIONS OPEN

### VISITING RESEARCH ASSISTANT PROFESSOR Department of Microbiology/ School of Life Sciences

University of Illinois at Urbana-Champaign

Visiting Research Assistant Professor to perform and help direct day to day activities in active research laboratory involved in the molecular biology of photosynthetic membrane synthesis in the bacterium *Rhodospseudomonas sphaeroides*. Applicants should have: at least 2 years of postdoctoral experience, experience in recombinant DNA techniques and/or molecular genetics of prokaryotes, experience with common bacteriological techniques and, if possible, experience in membrane biology and/or chemistry. Starting salary is \$25,000 per annum, with additional consideration for qualifications. Providing satisfactory performance, reviewed yearly, employment will be for at least 3 years. For full consideration, please send application materials and three letters of reference by 15 November 1985 to: **Dr. Samuel Kaplan, Chair, Department of Microbiology, University of Illinois at Urbana-Champaign, 164 Burrill Hall, 407 South Goodwin Avenue, Urbana, Illinois 61801.** Telephone: 217-333-2044. Starting date will be approximately 1 January 1986.

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

### RESEARCH ASSOCIATE IN PROTEIN CRYSTALLOGRAPHY

Postdoctoral or more senior position available for protein crystallographer to work on the structure determination of fibrinogen (principal fibrous protein in blood clotting) and troponin/tropomyosin (protein switch in muscle contraction). The Structural Biology Laboratory at Brandeis has exceptional facilities for X-ray diffraction, electron microscopy, and image processing, and provides access to a broad range of problems and techniques in macromolecular structure determination. Candidates with backgrounds in small molecular crystallography or image processing of electron micrographs will also be considered. Please forward résumé and names of three references.

Contact: **Professor Carolyn Cohen, Rosenstiel Basic Medical Sciences Research Center, Brandeis University, 415 South Street, Waltham, Mass. 02254.** An Equal Opportunity/Affirmative Action Employer.

## RESEARCH SCIENTIST

Position available 1 January 1986, to develop neural prosthetic devices. Applicant must have a Ph.D. and a minimum of 2 years of experience in the neurophysiology of motor control. Additional educational background, such as an M.D. degree, and experience highly desirable. Position involves no clinical or teaching responsibilities. If interested, please send curriculum vitae describing research experience/goals and names of three references to: **Georgia Department of Labor, Reference Control Number GA 5082839, 1 Peachtree Street, NE, Atlanta, Ga. 30303.**

**SENIOR RESEARCH ASSOCIATE:** To carry out independent research on vascular impedance in animal models of hypertension and heart failure and to study hemodynamic effects of tachyarrhythmias and bradyarrhythmias in the dog. Ph.D. in biomedical engineering, minimum of 7 years of postdoctoral and 5 years of experience in hemodynamic and electrophysiological research. This position is a one year annual position. Apply before 13 September 1985 to: **Jay N. Cohn, M.D., Head, Cardiovascular Division, Box 508 Mayo, University of Minnesota, Minneapolis, Minn. 55455.** The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

**TEACHER-INVESTIGATOR** in neuromuscular diseases is needed by Tulane Medical School's Department of Psychiatry and Neurology. Applicants must be fully trained in neurology with at least two additional years of training in neuromuscular diseases. Competence in electromyography/muscle neuropathology essential. Send curriculum vitae to: **Joseph B. Green, M.D., Department of Psychiatry and Neurology, Tulane Medical School, 1430 Tulane Avenue, New Orleans, La. 70112.** Application deadline: 15 September 1985. Tulane is an Affirmative Action/Equal Opportunity Employer. Qualified women and minority candidates are encouraged to apply.

## POSITIONS OPEN

**RESEARCH ASSOCIATE IN GASTROENTEROLOGY** to conduct research on the pathogenic mechanisms of homolysis-induced calcium bilirubinate (black) pigment gall stones. Research requires isolation and characterization of biliary constituents in bile and gall stones using latest analytical procedures, involving computerized high pressure liquid chromatography, fluorescence spectrophotometry, infrared spectroscopy, and use of ion-selective microelectrodes. Must have Ph.D. in nutritional biochemistry, with strong analytical biochemistry background and at least 3 years of postdoctoral experience in gastrointestinal biochemistry. Incumbent should be able to develop experimental procedures and supervise and carry out analytical procedures in gastrointestinal biochemistry. Excellent writing skills and sound analytical capabilities are essential. Must be supported by good publication record in gastrointestinal biochemistry and metabolism. Salary \$17,000 per year, 40 hours per week. Contact or send résumé before 20 September 1985 to: **Job Service of Tennessee, 301 James Robertson Parkway, Nashville, Tenn. 37201.** Order Number IHO-808.

**RESEARCH TECHNICIAN POSITION** open at research institute in La Jolla, California (San Diego area). Tissue culture experience necessary. Apply with references to:

Box 182, SCIENCE

**SCIENTIST—MATERIALS CHARACTERIZATION.** R&D solid state physicist charged with developing novel electrical and optical characterization techniques for III-V material structures such as HEMT materials and heterostructure bipolar materials, using MBE technology in the growth of GaAs and AlGaAs. Forty hours per week. 8:30 a.m. to 5:15 p.m. \$41,000 per year. Must have Ph.D. in physics. No training or experience required. Graduate work required above must have included course and/or laboratory work with MBE systems, semiconductor physics, and ultra high vacuum equipment such as RHEED, LEED, AES, ELS, and ARUPS. Must have demonstrated ability to do original research by having published research in refereed scientific publications, a minimum of two times. Send résumé to: **Illinois Job Service, 910 South Michigan Avenue, Room 333, Chicago, Ill. 60605.** Attention: **Mrs. S. Chalem, Reference Number 4636-S.** An employer paid ad.

### SENIOR RESEARCH INVESTIGATOR

Applications are invited for the position of senior research investigator at the Hipple Cancer Research Center. Qualified candidates should possess M.D. or Ph.D., with at least 3 years of postdoctoral experience in tumor biology and experimental hematopoiesis and must be conversant with modern biochemical methods including HPLC. Tissue culture experience, especially of tumor and hematopoietic cells is required. Experience in molecular biology and monoclonal antibody production is essential. The appointee will play a leadership role in the design and execution of experiments in the Center's clinical and experimental oncology research programs.

Send confidential applications to:

**Dr. Martin J. Murphy, Jr., Director  
Hipple Cancer Research Center  
4100 South Kettering Boulevard  
Dayton, Ohio 45439-2092**

### SENIOR SCIENTIST

The W. Alton Jones Cell Science Center, Inc., Lake Placid, New York has an immediate opportunity for an innovative and experienced molecular biologist to direct independent research in the field of molecular and cellular biology.

We are seeking a dedicated and talented scientific professional with interest in cell biology and growth factors. The successful candidate will have a doctorate in molecular and cellular biology with at least 3 years of postdoctoral experience. Candidates must have the ability to supervise others. Liberal benefits. Salary will be commensurate with experience.

Applicants are requested to submit complete curriculum vitae and to have three letters of academic references forwarded by 1 October 1985 to:

**Personnel Manager  
W. ALTON JONES CELL SCIENCE CENTER,  
10 Old Barn Road  
Lake Placid, New York 12946**

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## OPPORTUNITIES IN BIOTECHNOLOGY

To support Battelle's expanding research efforts in biotechnology, we are seeking senior scientists in:

- cell biology
- microbiology
- protein biochemistry
- molecular biology
- immunology/immunochemistry

Successful candidates will operate in a stimulating, mission-oriented research environment. They will participate in existing research programs and plan and develop new research programs in their areas of expertise.

Applications are invited from PhD scientists with at least seven years of postdoctoral experience. Background in program planning, development, implementation, administration and evaluation is also required.

A planned research facility may offer East Coast assignments in addition to those in Columbus.

Please forward C.V. in confidence to Virginia Tyler, Employment, Dept. C-4, Battelle Columbus Division, 505 King Avenue, Columbus, Ohio 43201.



**Battelle**  
Columbus Division

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## Molecular Biology CNS Research

The Upjohn Company is seeking a Research Scientist to apply molecular genetic and cell biological techniques to the development and evaluation of novel agents which inhibit neuronal degeneration or promote regeneration. The program is intended to develop drugs for the treatment of acute and chronic degenerative neurological disorders. The successful candidate will be expected to interact extensively with Scientists in the Central Nervous System Research Unit as well as those in appropriate Biotechnology areas.

Qualifications include a Ph.D. degree in cell or molecular biology, neurochemistry, pharmacology or related field with recent post-doctoral training. Established investigators are also encouraged to apply.

Upjohn offers a stimulating research environment, opportunity for career growth, competitive salary and benefits, and relocation assistance.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a mix of excellent cultural, educational and recreational pursuits, including numerous lakes and a four-season climate.

For confidential consideration, please call outside Michigan toll-free 1-800-253-8600, Ext. 3-6767, or inside Michigan collect (616) 323-6767 to request an employment application be sent to you immediately. Please refer to Ad Number 18005-J when calling.

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## RESEARCH PHARMACOLOGISTS ANTI-INFLAMMATORY DRUGS

The Discovery Area of Abbott Laboratories' Pharmaceutical Division is continuing to innovate in the development of anti-inflammatory therapeutics. As a \$3.1 billion medical care products leader, Abbott Laboratories has made a major commitment to pharmaceutical R & D, with new discoveries bringing us new successes. We are now seeking the following professionals:

### Ph.D.

As part of a multidisciplinary team, this position is responsible for conducting anti-inflammatory drug research, studying inflammatory mediators *in vivo*, and developing assay procedures. A Ph.D. in pharmacology or equivalent and 1-3 years of post-doctoral experience are required.

### MS/BS

This position participates in the development of novel drugs to treat inflammatory and allergic diseases. An MS/BS in a biological science coupled with 1-4 years of laboratory experience is needed.

Headquartered in an attractive suburban area on the Lake Michigan shoreline just 30 miles north of Chicago, Abbott provides excellent salaries, full benefits including profit sharing and stock retirement plan, and exceptional opportunities for professional growth. For consideration, send a resume with salary history in confidence to: Christopher George/Corporate Placement. Abbott is an Affirmative Action Employer.

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## MOLECULAR/CELLULAR BIOLOGIST

The Lovelace Inhalation Toxicology Research Institute in Albuquerque, New Mexico seeks a Molecular/Cellular Biologist to join its internationally recognized program which addresses significant problems concerning the affects of airborne toxic materials on man and his environment. The Institute approaches its mission with a strong, multidisciplinary team of researchers trained in the biomedical, biophysical and physical sciences. The scope of the research includes molecular, genetic, cellular and tissue responses to energy-related effluents.

The individual we seek will participate in the conduct of research on molecular biology, cell transformation and carcinogenesis, using both *in vitro* and *in vivo* techniques. A doctoral degree in molecular and cellular biology and a strong publication record are necessary, as are good communication skills and a desire to work independently and collaboratively as part of a multidisciplinary team. U.S. Citizenship also required. Preference will be given to applicants with 2 or more years of postdoctoral research experience in DNA damage and repair, cell transformation, transcriptional and translational regulation and molecular hybridization techniques.

We offer an outstanding benefit program and a competitive salary. Starting date is negotiable. Qualified applicants are invited to submit a curriculum vitae and summary of research interests to: Personnel Unit, Lovelace Inhalation Toxicology Research Institute, P.O. Box 5890, Albuquerque, NM 87185. (505) 844-9431.

We are an equal opportunity/affirmative action employer

## POSITIONS OPEN

**RESEARCH FELLOW IN COGNITIVE NEUROSCIENCE.** Cornell University Medical College. Experienced psychologist interested in studies on memory, attention, and language processes in the neurologically impaired. Must have good computer skills and experience in experimental design. Send résumé to: **Michael S. Gazzaniga, Ph.D., Department of Neurology, Division of Cognitive Neuroscience, Cornell University Medical College, 515 East 71 Street, S-900, New York, N.Y. 10021.**

### SENIOR RESEARCH POSITION

As section head, at University Hospital, to study cell-mediated immunity in relation to human carcinoma. Doctorate, at least 3 years of experience in immunologic and cell culture techniques, and background in general and tumor immunology required. Excellent salary and benefits. Send résumé and bibliography to: **Georg F. Springer, M.D., Immunochemistry Research, Evanston Hospital, 2650 Ridge Avenue, Evanston, Ill. 60201.**

*Equal Opportunity Employer, MIF*

### TRAINING IN LEUKOCYTE BIOLOGY

We have two postdoctoral fellowships available now for individuals interested in obtaining advanced training in leukocyte biology. Successful applicants will have the opportunity of joining and working with a diverse, multidisciplinary group of scientists interested in multiple aspects of macrophage physiology, including surface receptors, intracellular mechanisms of signal transduction, cell-cell recognition, and tumor biology. Emphasis in training is placed on analysis of a problem of the fellow's choice in the above areas with tools in contemporary cellular and molecular biology. The faculty members in the group include individuals skilled in leukocyte biology, cell biology, or molecular biology. Applicants trained in eukaryotic molecular biology or mechanisms of signal transduction (for example, metabolism of phosphoinositol) would be particularly suitable, though not essential. An attractive stipend, commensurate with experience, will be offered. Openings are available at several levels of training. Interested applicants should send curriculum vitae and the names of three referees to:

**Dr. Dolph O. Adams or Dr. Thomas A. Hamilton**  
Department of Pathology  
Duke University  
Durham, North Carolina 27710  
*Equal Opportunity Employer*

### TUMOR IMMUNOLOGY

The Institutes for Immunobiology and Molecular Immunology at **THE CENTER FOR MOLECULAR MEDICINE AND IMMUNOLOGY** seek individuals with a commitment to excellence in research and a history of extramural funding for positions at the junior and senior scientist levels. Special consideration will be given to those individuals with interest in tumor immunity, tumor antigen immunochemistry, tumor imaging and therapy, and tumor biology. Salary commensurate with experience and credentials. Eligibility for adjunct faculty appointment. Applications, to include curriculum vitae, bibliography, a statement of career and research goals, and the names of three references, should be sent to: **Dr. David M. Goldenberg, President, CENTER FOR MOLECULAR MEDICINE AND IMMUNOLOGY, University of Medicine and Dentistry of New Jersey, 100 Bergen Street, Newark, N.J. 07103. An Equal Opportunity Employer.**

### VISION RESEARCH SCIENTIST

The School of Aerospace Medicine is seeking a senior research psychologist (psychophysicist) to study the effects of lasers on vision and visual performance. The candidate must have three years of professional research experience or a Ph.D. in physiological psychology, and a demonstrated history of publication in peer-reviewed journals. Knowledge of physics, optics, and computer modeling of ocular systems is desirable. The position will be filled at the GS-180-12 level, \$31,619 per annum, and is open to all interested U.S. citizens. Applicants must submit SF-171 (personal qualifications statement). Submission of curriculum vitae is desirable. Applications must be received by 30 September 1985 at: 6570 ABG/DPCS, Attention: 85-40, Brooks Air Force Base, Texas 78235. Direct inquiries to Ms. Hudson, telephone: 512-536-3353. *An Equal Opportunity Employer.*

## POSITIONS OPEN

### TOXICOLOGIST

The Board on Toxicology and Environmental Health Hazards of the National Research Council is seeking a senior professional in the area of toxicology or a closely related biomedical science. The individual will act as project director for a 3-year study on the biological markers of environmental hazards. Duties will include working with a committee of experts, directing a small research staff, and providing intellectual overview for four panels producing a series of major reports. A Ph.D., M.D., or equivalent is required with several years in research, teaching, or administration in toxicology, environmental epidemiology, pharmacology, or a closely related biomedical science. Must understand the utilization of scientific information in decision making and have the ability to integrate data from a wide variety of disciplines. Applicants should submit, in confidence, curriculum vitae and a recent publication or writing sample and names of references to:

**Dr. Devra L. Davis**  
National Research Council  
2101 Constitution Avenue, N.W.  
Washington, D.C. 20418  
*Equal Opportunity Employer*

## FELLOWSHIPS

### A POSTDOCTORAL FELLOWSHIP IN MEMORY OF RAQUELA PRYWES

The Israel Institute for Psychobiology—Charles E. Smith Family Foundation offers a fellowship in the area of psychobiology to a non-tenured Israeli scientist who has obtained a doctoral level degree. Available for 1 to 3 years, starting 1 October 1986. Candidates can only be proposed by an Israeli academic institute or a university hospital, which can offer adequate research facilities and commitments. Candidates must be Israeli citizens or permanent residents. Application deadline is 31 January 1986. For further information, contact: **The Director, Israel Institute for Psychobiology, Hebrew University Hadassah Medical School, P.O. Box 1172, Jerusalem, Israel, 91010.**

**FELLOWSHIP, MOLECULAR BIOLOGY.** Two U.S. Department of Agriculture (USDA) National Needs Fellowships are available at the University of Missouri. The program will stress advanced training in animal health biotechnology leading to a Ph.D. in microbiology/pathology/physiology. The first year stipend is \$15,000. Applicants must have a M.S. in areas related to molecular biology. Positions are available immediately, but not later than 18 January 1986. Contact: **Dr. John N. Berg, Director of Graduate Studies, College of Veterinary Medicine, University of Missouri, Columbia, Mo. 65211.**

**POSTDOCTORAL FELLOWSHIPS** available in the area of regulation of a glycerol phospholipid metabolism in relation to surfactant eicosanoid synthesis and the role of PAF in these processes. Salary ranges from \$16,000 to \$22,000. Send résumé and two references to: **Dr. J. M. Johnston, Department of Biochemistry, 5323 Harry Hines Boulevard, The University of Texas Health Science Center at Dallas, Dallas, Texas 75235. An Equal Opportunity University.**

### Postdoctoral Research and Training Opportunities are available at the CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY

The Chemical Industry Institute of Toxicology (CIIT) offers a 2-year postdoctoral research training program in toxicology for individuals who have recently earned a D.V.M., M.D., or Ph.D. in an academic discipline related to toxicology. Research programs stress elucidation of basic mechanisms of toxicity and often employ a multidisciplinary approach. Areas of interest include mutation and chemical carcinogenesis, pharmacokinetics and metabolism, teratogenicity, development of in vitro tests for toxicity, immunotoxicity, reproductive system toxicity, inhalation toxicology, epidemiology, and quantitative risk assessment. For more information, contact:

**Coordinator of Training**  
Chemical Industry Institute of Toxicology  
P.O. Box 12137  
Research Triangle Park, N.C. 27709

## FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIPS** available in the area of regulation of a glycerol phospholipid metabolism in relation to surfactant eicosanoid synthesis and the role of PAF in these processes. Salary ranges from \$16,000 to \$22,000. Send résumé and two references to: **Dr. J. M. Johnston, Department of Biochemistry, 5323 Harry Hines Boulevard, The University of Texas Health Science Center at Dallas, Dallas, Texas 75235. An Equal Opportunity University.**

**POSTDOCTORAL FELLOWSHIP** available from August for research on normal and neoplastic prostate. Experience in enzyme purification and kinetics required, in synthetic steroid chemistry desirable. The laboratory is affiliated with Tufts University School of Medicine and Laboratory of Toxicology, Harvard School of Public Health. Please send curriculum vitae and three letters of reference to: **Dr. Peter Ofner, Lemuel Shattuck Hospital, 170 Morton Street, Boston, Massachusetts 02130.**

### THE HEBREW UNIVERSITY OF JERUSALEM JERUSALEM, ISRAEL

#### THE GOLDA MEIR FELLOWSHIP FUND THE BERMAN FELLOWSHIP AND SCHOLARSHIP PROGRAM THE FORSCHEIMER FOUNDATION THE LADY DAVIS FELLOWSHIP TRUST

The Hebrew University of Jerusalem offers a number of postdoctoral fellowships for the 1986 to 1987 academic year in the humanities, social sciences, natural sciences, agriculture, and medicine. Candidates may apply at an early age of their professional career (not later than 3 years after completion of their doctoral dissertation). Every application is considered for all the above Funds. Requests for application forms should be addressed to: **The Lady Davis Fellowship Trust, P.O. Box 1255, Jerusalem 91904, Israel.** Completed application forms must be returned by 1 December 1985.

### FELLOWSHIP IN GERONTOLOGY

#### Predocutorial and Postdoctoral Research Training

The Institute of Gerontology at The University of Michigan will provide stipend and tuition for qualified trainees in the behavioral, biological, clinical, and social sciences. Potential mentors include Richard Adelman, Brant Fries, Ari Gafni, Jeffrey Halter, Regula Herzog, Tom Hickey, Jersey Liang, Marion Perlmutter, Lois Verbrugge, and Thelma Wells. Applicants should forward a letter of interest, curriculum vitae, bibliography, record of grant/fellowship support, and names and mailing addresses for at least three references to: **Dr. Richard C. Adelman, Director, Institute of Gerontology, The University of Michigan, 300 North Ingalls Street, Ann Arbor, Michigan 48109-2007.**

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## PROGRAM

### Ph.D. IN VETERINARY MEDICAL SCIENCES

The Virginia-Maryland Regional College of Veterinary Medicine invites applications from suitably qualified students (D.V.M. or equivalent; M.S. in biological sciences) for entry to the Ph.D. program in veterinary medical sciences.

Specialty study tracks are available in the areas of (i) veterinary biology and (ii) pathobiology and public practice. The veterinary biology track will include elements of those sciences which are fundamental to veterinary medical education and basic biomedical research, such as veterinary embryology, anatomy, physiology, pharmacology, and clinical veterinary medicine. The pathobiology and public practice track will embrace those sciences concerned with the manifestations and control of disease, such as veterinary parasitology, pathology, immunology, bacteriology, virology, toxicology, and epidemiology. Clinical involvement in such areas as experimental surgery, laboratory animal medicine, clinical pathology, and other laboratory support services will be available in the two main specialty tracks.

Stipends are available on a competitive basis.

Application materials may be obtained by writing to: **The Dean of the Graduate School, Virginia Tech, Blacksburg, Virginia 24061.**

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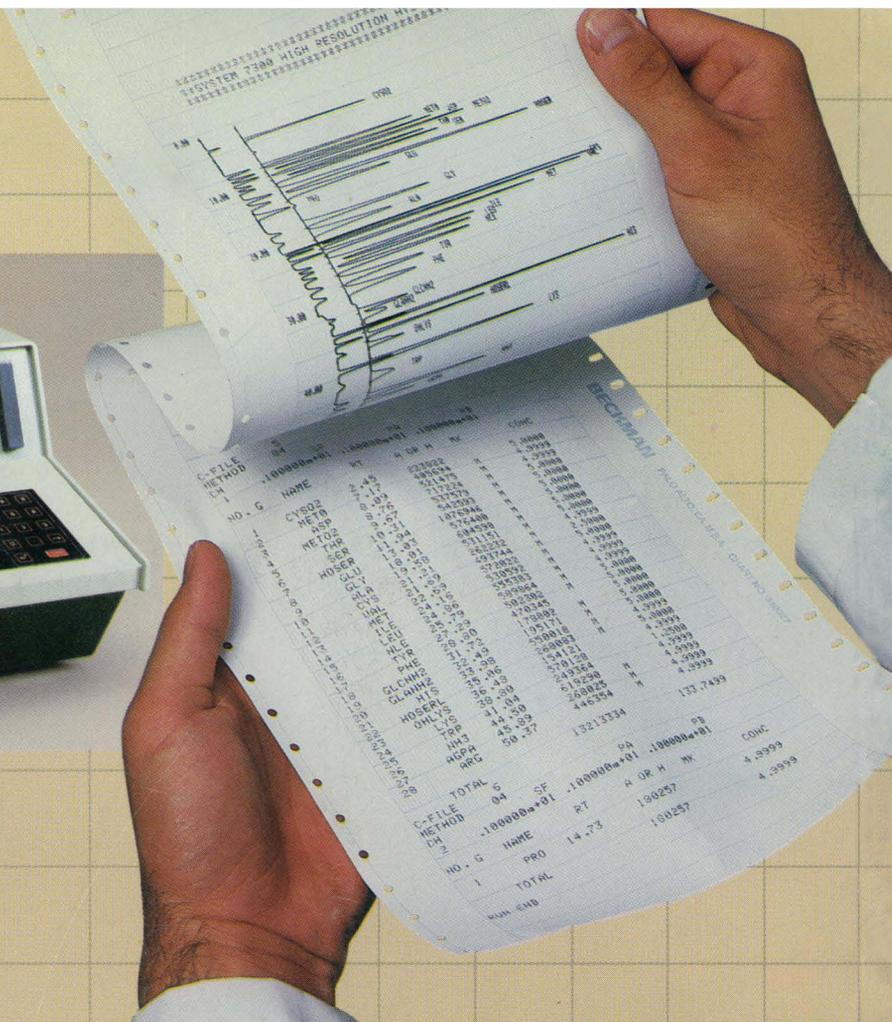
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The System 7300 from Beckman features a new dual-channel data system that offers you important new capabilities for amino acid analysis.

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