

that looks at "the biological roots of motivation," the domain that considers "the purposive, goal-directed nature of motivational systems," and the domain of contemporary learning theory. In the book's nine chapters Toates discusses where drive and motivation constructs have been employed, models and theories of motivation, ingestive motivational systems and how they compare with non-ingestive motivational systems, associations and motivations, models of the environment in the spatial dimension, and the interaction between motivational systems. A final chapter is entitled "Conclusions and outlook." A list of close to 300 references and a subject index conclude the book.

—L.H.

## Books Received

**The Autoimmune Diseases.** Noel R. Rose, Ed. Academic Press, Orlando, FL, 1985. xxxvi, 727 pp., illus. \$85; paper, \$49.95.

**Biological and Inorganic Copper Chemistry.** Kenneth D. Karlin and Jon Zubieta, Eds. Adenine, Guilderland, NY, 1986. Two volumes. Vol. 1, xii, 273 pp., illus. \$65. Vol. 2, xii, 298 pp., illus. \$65. From a conference, Albany, NY, July 1984.

**The Biological Bases of Personality and Behavior.** Vol. 1, Theories, Measurement Techniques, and Development. Jan Strelau, Frank H. Farley, and Anthony Gale, Eds. Hemisphere, New York, 1985. xvi, 259 pp., illus. \$39.95. Series in Clinical and Community Psychology.

**The Biological Bases of Personality and Behavior.** Vol. 2, Psychophysiology, Performance, and Applications. Jan Strelau, Frank H. Farley, and Anthony Gale, Eds. Hemisphere, New York, 1986. xvi, 230 pp., illus. \$39. Series in Clinical and Community Psychology.

**Biological Effects and Dosimetry of Static and ELF Electromagnetic Fields.** M. Grandolfo, S. M. Michaelson, and A. Rindi, Eds. Plenum, New York, 1985. xii, 697 pp., illus. \$97.50. *Ettore Majorana International Science Series*, vol. 19. From a course, Erice, Italy, Nov. 1983.

**Biological Museum Methods.** Vol. 2, Plants, Invertebrates and Techniques. George Hangay and Michael Dingley. Academic Press, Orlando, FL, 1985. xvi, 323 pp., illus. \$58.

**Biological Response Modifiers.** New Approaches to Disease Intervention. Paul F. Torrence, Ed. Academic Press, Orlando, FL, 1985. xviii, 397 pp., illus. \$60; paper \$39.95.

**Biology.** James M. Barrett *et al.* Prentice-Hall, Englewood Cliffs, NJ, 1986. xxvi, 1168 pp., illus. \$35.95.

**The Biophysical Basis of Excitability.** Hugo Gil Ferreira and Michael W. Marshall. Cambridge University Press, New York, 1985. xxiv, 484 pp., illus. \$80.

**Computers and Communications.** A Vision of C & C. Koji Kobayashi. MIT Press, Cambridge, MA, 1986. xviii, 190 pp., illus. \$16.95. Translated from the Japanese edition (Tokyo, 1985).

**The Concept of Physical Law.** Norman Swartz. Cambridge University Press, New York, 1985. xii, 220 pp. \$29.95.

**The Connection Machine.** W. Daniel Hillis. MIT Press, Cambridge, MA, 1986. xvi, 190 pp., illus. \$22.50. MIT Press Series in Artificial Intelligence.

**Conservation of Tidal Marshes.** Franklin C. Daiber. Van Nostrand Reinhold, New York, 1986. x, 341 pp., illus. \$39.95.

**Constructive Quantum Field Theory.** Selected Papers. James Glimm and Arthur Jaffe. Birkhäuser, Boston, 1985. x, 533 pp., illus. \$74.95. *Collected Papers*, vol. 2.

**Electrochemistry in Research and Development.** R. Kalvoda and Roger Parsons, Ed. Plenum, New York, 1985. viii, 308 pp., illus. \$55. From a meeting, Paris, June 1984.

**Evolution.** A Theory in Crisis. Michael Denton. Adler and Adler, Washington, DC, 1986. 368 pp., illus. \$19.95.

**Evolution and Creation.** Ernan McMullin, Ed. Uni-

versity of Notre Dame Press, Notre Dame, IN, 1986. xvi, 307 pp. \$24.95. *University of Notre Dame Studies in the Philosophy of Religion*, no. 4. From a conference, Notre Dame, March 1983.

**Evolution as a Religion.** Strange Hopes and Stranger Fears. Msary Midgley. Methuen, New York, 1985. x, 180 pp. \$33; paper, \$11.95.

**Folk Medicine.** The Art and the Science. Richard P. Steiner. Ed. American Chemical Society, Washington, DC, 1986. viii, 224 pp., illus. \$22.95.

**Forth.** A Text and Reference. Mahlon G. Kelly and Nicholas Spies. Prentice-Hall, Englewood Cliffs, NJ, 1986. xxii, 487 pp. \$24.95.

**Glaciation in Alaska.** The Geologic Record. Thomas D. Hamilton, Katherine M. Reed, and Robert M. Thorson, Eds. Alaska Geological Society, Anchorage, 1986. vi, 265 pp., illus. Paper, \$18.

**The Global Possible.** Resources, Development, and the New Century. Robert Repetto, Ed. Yale University Press, New Haven, CT, 1986. xvi, 538 pp. \$45; paper, \$13.95. *A World Resources Institute Book*. Based on a conference, Wye Plantation, MD, May 1984.

**Handbook of States of Consciousness.** Benjamin B. Wolman and Montage Ullman, Eds. Van Nostrand Reinhold, New York, 1986. xii, 672 pp. \$54.50.

**Hardy Classes and Operator Theory.** Marvin Rosenblum and James Rovnyak. Oxford University Press, New York, 1985. xiv, 161 pp. \$39.95. *Oxford Mathematical Monographs*.

**The Heavy Metal-Tolerant Flora of Southcentral Africa.** A Multidisciplinary Approach. R. R. Brooks and F. Malaisse. With a chapter by A. Empain. Balkema, Accord, MA, 1985. x, 199 pp., illus. \$35.

**Large Scale Water Transfers.** Emerging Environmental and Social Experiences. Genady N. Golubev and Asit K. Biswas, Eds. Published for the United Nations Environment Programme by Tycooly, Oxford, England, 1985. x, 158 pp., illus. \$22.50; paper, \$16.50.

**Larval Growth.** Adrian M. Wenner, Ed. Balkema, Accord, MA, 1985. xii, 236 pp., illus. \$35. *Crustacean Issues* 2. From a symposium.

**Laser Pioneer Interviews.** High Tech Publications, Torrance, CA, 1985. x, 203 pp., illus. Paper, \$17.95. Reprinted from *Lasers and Applications*.

**Light by Einstein's Universe.** The Role of Energy in Cosmology and Relativity. S. J. Prokhorov, Reidel, Dordrecht, 1985 (U.S. distributor, Kluwer, Hingham, MA). xiv, 221 pp. \$39. *Fundamental Theories of Physics*.

**Los Linfocitos en la Enfermedad de Chagas.** Estudios Sobre Algunos Aspectos de la Funcion Linfocitaria. Humberto R. A. Cabral. Universidad Nacional de Cordoba, Cordoba, Argentina, 1985. 205 pp., illus. Paper, \$8.50.

**Mental Images and Their Transformations.** Rogan N. Shepard, Lynn A. Cooper, *et al.* MIT Press, Cambridge, MA, 1986. x, 364 pp., illus. Paper, \$9.95. Reprint, 1982 edition.

**The Microbial World.** Roger Y. Stanier *et al.* 5th ed. Prentice-Hall, Englewood Cliffs, NJ, 1986. xiv, 689 pp., illus. \$43.95.

**Microelectronics Processing.** Inorganic Materials Characterization. Lawrence A. Casper, Ed. American Chemical Society, Washington, DC, 1986. x, 444 pp., illus. \$79.95. *ACS Symposium Series*, 295. Based on a symposium.

**Migration of Seismic Data.** Gerald H. F. Gardner, Ed. Society of Exploration Geophysicists, Tulsa, OK, 1985. viii, 462 pp., illus. Paper, \$19. *Geophysics Reprint Series*, no. 4.

**The Miocene Ocean.** Paleogeography and Biogeography. James P. Kennett, Ed. Geological Society of America, Boulder, CO, 1985. vi, 337 pp., illus., + microfiche cards and oversize insert. \$42. *Memoir* 163.

**Mixing of Liquids by Mechanical Agitation.** Jaromir J. Ulbrecht and Gary K. Patterson, Eds. Gordon and Breach, New York, 1985. x, 345 pp., illus. \$99. *Chemical Engineering: Concepts and Reviews*, vol. 1.

**Modern Bioelectrochemistry.** Felix Gutmann and Hendrik Keyzer, Eds. Plenum, New York, 1986. xxvi, 627 pp., illus. \$89.50.

**Modern Quaternary Research in Southeast Asia, Vol. 9.** Gert-Jan Bartsstra and Willem Arnold Casparie, Eds. Balkema, Accord, MA, 1985. viii, 157 pp., illus. \$12.50. From a congress, Peñablanca, Phillipines, Jan. 1985.

**Modern Signal Processing.** Thomas Kailath, Ed. Hemisphere, Washington, DC, 1985. xviii, 445 pp., illus. \$79.95; paper, \$49.95. *Proceedings of the Arab School on Science and Technology*. From a school, Zabadani, Syria, Aug. 1983.

**Nutrition and Feeding in Fish.** C. B. Cowey, A. M. Mackie, and J. G. Bell, Eds. Academic Press, Orlando, FL, 1985. xiv, 489 pp., illus. \$45.

**Nutrition and Neurobiology.** J. C. Somogyi and D. Hötzel, Eds. Karger, New York, 1986. viii, 224 pp., illus. \$76.25. *Bibliotheca Nutritio et Dieta*, no. 38. From a symposium, Bonn, May 1985.

**Optical Interferometry.** P. Hariharan. Academic Press, Orlando, FL, 1985. xvi, 303 pp., illus. \$58.

**Options for the Control of Influenza.** Alan P. Kendal and Peter A. Patriarca, Eds. Liss, New York, 1986. xxvi, 541 pp., illus. \$85. *UCLA Symposia on Molecular and Cellular Biology*, vol. 36. From a symposium, Keystone, CO, April 1985.

**The Origins of Logic.** One to Two Years. Jonas Langer. Academic Press, Orlando, FL, 1986. xii, 415 pp., \$75; paper, \$36.95. *Developmental Psychology Series*.

**The Peptides.** Analysis, Synthesis, Biology. Sidney Udenfriend and Johannes Meienhofer, Eds. Vol. 7, Conformation in Biology and Drug Design. Victor J. Hruby, Ed. Academic Press, Orlando, FL, 1985. xx, 495 pp., illus. \$99.

**Phanerozoic Diversity Patterns.** Profiles in Macroevolution. James W. Valentine, Ed. Princeton University Press, Princeton, NJ, and Pacific Division, American Association for the Advancement of Science, San Francisco, 1985. x, 442 pp., illus. Cloth, \$50; paper, \$15. *Princeton Series in Geology and Paleontology*. From a symposium, Santa Barbara, CA, June 1982.

**Plankton Stratigraphy.** Hans M. Bolli, John R. Saunders, and Katharina Perch-Nielsen, Eds. Cambridge University Press, New York, 1985. viii, 1032 pp., illus. \$175. *Cambridge Earth Science Series*.

**Planning and Popularizing Science and Technology in Developing Countries.** M. Anandakrishnan, Ed. Published in cooperation with the United Nations by Tycooly, Oxford, England, 1985. x, 293 pp., illus. \$32.50; paper, \$20. *Science and Technology for Development Series*, vol. 4. From two symposiums, Shuwaikh, Kuwait, Jan. 1983, and Tunis, Tunisia, April 1983.

**Plant Community Ecology.** Papers in Honor of Robert H. Whittaker. R. K. Peet, Ed. Junk, Dordrecht, 1985 (U.S. distributor, Kluwer, Hingham, MA). *Advances in Vegetation Science*, 7. Reprinted from *Vegetatio*.

**Proceedings of the Fourth British National Conference on Databases.** (Keele, July 1985.) A. F. Grundy, Ed. Cambridge University Press, New York, 1985. x, 229 pp., illus. \$44.50. *British Computer Society Workshop Series*.

**Program Evolution.** Processes of Software Change. M. M. Lehman and L. A. Belady, Eds. Academic Press, Orlando, FL, 1985. xiv, 539 pp., illus. \$40; paper, \$35. *A.P.I.C. Studies in Data Processing*, vol. 27.

**Photonics.** The New Science of Light. Valerie Burkig, Drawings by Mike Murphy. Enslow, Hillsdale, NJ, 1986. 128 pp., illus. \$11.95.

**Das Phylogenetische System der Plathelminthes.** Ulrich Ehlers. Fischer, Stuttgart, 1985. 317 pp., illus. DM98.

**Physical Methods for Inorganic Biochemistry.** John R. Wright *et al.* Plenum, New York, 1986. xvi, 384 pp., illus. \$59.50. *Biochemistry of the Elements*, vol. 5.

**The Physical Universe.** Konrad B. Krauskopf and Arthur Beiser. 5th ed. McGraw-Hill, New York, 1986. xxii, 760 pp., illus., + plates. \$35.95.

**Physics of the Sun.** Peter A. Sturrock *et al.*, Eds. Reidel, Boston, 1986 (distributor, Kluwer, Hingham, MA). Three volumes. Vol. 1, *The Solar Interior*. x, 257 pp., illus. \$44.50. Vol. 2, *The Solar Atmosphere*. xii, 385 pp., illus. \$62. Vol. 3, *Astrophysics and Solar-Terrestrial Relations*. xii, 287 pp., illus. \$49. The set, \$125. *Geophysics and Astrophysics Monographs*.

**Processes and Resources of the Bering Sea Shelf (PROBES).** D. W. Hood, Ed. Pergamon, New York, 1986. iv, 294 pp., illus. Paper, \$44. *Continental Shelf Research*, vol. 5, nos. 1/2.

**Productive Roles in an Older Society.** Committee on an Aging Society, Institute of Medicine and National Research Council. National Academy Press, Washington, DC, 1986. x, 154 pp., illus. Paper, \$16.95. *America's Aging*.

**Properties and Interactions of Interplanetary Dust.** R. H. Giese and P. Lamy, Eds. Reidel, Dordrecht, 1985 (U.S. distributor, Kluwer, Hingham, MA). xxvi, 444 pp., illus. \$64. *Astrophysics and Space Science Library*, vol. 119. From a colloquium, Marseille, July 1984.

**Psychology.** David G. Myers. Worth, New York, 1986. xx, 693 pp., illus. \$29.95.

**The Psychology of Eating and Drinking.** A. W. Logue. Freeman, New York, 1986. xiv, 298 pp., illus. \$24.95; paper, \$14.95. *A Series of Books in Psychology*.

**Qualitative Choice Analysis.** Theory, Econometrics, and an Application to Automobile Demand. Ken-

(Continued on page 1656)

### Software for Chemists

ChemLit and ChemFile are programs designed to organize data on an IBM PC. The ChemLit program handles descriptive information in text form and ChemFile manages integer and decimal data types and a small amount of text. Designed as "Personal Electronic Notebooks" for chemists, the programs provide an easily searchable record of work and a powerful way to correlate manage and analyze data. With ChemLit, a chemist may create a database of chemical structures with or without an abstract. If used, the abstract may include any information such as reaction conditions, literature references, and other information pertinent to the structure. Drawing routines feature four menu items: DRAW, RING, GROUP and BOND. DRAW is used for freehand sketching or connecting disparate atoms. RING is for creating rings, and GROUP opens up the keyboard for input of substituents and hetero atoms. BOND is used to modify types. ChemFile creates a database of structures and data using as many as 20 data fields designed by the user. The data fields may contain text or data in either integer or decimal form. Both programs are menu-driven with structure entry by cursor keys or mouse. Content-specific help screens are instantly available at any point in the program. Information retrieval capabilities include string, data and substructure searching. COMPRESS Division of Wadsworth. Circle 596.

### Superminicomputers

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### Vibration Isolation for NMR Spectrometers

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mechanically passive system with a natural frequency of a couple of cycles if disturbed. The modular construction of the system makes it suitable for all NMR spectrometer magnets. Magnets weighing up to 2 tons may be accommodated. Optikon. Circle 601.

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neth Train. MIT Press, Cambridge, MA, 1986. xviii, 252 pp., illus. \$27.50. MIT Press Series in Transportation Studies.

**Qualitative Modeling of Complex Systems.** An Introduction to Loop Analysis and Time Averaging. Charles J. Puccia and Richard Levins. Harvard University Press, Cambridge, MA, 1985. x, 258 pp., illus. \$35.

**Recent Developments in Parkinson's Disease.** Stanley Fahn *et al.*, Eds. Raven, New York, 1986. xxii, 375 pp., illus. \$75. From a symposium, Bermuda, Oct. 1984.

**Regulation of Vertebrate Limb Regeneration.** Raymond E. Sicard, Ed. Oxford University Press, New York, 1985. xiv, 185 pp., illus. \$35.

**Remote Sensing of Ice and Snow.** Dorothy K. Hall and Joroslav Martinec. Chapman and Hall, New York, 1985. x, 189 pp., illus. \$39.95.

**Risk in Intellectual and Psychosocial Development.** Dale C. Farran and James D. McKinney, Eds. Academic Press, Orlando, FL, 1986. xii, 331 pp., illus. \$48.50; paper, \$24.95. Developmental Psychology Series.

**Rohm and Haas.** History of a Chemical Company. Sheldon Hochheiser. University of Pennsylvania Press, Philadelphia, 1986. xiv, 231 pp., illus. \$19.95.

**Scanning Electron Microscopy.** Physics of Image Formation and Microanalysis. Ludwig Reimer. Springer-Verlag, New York, 1985. xviii, 457 pp., illus. \$39. Springer Series in Optical Sciences, vol. 45.

**The Sea Urchin Embryo.** A Developmental Biological System. Giovanni Giudice. Springer-Verlag, New York, 1986. viii, 246 pp., illus. \$49.

**The Second Law.** P. W. Atkins. Scientific American Library, New York, 1984 (distributor, Freeman, New York). xii, 230 pp., illus. \$29.95.

**The Seventh Continent.** Antarctica in a Resource Age. Deborah Shapley. Resources for the Future, Washington, DC, 1985. xvi, 315 pp., illus. \$35.

**Shyness.** Perspectives on Research and Treatment. Warren H. Jones, Jonathan M. Cheek, and Stephen R. Briggs, Eds. Plenum, New York, 1986. xii, 398 pp. \$35. Emotions, Personality, and Psychotherapy.

**Silico Sapiens.** The Fundamentals and Future of Robots. Joseph Deken. Bantam, New York, 1986. xii, 260 pp. Paper, \$4.50.

**Snake Versus Man.** A Guide to Dangerous and Common Harmless Snakes of Southern Africa. Johan Marais. M [no place], 1985 (distributor, ISBS, Portland, OR). x, 102 pp., illus. \$7.95.

**Social Odours in Mammals.** Vol. 1. Richard E. Brown and David W. Macdonald, Eds. Clarendon (Oxford University Press), New York, 1985. xii, 556 pp., illus. + plates. \$60.

**Social Support, Life Events, and Depression.** Nan Lin *et al.*, Eds. Academic Press, Orlando, FL, 1986. xvi, 377 pp., illus. \$49.50; paper, \$29.95.

**Sociology in Medicine.** Mervyn Susser, William Watson, and Kim Hopper. Oxford University Press, New York, 1985. xviii, 603 pp., illus. \$35.

**Soil Erosion and Its Control.** R. P. C. Morgan, Ed. Van Nostrand Reinhold, New York, 1986. xvi, 311 pp., illus. \$42.50. Van Nostrand Reinhold Soil Science Series.

**Soil Micromorphology.** Georges Stoops and Hari Eswaran, Eds. Van Nostrand Reinhold, New York, 1986. xx, 345 pp., illus. \$49.50. Van Nostrand Reinhold Soil Science Series. A Hutchinson Ross Publication. Reprinted papers, 1938-1980.

**Solar Flare Prediction.** C. Sawyer, J. W. Warwick, and J. T. Dennett. Colorado Associated University Press, Boulder, 1986. xii, 179 pp., illus. \$25.

**Solar System Magnetic Fields.** E. R. Priest, Ed. Reidel, Dordrecht, 1985 (U.S. distributor, Kluwer, Hingham, MA). xii, 290 pp., illus. \$43; paper, \$22.50. Geophysics and Astrophysics Monographs. From a school, London, Sept. 1984.

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**South Atlantic Paleogeography.** K. J. Hsü and H. J. Weissert, Eds. Cambridge University Press, New York, 1985. x, 350 pp., illus. \$69.50.

**Spatial Organization and Exchange.** Archaeological Survey on Northern Black Mesa. Stephen Plog, Ed. Southern Illinois University Press, Carbondale, 1986. xxii, 377 pp., illus. \$30. Publications in Archaeology.

**Spherical Astronomy.** Robin M. Green. Cambridge University Press, New York, 1985. xiv, 520 pp., illus. \$69.50; paper, \$27.95.

**Stability and Periodic Solutions of Ordinary and Functional Differential Equations.** T. A. Burton. Academic Press, Orlando, FL, 1985. x, 337 pp. \$65; paper, \$44.95. Mathematics in Science and Engineering, vol. 178.

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**Time-Resolved Vibrational Spectroscopy.** A. Laubereau and M. Stockburger, Eds. Springer-Verlag, New York, 1985. xii, 302 pp., illus. \$34. Springer Proceedings in Physics, vol. 4. From a conference, Bayreuth-Bischofsgrün, West Germany, June 1985.

**The Utility of Regional Gravity and Magnetic Anomaly Maps.** William J. Hinze, Ed. Martin F. Kane *et al.*, Associate Eds. Society of Exploration Geophysicists, Tulsa, OK, 1985. xiv, 454 pp., illus. \$75. Based on a meeting, Dallas, fall 1982.

**Variability and Management of Large Marine Ecosystems.** Kenneth Sherman and Lewis M. Alexander, Ed. Westview Press, Boulder, CO, 1986. xxvi, 319 pp., illus. Paper, \$31.85. AAAS Selected Symposia Series, vol. 99. From a symposium, New York, May 1984.

**Vehicles.** Experiments in Synthetic Psychology. Valentino Braitenberg. MIT Press, Cambridge, MA, 1986. x, 152 pp., illus. Paper, \$6.95. A Bradford Book. Reprint, 1984 edition.

**William Hunter and the Eighteenth-Century Medical World.** W. F. Bynum and Roy Porter, Eds. Cambridge University Press, New York, 1985. From a symposium, London, July 1983.

**The Wreck of the Titanic Foretold?** Martin Gardner, Ed. Prometheus, Buffalo, NY, 1986. 157 pp. + plates. \$18.95. A selection of writings that seem to foretell the sinking of the ship and a consideration of the issue by the editor.

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**Anatomist, M.D., M.Sc., Pre-Ph.D.,** November 1986 graduate Université de Montpellier, France, bilingual (English/French), American. Some teaching, research, and clinical (medical/surgical) experience. Preliminary search, interested in seeking a faculty position in an academic and research environment. Address requests to: Jacques Cousineau, 905 Main Street, Pawtucket, RI 02860. X

**Biochemist/Protein Chemist/Endocrinologist, Ph.D.** (1978). Experienced in: protein purification (conventional and HPLC), physicochemical and immunological characterization, protein modification and immunoassay development. Background in: reproductive endocrinology, testicular function, androgen binding proteins, platelet glycoproteins, and collagen. Seeking industrial or academic position. Box 122, SCIENCE. 6/27;7/11

**Cell Physiologist, Ph.D.;** whole animal and in vitro experience. Background in transport, electrophysiology, and metabolism. Publications. Excellent references. Box 120, SCIENCE. X

**Research Technician.** B.S., plus 8 years of laboratory experience. Desires job in or near DeKalb, Illinois. Experienced in muscle physiology, histochemistry, EM, enzyme assays, and animal surgery. Some work exercise physiology. Box 115, SCIENCE. 6/27;7/4

## POSITIONS WANTED

**Researcher Biotechnology, M.S.** with industrial experience. Desire challenging position in industry or academia. Laboratory experiences include molecular biology, recombinant DNA, strain development, fermentation, radioisotopes, and separation techniques: LC, HPLC, agarose/polyacrylamide electrophoresis, ultrafiltration. Designed, built, and operated supercritical extraction system. Box 121, SCIENCE. 6/27;7/4

**Surgeon/Ph.D.** Foreign M.D., experienced microsurgeon, U.S. Ph.D. in cellular biology. Experienced cardiovascular research in ischemic damage, nucleotide metabolism, substrate utilization, radioactive label, isolated perfused working rat heart, myocyte isolation. HPLC, enzymology. Big and small animal surgery. Good transplantation technique in rat heart, kidney, and limb. Seeks postdoctoral research position. Reply to: Ho, 1837 Tulane Avenue, New Orleans, LA 70112. X

## POSITIONS OPEN

**ADVERTISING COPYWRITER** with biomedical background and creative gift. If you have broad biomedical training and a flair for writing, you may have an opportunity to join the staff of our young creative group, the advertising arm of a major pharmaceutical firm located in northern New Jersey. Job entails originating promotional ideas and writing advertising for prescription drugs. Knowledge of antibiotics, surgery, or cardiovascular medicine is useful. Send résumé to: **Box 119, SCIENCE.**

### ANATOMY ASSISTANT PROFESSOR

We are seeking an assistant professor, tenure-track, to join an outstanding Anatomy Department with strong research programs in DEVELOPMENTAL NEUROBIOLOGY, NEUROGENETICS, CELL BIOLOGY, and DEVELOPMENTAL BIOLOGY. Applicant should have demonstrated high potential regardless of area of specialization.

Send curriculum vitae and name, address, and telephone number of three referees to: **Marcus Jacobson, Chairman, Anatomy Department, University of Utah School of Medicine, Salt Lake City, Utah 84132.**

The deadline date for applications is 1 August 1986. Applications submitted after the deadline may be considered if a qualified candidate has not been identified.

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

### GROSS ANATOMY PROFESSOR

This is an opportunity for an experienced gross anatomist to join an excellent Anatomy Department in a very congenial location. The rank and salary are negotiable and competitive, the position may be full- or part-time, and persons at or close to retirement will receive favorable consideration. For further particulars, write or telephone: **801-581-6728, Marcus Jacobson, Chairman, Anatomy Department, University of Utah School of Medicine, Salt Lake City, Utah 84132.**

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

### ANESTHESIOLOGIST

The University of Nebraska Medical Center has an open position at the rank of **instructor**. The position requires completion of an approved residency in anesthesiology. The candidate must be Board-eligible and be interested in research and teaching. Interested parties should send their curriculum vitae by 10 July 1986 to: **Michael Nahrwold, M.D., Chairman of the Department of Anesthesiology, University of Nebraska Medical Center, 42nd and Dewey, Omaha, Nebraska 68105.**

*Equal Opportunity/Affirmative Action Employer.*

**Department of Pediatrics. ASSISTANT PROFESSOR.** M.D. required. Background in biochemical research of at least 5 years. Starting salary \$30,000. This is a research position without clinical involvement. Send application to: **P. Colon, Department of Pediatrics, Georgetown University Medical Center, Washington, DC 20007.** An Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

**ASSISTANT DIRECTOR—TOXICOLOGY LABORATORY.** The Neurology Toxicology Laboratory, Georgetown University School of Medicine, seeks a Ph.D. toxicologist-pharmacologist. Applicants must have interest and experience in analytic toxicology and pharmacokinetics. In addition to technical supervision of routine analytic activities in the laboratory, active participation in research programs is required. The assistant director also holds an academic position in the School of Medicine, rank being determined by the qualifications and experience of the candidate. Applicants should send their curriculum vitae and three letters of recommendation to:

**Dr. Stanley Cohan  
Department of Neurology  
Georgetown University Hospital  
3800 Reservoir Road, NW  
Washington, DC 20007**

### TEMPLE UNIVERSITY SCHOOL OF MEDICINE SECTION OF HEMATOLOGY-ONCOLOGY

The Section of Hematology-Oncology, Department of Medicine at Temple University, is actively seeking applications for a tenure-track position at the **ASSISTANT PROFESSOR** level. The applicants should have an M.D. degree, with training in hematology and/or oncology, and an active, independent research interest in molecular biology. The appointee will be expected to devote the majority of his/her time to laboratory research. Interested individuals should send a letter of inquiry and an accompanying curriculum vitae to: **Dr. Robert Colman, Professor of Medicine, Chief, Section Hematology-Oncology, Temple University Hospital, 3400 North Broad Street, Philadelphia, PA 19140.** Affirmative Action/Equal Opportunity Employer.

**ASSISTANT PROFESSOR; BIOLOGY;** 2 positions, 1-year appointments with possibility of extension. Available 1 September 1986. Salary range \$20,000 to \$22,000. Ph.D. in biological sciences preferred; master's degree with teaching experience acceptable. The teaching load is 12 hours per semester and may include an introductory biology lecture (120 students) and other undergraduate biology courses. Review of credentials will continue until the positions are filled. Application, curriculum vitae, and names of three references should be sent to: **Dr. Frank Doran, Chairperson, Department of Sciences and Mathematics, University of Maine at Farmington, Farmington, Maine 04938.** Telephone: 207-778-3501. Extension 415.

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

### ASSISTANT PROFESSOR OF PHARMACOLOGY

The Department of Pharmacology of the East Carolina University School of Medicine invites applications for a tenure-track position at the assistant professor level. Specific areas of interest to the department include toxicology or drug metabolism. Applicants should have the Ph.D., M.D., Ph.D./M.D., 2 years of relevant postdoctoral training and be committed to develop or continue an active research program. Applicants are requested to submit curriculum vitae, three letters of reference, and a written statement on present and future interests by 30 September 1986 to: **Dr. W. R. Wooles, Chairman, Department of Pharmacology, School of Medicine, East Carolina University, Greenville, NC 27834.**

*East Carolina University is an Equal Opportunity/Affirmative Action Employer.*

**Ph.D. BIOCHEMIST:** With primary interest in collagen chemistry or related molecular biology. NIH-sponsored program seeks a highly qualified person at the assistant professor level. Current research involves basic and clinical aspects of collagen gene structure and regulation and acquired disorders of bone and connective tissue; additional topics of interest include growth factors and hormonal regulation of connective tissue synthesis. A faculty appointment in the Department of Biochemistry is available for the qualified applicant. Contact: **Jay R. Shapiro, M.D., Chairman, Department of Medicine, St. Vincent Hospital, Worcester, MA 01604.**

## POSITIONS OPEN

### ASSISTANT/ASSOCIATE PROFESSOR OF SUSTAINABLE AGRICULTURE

A teaching-research position requiring a Ph.D. in an agricultural science. Teaching and research experience in alternative agricultural practices and experience in multidisciplinary systems approaches to agricultural problems are desired.

The person will be expected to establish and coordinate a new 4-year sustainable agricultural curriculum. Research will focus on minimizing inputs of non-renewable resources into agricultural production while protecting soil productivity.

The application deadline is 1 August 1986, or until a suitable candidate is found. Please forward résumé, transcripts, and names of four references to: **Dr. Larry Zibilske, Department of Plant and Soil Sciences, University of Maine, Orono, ME 04469.**

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

The California Primate Research Center, University of California-Davis, is recruiting for two specialized **ASSOCIATE VETERINARIANS.**

**VL number 0490/Veterinarian (Laboratory Animal):** Duties include all aspects of clinical care and maintaining a preventive medicine program, research service, teaching and supervision of veterinary residents, students, and technical staff. Must possess a D.V.M. degree, be Board-eligible or -certified by the American College of Laboratory Animal Medicine, have expertise in internal medicine or surgery, and a knowledgeable background in care and husbandry of nonhuman primates.

**VL number 4091/Veterinarian (pathologist):** Duties include diagnostic pathology, characterizing animal models of human disease, training residents in pathology, participating in preventive medicine programs, and providing research service and collaboration. Candidates must have a D.V.M. degree, Board-eligibility or -certification by the American College of Veterinary Pathologists, nonhuman primate pathology expertise, and a knowledgeable background in immunopathology, teratology, or respiratory pathology.

Salary for both positions is \$3,067/\$3,704 per month. Candidates must provide 1 to 3 references, statement of qualification, and curriculum vitae. Positions are open until filled, but not later than 31 October 1986.

Required application forms may be obtained by calling **916-752-7140**, Monday through Friday, 10 a.m. to 2 p.m. Please reference job (VL) number when calling.

Mail applications to: **Joan R. Miller, Staff Personnel Services, Administration Annex, University of California-Davis, Davis, CA 95616.**

*The University of California is an Equal Opportunity Employer, F/M/H.*

### BIOCHEMIST: NATURAL PLANT PRODUCTS.

Applicants are invited for an assistant professor, tenure-track position, Department of Plant Breeding and Biometry, Cornell. Responsibilities will include research, teaching, and graduate student advising. Research will focus on biochemical aspects of plant resistance to insects, diseases and environmental stress, or other biochemical factors related to breeding superior crops. Appointee will be expected to interact closely with plant breeders and to contribute to ongoing research in the department. Opportunities exist for constructive interaction with associates in biochemistry and biotechnology. Teaching responsibilities will include one graduate level course in biochemical concepts and techniques applicable to plant breeding. Qualifications must include a Ph.D. in biochemistry, or in plant physiology with emphasis in biochemistry. Additional training in plant sciences is desirable. Attractive opportunities exist to help carry biochemical research through to practical results in improved crops. Salary competitive; attractive fringe benefit package.

Interested persons should submit a letter of application, or résumé of biographical data and professional experience, and names and addresses of four referees. Send materials by 1 August 1986, to:

**Dr. Robert L. Plaisted  
Department of Plant Breeding and Biometry  
Cornell University  
Ithaca, New York 14853  
Telephone: 607-255-1664**

## POSITIONS OPEN

**BIOCHEMIST.** The Connective Tissue Laboratory of the Department of Medicine is seeking qualified candidates for research associate and/or postdoctoral fellow. The laboratory is engaged in studies designed to explore the regulation of collagen biosynthesis and collagen gene mutations in inherited connective tissue diseases. Previous experience in protein chemistry, molecular biology, and cell culture preferred. Send résumé and names of three references to: **Sheldon R. Pinnell, M.D., Russel Kaufman, M.D., Department of Medicine, Box 3135, Duke University Medical Center, Durham, NC 27710. Affirmative Action/Equal Opportunity Employer.**

**BIOPHYSICIST AND/OR PHOTOBIOLOGIST,** Ph.D./M.D. Three to 5 years of experience in a research environment minimum. Work in biomedical laser applications preferred. Strong knowledge of tissue culture techniques required. **Postdoctoral fellow** in biophysics studying muscle proteins and laser effects. Studies to use free electron laser technology. Send résumés to: **Baylor Research Foundation, 3600 Gaston Avenue, Suite 1203, Dallas, TX 75246, by 27 June 1986. Baylor Research Foundation is an Equal Opportunity/Affirmative Action Employer.**

**CHAIRPERSON, DEPARTMENT OF HUMAN ANATOMY.** The School of Medicine, University of California, Davis, invites applications and nominations for the position of chairperson of the Department of Human Anatomy. The department has 11 tenure-track faculty members, is responsible for the teaching of gross, neuro-, and microscopic anatomy and aspects of cell biology in the medical curriculum, and offers graduate training in anatomy, cell biology, and related disciplines. Candidates must have a distinguished record of scholarship and professional achievement as evidenced by publications and grant awards, an interest in teaching, and demonstrated leadership and administrative abilities. The position requires a strong commitment to the development and administration of departmental research and academic programs, as well as to maintaining an independent, extramurally funded research program. Applicants should submit a letter of application, curriculum vitae, a summary of research goals, and the names of five references to: **Dr. John W. B. Hershey, Search Committee Chairperson, Department of Biological Chemistry, School of Medicine, University of California, Davis, CA 95616. Applications must be received before 1 October 1986.**

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

### CHAIRPERSON—ZOOLOGY

The Department of Zoology of the University of Maryland at College Park (Main Campus) is seeking nominations and applications of scientists qualified to serve as departmental chairperson. The department currently consists of 30 faculty and 100 graduate students. Research strengths are in ecology/evolutionary biology and in cellular biology. In addition, departmental researchers actively collaborate with scientists at the NIH, National Zoo, Smithsonian Institution, U.S. Department of Agriculture, and the university's Biotechnology Institute. Applicants should have a Ph.D. and have demonstrated outstanding abilities in research in some field of modern biology. Evidence of administrative ability is also required. Appointment will be made at the professor level (tenured) with appropriate salary and benefits, preferably starting 1 July 1987. For best consideration, submit curriculum vitae and the names, addresses, and telephone numbers of four references by 15 September 1986 to: **Dr. Paul H. Mazzocchi, Zoology Chair Search Committee, Department of Chemistry, University of Maryland, College Park, MD 20742. An Equal Opportunity/Affirmative Action Employer.**

**CLINICAL ASSOCIATE, PH.D./ASSISTANT PROFESSOR OF MEDICINE:** The Coagulation Research Laboratory of the Joint Section of Hematology/Oncology of the University of Chicago and Michael Reese Hospital is seeking a clinical associate, Ph.D., interested in platelet research. Knowledge of biochemical techniques such as proteins to cells is a basic requirement. The appointee will participate in the research program and educational activities. Send curriculum vitae to: **Juan Chediak, M.D., Hematology/Oncology Section, Room 245 Blood Center, Michael Reese Hospital, Lake Shore Drive at 31st Street, Chicago, IL 60616. An Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN



Wayne State University  
Detroit, Michigan 48202

The Department of Pathology at The Wayne State University School of Medicine is seeking a **CLINICAL PATHOLOGIST** at the level of assistant professor to serve as director of a hospital-based division of laboratory medicine. The successful candidate will be responsible for coordinating the diagnostic, teaching, and research activities of the various sections of laboratory medicine. Candidates should be Board-certified or -eligible in clinical pathology, have on-line experience in applying quantitative techniques to laboratory medicine, and have facility in the installation and use of laboratory information systems. Training in chemical pathology is a prerequisite. Interested candidates should send their curriculum vitae and three references to: **Joseph Wiener, M.D., Chairman, Department of Pathology, Wayne State University School of Medicine, 540 East Canfield, Detroit, Michigan 48201.**

*An Equal Opportunity/Affirmative Action Employer.*

**COMMUNITY ECOLOGIST**—Department of Biological Sciences at Idaho State University invites applications for a tenure-track position at the rank of **assistant professor.** We seek a broad-based community ecologist whose interests will complement those of the existing group of 8 ecologists. Applicants who combine theoretical interests with experimental field studies, particularly in the areas of plant-animal interactions, microbial ecology, or disturbance/rehabilitation ecology will be favored. Ph.D. required; postdoctoral experience desired. Successful candidate is expected to develop a vigorous research program and supervise M.S. and Ph.D. students. Teaching responsibilities include lower division courses. Starting date 2 September 1986; salary \$21,000 to \$23,000. Send curriculum vitae, official transcripts, three letters of reference, reprints, and future research plans by 18 July 1986 to: **Ecology Search Committee, Department of Biological Sciences, Idaho State University, Pocatello, ID 83209. Idaho State University is an Equal Opportunity/Affirmative Action Employer.**

### DEPARTMENT CHAIRMAN MOLECULAR BIOLOGY

The University of Pittsburgh School of Medicine is seeking a candidate for **chairman and professor of the Department of Microbiology, Biochemistry, and Molecular Biology.** This department represents a recent merger of the Departments of Microbiology and of Biochemistry, and the objective now is to strengthen the research and teaching program in molecular biology. The department has close interactions with the broad biological community, including the Pittsburgh Cancer Institute and the Departments of Biological Sciences of the University of Pittsburgh and Carnegie-Mellon University. The department currently has ten tenured faculty members, two emeritus professors, eight non-tenured faculty members, and forty graduate students and three M.D./Ph.D. students. The department has an extensive program of basic research, with 30,000 square feet of research space, and over 1.5 million dollars per year in grant funds.

Candidates should have extensive experience and research productivity in molecular biology. Letters of interest and curriculum vitae and names of references should be sent to: **Chairman of Search Committee and Director, Pittsburgh Cancer Institute, 230 Lothrop Street, Pittsburgh, PA 15213.**

The closing date for responses is 30 September 1986.

**DIRECTOR OF RADIOLOGIC EDUCATION.** Department of Radiology at a major university at the level of **assistant professor.** Salary commensurate with assistant professorial level. Appointment by 15 September 1986. Applicant must be completely Boarded by the American Board of Radiologists and have demonstrated practice and teaching experience of at least 5 years. Send curriculum vitae, list of publications, and references to: **Chairman, Department of Radiology, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201. WSU is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### DIRECTOR OF PATHOLOGY

International Research and Development Corporation (IRDC) has a challenging opportunity available as director of our Pathology Division. You will be responsible for managing the scientific and technical operations of over 70 people in the Histopathology, Necropsy, Histology, and Clinical Pathology Departments.

Candidates should have considerable experience in toxicologic pathology, be Board-certified in veterinary pathology, and have some management experience. We offer a full-range benefits program, relocation expenses, and an open starting salary.

IRDC is one of the foremost contract research laboratories specializing in animal safety evaluation studies for the pharmaceutical, chemical, agricultural, and consumer industries. We are located near Kalamazoo, Michigan, midway between Detroit and Chicago, in an area affording a broad range of urban or rural lifestyles with excellent cultural and recreational opportunities.

Please submit résumés to:

**Dr. Edwin I. Goldenthal,  
Vice President and Director of Research  
International Research and  
Development Corporation  
500 North Main Street  
Mattawan, Michigan 49071**

*Equal Opportunity Employer, M/F/H/V.*

### DIRECTOR: DIVISION OF CLINICAL TOXICOLOGY AND ENVIRONMENTAL HEALTH.

The University of Arkansas for Medical Sciences is establishing a Division of Clinical Toxicology and Environmental Health in the Department of Pharmacology and Interdisciplinary Toxicology. The director of the division will be responsible for establishing a clinical service and a residency program for physicians, developing an interdisciplinary continuing education program for health professionals, developing a master's degree program in clinical toxicology and industrial hygiene, establishing a public education program, and developing a strong research program in clinical toxicology. A separate budget has been established for the division and foundation support for the development of the education program is anticipated. Applicants for the position should have an M.D. degree, a background in clinical toxicology and environmental health, administrative experience, and a record of research achievement. Interested applicants should send curriculum vitae to: **Dr. Donald E. McMillan, Professor and Chairman, Department of Pharmacology and Interdisciplinary Toxicology, College of Medicine, University of Arkansas for Medical Sciences, 4301 West Markham Street, Little Rock, Arkansas 72205.**

*An Affirmative Action Employer*

### DNA PROBE DIAGNOSTICS/ HUMAN INFECTIOUS DISEASES

MicroProbe Corporation, a new medical diagnostics company focusing on the use of DNA probes, has several immediate openings for **senior scientists and technicians** in the following disciplines:

- Product Development
- Nucleic Acid Chemistry
- Molecular Biology
- Immunochemistry

The successful senior scientist candidate will have a Ph.D., plus experience beyond postdoctoral training, preferably in a company setting, and be capable of independent, innovative science.

Applications for director of product development and director of nucleic acid chemistry are also invited from experienced, advanced-level scientists.

MicroProbe offers a competitive salary and benefits package, the opportunity for a significant equity position, and a market-driven, R and D environment in a suburban Seattle setting.

We invite you to submit a letter of application and your résumé in confidence to:

**MicroProbe Corporation  
1725 220th Street SE, Number 104  
Bothell, WA 98021**

*We are committed to an Equal Opportunity Employment policy.*



## Molecular Biologist/ Biochemist

We are seeking a highly motivated and innovative researcher to explore and develop novel DNA sequencing technology. Expertise in dideoxy and chemical sequencing is required. The successful candidate will have a B.S./Ph.D. degree with several years of relevant research experience. This is a unique opportunity to join an interdisciplinary research team working on the forefront of science and technology.

Applied Biosystems is the leading developer and manufacturer of instrument-reagent systems and chemical products for the synthesis, sequencing, purification and analysis of proteins, peptides, amino acids and DNA.

In addition to growth opportunity, we offer a competitive compensation and benefit package. Send resume to...

Ms. Rochelle Murphy  
Applied Biosystems  
850 Lincoln Centre Drive, Foster City, CA 94404  
An Equal Opportunity Employer

## EXECUTIVE DIRECTOR

### American Meteorological Society

The American Meteorological Society seeks nominees and applicants for the position of Executive Director to direct the world-wide activities of the Society. The Executive Director functions as the chief executive officer with major leadership and management responsibilities for all on-going activities. He or she serves at the pleasure of the governing Council and, on a continuing basis, reports to the Executive Committee. The permanent headquarters and business office of the Society are located in Boston, Massachusetts.

The American Meteorological Society is a scientific and professional organization established in 1919 and is dedicated to the development and dissemination of knowledge of the atmospheric and related oceanic and hydrologic sciences and the advancement of their professional applications. The Society has a total membership of about 10,000 and its activities are international in scope.

A candidate must have demonstrated high competence in the management of a technical or scientific operation or organization, preferably in the atmospheric or related sciences.

To receive full consideration, a letter of application, including resume, should be postmarked no later than September 15, 1986 and be addressed to:

**Chairman, Search Committee  
American Meteorological Society  
45 Beacon Street  
Boston, Massachusetts 02108-3693**

Further details can be obtained by calling:  
**(617) 227-2425**

*The American Meteorological Society is  
an Equal Opportunity Employer*

## LILLY RESEARCH LABORATORIES POSTDOCTORAL SCIENTIST PROGRAM—MOLECULAR GENETICS RESEARCH

### Eli Lilly and Company

The Lilly Research Laboratories, a Division of Eli Lilly and Company, is offering a postdoctoral research opportunity in the area of recombinant DNA/molecular genetics. The Postdoctoral Scientist will work in close association with Lilly scientists who are involved in the basic research process of drug discovery. Publication and presentation of results will be an integral part of the program. This postdoctoral experience is designed to give individuals in-depth research training in a focused area of biology. The program will also provide an opportunity to become acquainted with the drug development process within the pharmaceutical industry. The Postdoctoral Scientist will be expected to participate fully in the conceptual and design phases of projects.

In MOLECULAR GENETICS RESEARCH scientists will employ rDNA technology to isolate and study genes coding for antibiotic biosynthesis in *Streptomyces* and fungi. The structure and regulation of these genes will be examined and they will be the basis of collaborative projects designed to lead to novel antibiotics. Candidates should have a strong background in microbiology, rDNA methodology and biochemistry.

Postdoctoral appointments are of one-year duration and are renewable for a second year with mutual agreement. Candidates with no more than one previous postdoctoral experience are encouraged to apply.

Eli Lilly and Company will provide a comprehensive pay and benefits program including relocation expenses.

Qualified applicants should send their current curriculum vitae to:



John W. Crooks, Manager  
College Relations (PSP)  
Eli Lilly and Company  
Lilly Corporate Center  
Indianapolis, Indiana 46285  
Equal Opportunity Employer

## POSITIONS OPEN

**ECOSYSTEM/MATHEMATICAL MODELERS.** Postdoctoral/research associate positions available summer 1986. Responsibilities entail the development and validation of models for (i) carbon, nitrogen, and water flux in desert ecosystems (one position) and (ii) the effect of elevated carbon dioxide on plants and ecosystems (two positions). Applicants should hold a Ph.D. in biology (or related field) with strong background in ecological modeling or a Ph.D. in applied mathematics (or related field) with a strong background in modeling biological systems. Please submit letter of application, résumé, and three letters of recommendation to: **Dr. James F. Reynolds, Systems Ecology Research Group, Departments of Mathematical Sciences and Biology, San Diego State University, San Diego, California 92182.**

## ENVIRONMENT/ENERGY

Search reopened. Two positions with the state of Maryland's Power Plant Siting Program in Annapolis, Maryland. The program performs studies of all aspects of environmental impacts of existing and future power plants. Positions primarily involve technical management, but require substantial technical involvement in studies. Ph.D. in a physical science or engineering discipline required. Training or experience in one or more of the following areas is desirable: chemistry, geology, air quality modeling, statistics, power generation, environmental control technology, and groundwater hydrology. Administrative or managerial experience and familiarity with relevant environmental regulations are also desirable. Salary: \$25,227 to \$38,649, dependent upon experience. Send résumé, technical writing sample, names, and telephone numbers of three references to: **Director, Power Plant Siting Program, Tawes State Office Building, (B-3), Annapolis, MD 21401. Minority applicants are encouraged to apply. The State of Maryland is an Equal Opportunity Employer.**

## INSTITUTE OF HUMAN GENETICS University of Minnesota

The institute invites applications for up to three 12-month positions in the field of **EUKARYOTIC MOLECULAR GENETICS** at the rank of assistant (tenure-track), or associate professor (tenured). Candidates with a doctoral degree, plus 2 years of relevant postdoctoral experience will be considered at the assistant professor level. Candidates with a doctoral degree, plus 5 years of professional experience, professional distinction in research, writing, and demonstrated effectiveness in teaching and advising will be considered at the associate professor level. Candidates will be expected to develop a vigorous, independent research program, participate in teaching, and interact with institute members in development of the institute. Please send curriculum vitae, a short description of research plans, and three letters of recommendation to: **Chair, Search Committee, Institute of Human Genetics, University of Minnesota Medical School, Box 206 UMHC, Harvard Street at East River Road, Minneapolis, MN 55455.** The last date for receipt of applications is 31 August 1986. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

## IMMUNODIAGNOSTICS R&D SCIENTIST

Position available for a Ph.D. level immunochemist/biochemist/immunologist with several years of experience in the development of immunoassays for infectious diseases, diagnostic product design, and coordinating multiple projects. Responsibilities include bench work and supervision of some research assistants. Reply to: **D. J. Schafer, Difco Laboratories, 1180 Ellsworth Road, Ann Arbor, MI 48104. Equal Opportunity Employer, M/F.**

## IMMUNONEUROCHEMISTRY

Applications are invited from M.D.'s with at least 4 years of experience in immunoneurochemistry to work as a research assistant professor in a Neuroscience Institute at Georgetown University. Salary is \$24,000 per year. Send résumé to: **Director, FGIN, 3900 Reservoir Road, Room SE 101, Washington, DC 20007.**

## POSITIONS OPEN

**DEPARTMENT OF MICROBIOLOGY.** School of Medicine, University of Missouri-Columbia, invites applications for new tenure-track **FACULTY POSITIONS.** Salary and rank open depending on qualifications and experience. These positions represent the university's newly funded major commitment to the development of eminence in a **multidisciplinary campus-wide molecular biology program.** The successful candidates are expected to conduct outstanding, independent research which will complement and supplement multiple existing funded programs in prokaryotic and eukaryotic molecular genetics, pathogenesis, immunobiology, and molecular parasitology in a heavily research-oriented department and to participate in education of graduate and medical students. Experience and interest in lower eukaryotes, human genetics, protein/nucleic acid structure, and molecular immunology preferred. Send curriculum vitae, names of three references, and brief statement of research interests by 30 September 1986 to: **Richard A. Finkelstein, Ph.D., Millsap Distinguished Professor and Chairman, Department of Microbiology, School of Medicine, University of Missouri-Columbia, Columbia, MO 65212. The University of Missouri is an Equal Opportunity and Affirmative Action Institution.**

## FACULTY POSITION AVAILABLE

### PHARMACEUTICAL SCIENCE (Pharmaceutical Chemistry/ Natural Products/Pharmacognosy)

Applications are invited for an immediate opening in a 12-month, tenure-track position as assistant professor of pharmaceutical science with expertise in biosynthesis of natural products. Applicants must possess a Ph.D. degree in medicinal chemistry, pharmacognosy, or related field. An undergraduate degree in pharmacy is desirable, but not mandatory. A strong background in immunizing biologicals and antibiotics is preferred.

Primary responsibilities include teaching undergraduate courses and development of an active research program. This position is open immediately and will remain open until filled. Letters of application accompanied by curriculum vitae, three letters of recommendation, and all academic transcripts may be sent to:

**Robert W. Goettsch, Ph.D.  
Chairman, Search Committee  
College of Pharmacy  
Campus Box 8288  
Idaho State University  
Pocatello, ID 83209**

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

## FISHERIES BIOLOGIST

Environmental engineering consulting firm has an immediate opening for an aquatic ecologist/fisheries biologist, M.S., with experience. This is an entry-level position which requires knowledge of fin fisheries, impact assessment, and biometrics. Good oral and written communication skills mandatory, background in toxic substances and computer skills desirable. Please send résumé and salary requirements in confidence to: **James M. O'Gorman, Personnel Director, Lawler, Matusky and Skelly Engineers, One Blue Hill Plaza, Pearl River, NY 10965. Equal Opportunity/Affirmative Action Employer, M/F.**

## MATERIALS SCIENTISTS

North Texas State University (NTSU) has an immediate requirement for three materials research scientists to lead in the development of a Center for Materials Characterization. These are tenure-track positions; salary and rank commensurate with experience. Requires Ph.D. in materials science, chemistry, physics, biology, mathematics, computer science, engineering, industrial technology, or another area strongly coupled with materials science. Must have demonstrated ability to obtain extramural funding and to interact successfully with industry.

Applications will be accepted until positions are filled. Letter of application, résumé, and names of three references should be sent to: **The Chair of Materials Research Committee, Office of Research and Academic Grants, Box 5396, NT Station, Denton, TX 76203. Telephone: 817-565-3940.**

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

## POSITIONS OPEN

### FORENSIC RESEARCH SCIENTIST

To study relationship between mental illness and crime. Requirements: Ph.D. in sociology, psychology, or a related area. Background in criminology and epidemiology important. Locations: Kirby Forensic Hospital, Wards Island, New York City. Academic appointments at New York University available for eligible candidates. Salary dependent on qualifications. Apply to: **Dr. Michael Kohn, NATHAN S. KLINE INSTITUTE FOR PSYCHIATRIC RESEARCH, Orangeburg, NY 10962.**

*A New York State Office of Mental Health facility.  
An Equal Opportunity Employer, M/F.*

## LABORATORY MANAGER

Will coordinate all aspects of a cardiac genetics research laboratory in the Harvard Medical School area. Excellent managerial skills and a strong background in the biological sciences required. Minimum of 5 years in a laboratory setting. Ph.D. preferred. Salary commensurate with experience. Send curriculum vitae with salary requirements to: **Bernardo Nadal-Ginard, M.D., Ph.D., Chairman, Department of Cardiology, The Children's Hospital, 320 Longwood Avenue, Enders 13, Boston, MA 02115. Equal Opportunity Employer.**

**MEDICAL BACTERIOLOGY.** The Ohio College of Podiatric Medicine invites applications for a **faculty position** in medical bacteriology. This is a full-time, career position at the assistant professor rank. Applicants must demonstrate the abilities to teach in a medical school setting and to develop an independent research program. Candidates must have a Ph.D., D.P.M., and/or M.D. degree, or the equivalent. Submit letter of interest, curriculum vitae, and three references to:

**Cecelia A. Wylie  
Ohio College of Podiatric Medicine  
10515 Carnegie Avenue  
Cleveland, Ohio 44106  
Equal Opportunity Employer**

## RICERCA, INC.

Ricerca, Inc., a new research and development company, currently is seeking qualified individuals for its technical staff. Immediate openings exist in the following areas:

**MICROBIAL PHYSIOLOGIST** for fermentation process research and development, including the supervision and operation of a research fermentation pilot plant.

Requirements: M.S. or Ph.D. with 3 to 5 years of experience in fermentation development. Industrial and computer-controlled fermentation experience desirable.

**MOLECULAR BIOLOGIST** for the development of genetically enhanced bacterial strains which biosynthesize antibiotics and industrial enzymes.

Requirements: Ph.D. with 2 to 5 years of experience in strain improvement, cDNA cloning, gene transfer, and gene expression in prokaryotes.

Ricerca, Inc. is located in Concord Township, an attractive Cleveland, Ohio, suburb. We offer competitive salaries and an excellent employee benefits program. Please send curriculum vitae and three references to:

**Andrew J. Pillar  
RICERCA, INC.  
P.O. Box 1000  
Painesville, OH 44077  
Equal Opportunity Employer**

## MOLECULAR BIOLOGIST

Calgene, a leader in the application of modern genetic technology to agriculture, is recruiting an entry level Ph.D. molecular biologist and a research assistant (B.S. or M.S. level) to work on a project in disease resistance in plants. Strong candidates will have expertise in cDNA cloning. The applicants hired will join a strong multidisciplinary team working on improvement of crop plants. We are located in a pleasant university town, very close to the San Francisco Bay Area. Application deadline is 15 July 1986. Inquiries and applications, including the names of three references, should be sent to: **Calgene, Inc., 1920 Fifth Street, File 773, Davis, CA 95616. An Equal Opportunity Employer.**

## PROJECT MANAGERS: MOLECULAR BIOLOGY and ASSAY SYSTEMS

We are looking for two technical managers to lead our development of new products for use in molecular biology research and in automation of biological assays (ELISA, FIA, BIOASSAYS). Our new joint venture, linking Perkin-Elmer with Cetus Corporation, is dedicated to uncovering and developing novel instruments and systems for use in biotechnology. Based in Emeryville, California, development activities will tap Cetus' research, engineering and product development groups, and Perkin-Elmer's engineering and manufacturing functions to commercialize these new products. Technical Project Managers will identify new projects, prepare technical and engineering products specifications, coordinate the project work of Cetus and Perkin-Elmer staff, and ensure that projects are completed within budget and schedule.

Requirements include an MS or equivalent in a relevant field of biological sciences, and at least two years of experience developing instrumentation. Experience in managing product development is highly desirable.

Please send your resume in confidence to:

**CETUS CORPORATION**  
Box PCE  
1400 Fifty-third Street  
Emeryville, CA 94608

E/O/E

PERKIN ELMER  CETUS INSTRUMENTS

## Respiratory Immunopharmacologist Respiratory Pharmacology

Smith Kline & French Laboratories, a leader in pharmaceutical research, is seeking a Pharmacologist to fill a challenging position in its Pharmacology Department, located in suburban Philadelphia, Pennsylvania.

The successful candidate will:

- establish an independent research program to explore the immunologic basis of bronchopulmonary diseases.
- work collaboratively with intra- and extramural scientists to evaluate the role of various inflammatory cells and mediators in the development of bronchopulmonary diseases.
- integrate cellular, biochemical and pharmacologic methodologies to identify novel approaches to the pharmacotherapy of immunologic disorders of the bronchopulmonary system.
- gain recognition throughout the scientific community through publication of scientific results and participation in national and international meetings.

Candidates are required to have:

- a Ph.D. in Pharmacology, Immunology or Biochemistry with at least 2 years postdoctoral experience in immunopharmacology.
- experience assessing mediator formation and release by functional and biochemical techniques.
- a record of publication in major scientific journals.
- experience with *in vitro* and *in vivo* bronchopulmonary immune disease models is desirable.
- understanding of the roles of various inflammatory cells and mediators in the development of bronchopulmonary disease is desirable.

We offer an excellent benefits and compensation program including an attractive relocation package. For confidential consideration, send your C.V. and names of 3 references to George P. Kissell, Jr., Manager, Personnel Relations, SmithKline Beckman Corporation, 1566 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer, M/F/H/V.

# SK&F

A SmithKline Beckman Company

## MOLECULAR BIOLOGIST

The Squibb Institute for Medical Research is recognized as an international leader in developing novel approaches for treating cardiovascular diseases. We have recently expanded our interest in the study of cholesterol metabolism and are seeking a molecular biologist to join a group of highly talented scientists engaged in an interdisciplinary approach to the study of hypercholesterolemia.

Qualified applicants must have a Ph.D. in Molecular Biology or a related field and experience in DNA cloning, gene expression and sequencing techniques. You will work in the area of cholesterol biosynthesis and transport with particular emphasis on gene regulation. A working knowledge of protein and enzyme biochemistry is desirable.

The Squibb Institute is located in Princeton, NJ, a pleasant semi-rural setting convenient to both Philadelphia and New York City. In addition to an excellent salary and comprehensive benefits package, we offer the opportunity for exceptional scientists to pursue stimulating careers.

For confidential consideration, please forward your curriculum vitae to: The Squibb Institute for Medical Research, Human Resources Department 281, P.O. Box 4000, Princeton, NJ 08543-4000. An equal opportunity employer.



# SQUIBB

Where science comes to life.

## NATIONAL INSTITUTES OF HEALTH, PUBLIC HEALTH SERVICE

National Cancer Institute, Division of Cancer Treatment  
Clinical Oncology Program, Radiation Oncology Branch

*Position Title:* Radiochemist/Nuclear Chemist

*Qualifications:* Position involves research in labelling monoclonal antibodies with metallic radionuclides for clinical use in tumor diagnosis and therapy. A qualified applicant should have:

- A Ph.D. in Nuclear Chemistry or Radiochemistry
- Experience in working with high levels of radioactivity
- Ability to do careful scientific measurements
- Knowledge of radiochemical separations/and radionuclide purification

Biological or Radiopharmaceutical experience is desirable.

*Salary:* Dependent upon experience and qualifications.

*Location of Position:* Bldg. 10, National Institutes of Health, Bethesda, Maryland

For further information contact:

**Dr. Otto A. Gansow**  
Building 10, Room B3B69  
National Institutes of Health  
9000 Rockville Pike  
Bethesda, Maryland 20892  
Telephone: (301) 496-5936

AN EQUAL OPPORTUNITY EMPLOYER

## Postdoctoral Synthetic Chemist Receptor and Biotechnology

The Medicinal Chemistry and Molecular Pharmacology Departments of Smith Kline & French Laboratories, located in suburban Philadelphia, Pa., have an immediate opening for a Postdoctoral Synthetic Chemist to participate in a receptor-biotechnology research program in an environment designed to foster creative innovative research and to promote personal and professional growth.

We consider postdoctoral studies to be of paramount importance in an individual's career and encourage publication of findings in leading journals and a full interaction with the scientific community. Postdoctoral appointments are normally of two years duration.

The successful candidate will:

- Conceive, plan, develop and conduct synthetic strategies for affinity ligands for receptors.
- Interact with biologists to develop synthetic targets useful in various facets of protein sequencing and biotechnology.

Candidates are required to have:

- PhD in Synthetic Organic Chemistry with 0-2 years postdoctoral experience.
- Experience with high field NMR spectroscopy and modern isolation and characterization techniques, including HPLC.
- A good publication record.
- Clear and concise communication skills.
- The ability to interact with a multidisciplinary research team.

We offer excellent compensation and benefits and an attractive relocation policy. For confidential consideration, send c.v. and names of three references to George P. Kissell, Jr., Manager, Personnel Relations, SK&F Laboratories, 1598 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer, M/F/H/V.

**SK&F**  
A SmithKline Beckman Company

## IMMUNOLOGISTS R&D VIVARIUM

HYBRITECH, located in the biotechnology center of San Diego, is a leader in the commercial application of monoclonal antibody technology to the development of diagnostic and pharmaceutical products. Our dynamic growth has created 3 challenging career opportunities:

**DIRECTOR** - This individual will direct the activities of a large R&D Vivarium engaged in animal model testing, ascites research, immunizations and cellular immunobiological research. Candidates should have 7 to 10 years related experience, familiarity with regulatory issues and toxicology testing, a Ph.D. in Chemistry, Biology, or Immunology and 3 years of supervisory experience in an industrial setting.

**SR. RESEARCH SCIENTIST** - To supervise immunization and antibody production research program. Research will include enhancement of immune response to tumor and other antigens for generation of hybridomas. Ph.D. in Immunology or Cell Biology and 3 to 5 years of relevant post-doctoral research and supervisory experience are required.

**SR. RESEARCH ASSOCIATE** - To supervise work in animal model systems for human cancer diagnosis and therapy. Responsibilities include experimental design and analysis, and supervision of work within an R&D Vivarium group. B.S./M.S. in the biological sciences, and excellent written and oral communication skills are necessary.

Hybritech offers a stimulating work environment, competitive salaries and excellent company paid benefits. Please send your resume to: Human Resources Department, Hybritech Incorporated, P.O. Box 269006, San Diego, CA 92126.

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#### PROTEIN/PEPTIDE BIOCHEMIST

Position requires scientist with comprehensive expertise in purification and characterization of peptides and proteins. Experience with immunoassays, recombinant DNA technology and expression systems is desirable.

#### MOLECULAR/CELLULAR BIOLOGIST

This position is open for a scientist with broad academic or industrial experience in all aspects of the development of expression systems for overproduction of eukaryotic proteins.

Superior compensation package including aggressive stock option plan available to exceptional professionals. Kindly send C.V., bibliography, and references in confidence to:

AGOURON  
ATC RECRUITMENT  
505 Coast Boulevard South  
La Jolla, California 92037

## SENIOR RESEARCH SCIENTISTS

THE LILLY RESEARCH LABORATORIES, a division of Eli Lilly and Company, is seeking applicants for positions in our division of Molecular and Cell Biology. The laboratories are located in a new state-of-the-art research facility at the Lilly Corporate Center.

### Senior Molecular Biologist

Applicants for this position should possess a doctoral degree and have postdoctoral experience utilizing a wide variety of molecular biology techniques. Responsibilities will include the development of new cloning projects involving the construction and screening of genomic and cDNA libraries.

### Senior Protein Biochemist

Applicants for this position should possess a doctoral degree and have postdoctoral experience in protein biochemistry, protein purification, and related analytical methodology. Experience with amino acid sequencing, especially gas phase, is desirable and knowledge of the latest analytical protein separation techniques is essential. The applicant will join a multidisciplinary team working on the production, isolation, and characterization of proteins produced by recombinant DNA technology.

Qualified candidates should send their curriculum vitae to:



John W. Crooks, Manager  
College Relations (MCB)<sup>2</sup>  
Eli Lilly and Company  
Lilly Corporate Center  
Indianapolis, Indiana 46285  
An Equal Opportunity Employer M/F



## HAZLETON

### LABORATORY ANIMAL VET

Hazleton Laboratories America, Inc., has an excellent career opportunity for a qualified laboratory animal veterinarian in its Rockville, Maryland facility. The successful candidate will be responsible for the health, husbandry, and humane care of the facility's laboratory animals and will also serve as principal investigator on select projects. The position will involve participation in the facility animal care and use committee and will have close association with other laboratory animal veterinarians at Hazleton's nearby Virginia facility. The Washington, DC area provides an active laboratory animal medicine environment and offers many opportunities for continuing education.

Minimum requirements include a DVM or equivalent degree, appropriate laboratory animal medicine post-doctoral training, and board certification or eligibility in the ACLAM.

Applicants should send resumes to:

Hazleton Laboratories America, Inc.  
9200 Leesburg Turnpike  
Vienna, Virginia 22180

EOE

## Career Opportunity in Plant Physiology



An equal opportunity employer

The Plant Genetics Department of Pfizer Central Research has an opening in Plant Physiology for an Assistant Scientist. This department provides the basic research support for the corn, sorghum and soybean breeding programs of DeKalb-Pfizer Genetics.

You will be joining a multi-disciplinary team working on genetic improvement of crop plants and will be responsible for investigating the physiological basis for desirable agronomic traits. You will interface with plant breeders, whole-plant biologists and specialists in molecular and cellular biology.

You should have training in plant physiology at the MS level and have interests in other aspects of plant biology such as plant biochemistry, genetics, tissue culture and molecular biology.

This position offers an excellent opportunity for professional recognition and career growth. We offer an excellent salary, benefit and relocation package plus an attractive southeastern Connecticut shore location. Qualified applicants should submit their resume, including the names, addresses and phone numbers of three professional references to:  
Mrs. L. C. Corr, Personnel Associate,  
Pfizer Central Research, Eastern Point  
Road, Groton, CT 06340.

## POSITIONS OPEN

### MOLECULAR/BIOCHEMICAL GENETICIST

Ph.D. or M.D. to supervise development of molecular/biochemical genetic diagnosis and research unit in large medical genetics center. Hospital/university affiliation. Excellent salary/benefits. Suburban Washington, D.C. location. Curriculum vitae/references to:

**Joseph D. Schulman, M.D., Director**  
Genetics and IVF Institute  
3020 Javier Road  
Fairfax, Virginia 22031  
Telephone: 703-698-7355

### MOLECULAR BIOLOGIST/GENETICIST

The Insect Genetics and Cell Biology Section of the Metabolism and Radiation Research Laboratory, U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Fargo, North Dakota, is seeking applicants for a position as a **RESEARCH GENETICIST**. Basic research in molecular genetics of Lepidoptera to include molecular analysis of lepidopteran genomes, develop clone libraries, search for transposable elements that might be used for gene transfer in economically important Lepidoptera. Requirements include Ph.D. and knowledge of (i) molecular biology/biochemistry, (ii) nucleic acid manipulations including hybridization techniques, recombinant DNA technology, and (iii) transposable elements. The position is a 3-year postdoctoral appointment. Must be a U.S. citizen. Salary \$26,381 per year. For information on the research program or position, contact: **Dr. Richard L. Roehrdanz, telephone: 701-237-5771, extension 5428**. For information on application procedures/forms, contact: **Miriam Pritchard, telephone: 301-344-2756**. Applications should be marked Code number 6N008 and be received by 1 August. Mail applications to: **Special Examining Unit, USDA Agricultural Research Service, Room 409, Building 003, BARC-West Beltsville, MD 20705. An Equal Opportunity Employer.**

**MOLECULAR GENETICIST/IMMUNOLOGIST:** The Agricultural Research Service, U.S. Department of Agriculture (USDA), seeks a research associate to map bovine immune response genes. Experience in restriction mapping, genomic blot hybridization, Western and Northern blotting desirable. Salary \$26,381 to \$31,619. Contact: **R. H. Miller, telephone: 301-344-2330** or for application procedures **J. A. Murchison, telephone 301-344-3953**. Mark applications **6E 038**. Mailing address: **R. H. Miller, Building 173, BARC-East, Beltsville, MD 20705.**

### PATHOLOGY DEPARTMENT CHAIRPERSON

The New York State College of Veterinary Medicine at Cornell invites applications and nominations for the position of chairperson of pathology. The successful candidate will be expected to provide academic and administrative leadership for the instructional, research, and service programs of the department; to recruit and develop faculty and staff; to prepare, administer, and adhere to the department budget, and to cooperate with faculty in developing and implementing realistic and ambitious goals for the department. The chairperson also will cooperate with other Cornell faculty and administrative officers in matters affecting the teaching, research, and service programs of the college.

The ideal candidate will possess a doctor of veterinary medicine degree or equivalent and a Ph.D. and/or diploma of the American College of Veterinary Pathologists. He or she must have had teaching and research experience sufficient to qualify for an appointment as a full professor. The successful candidate should also have exhibited academic and professional leadership qualities. Send résumé to: **Dr. D. D. McGregor, Chairman Search Committee, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York 14853. Cornell University is an Affirmative Action/Equal Opportunity Employer/Educator.**

**PHARMACOLOGIST, GS-405-12.** Naval Health Research Center needs pharmacologist to plan and conduct behavioral pharmacological research studies of effects of pharmacological agents on health, performance, sleep, alertness, and autonomic function in human subjects. A doctorate degree or equivalent in pharmacology with specialization in effects of pharmacological agents on human subjects. Standard Form 171, transcripts required. Telephone: **J. Banks 619-225-2911 for information.**

## POSITIONS OPEN

**PHARMACOLOGIST (Ph.D., D.O., or M.D.)** to work independently and collaboratively with research faculty. Research 80 percent; teaching 20 percent. Multi-year contracts available. Salary commensurate with academic rank, training, and grant track record. Please send curriculum vitae with publications list, teaching experience, and past and present grant support information to: **SEARCH COMMITTEE, Dr. Arnold L. Nagler, Associate Dean, Preclinical Medical Education, New York College of Osteopathic Medicine, Old Westbury, NY 11568.**

### Applications are being accepted from PH.D.'S IN PHARMACOLOGY

with at least six years of experience in neuropharmacology and specialization in molecular biology as it applies to neuropharmacology. Candidates must have experience with cloning of neuropeptide precursors.

The position is located at Georgetown Medical School (FGIN), is a faculty appointment as a **research assistant professor** in the Department of Biochemistry with a salary of \$28,000 per year.

Send résumé to: **Director, FGIN, 3900 Reservoir Road, Washington, DC 20007.**

**PHARMACOKINETICS/RISK ASSESSMENT.** Applications are invited from persons with Ph.D. to conduct research involving mathematical modeling aimed at incorporation of pharmacokinetic data into health risk assessment. Position will also involve consulting on specific risk assessment projects. Send application, curriculum vitae, and three letters of recommendation forwarded to: **K. S. CRUMP and Company, Inc., 1201 Gaines, Ruston, LA 71270.**

### PHYSICAL OCEANOGRAPHER

The Department of Oceanography and Ocean Engineering at the Florida Institute of Technology (FIT) seeks a physical oceanographer for a full-time faculty position starting 1 January 1987. Appointment and salary will be commensurate with qualifications and experience. Candidates must possess an earned Ph.D. and have demonstrated meritorious scientific work with interests in both field-oriented research and teaching. Send curriculum vitae, names and telephone numbers of references, and a brief description of research objectives to: **Dr. Ronnal P. Reichard, Search Committee, Department of Oceanography and Ocean Engineering, 150 West University Boulevard, Florida Institute of Technology, Melbourne, Florida 32901. An Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITION TUMOR VIROLOGY

Available immediately. We have recently discovered RNA covalently bound to SV40 TAg and to the oncogene product p53. The RNA's, the bonding, and the possible significance to oncogenic transformation will be studied. U.S. citizenship or residency required, funding through NIH training grant. Send curriculum vitae and names of three references to:

**Dr. Robert Carroll**  
Department of Pathology  
New York University Medical School  
550 First Avenue  
New York, NY 10016

A **POSTDOCTORAL POSITION** is available on or about 1 July 1986, for conducting research into the metabolism of adipose tissue and in particular the biochemistry of specific fatty acid binding proteins in cultured adipocytes. The candidate must have a recent Ph.D. in biochemistry and previous experience in protein purification and protein chemistry.

Please send curriculum vitae and three letters of recommendation to:

**DR. DAVID BERNLOHR**  
Department of Biochemistry  
140 Gortner Laboratory  
University of Minnesota  
St. Paul, Minnesota 55108

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

## POSITIONS OPEN

**POSTDOCTORAL FELLOW.** The role of extracellular matrix in development is under investigation in this laboratory. Applicants should have a good background in cell and developmental biology. Research will involve the vertebrate embryo and a variety of techniques: biochemistry, immunohistochemistry, electron microscopy, in situ hybridization using collagen cDNA, and organ culture. Available: spring 1987. Send to: **Dr. Elizabeth D. Hay, Department of Anatomy and Cellular Biology, Harvard Medical School, 25 Shattuck Street, Boston, MA 02138. Harvard University is an Equal Opportunity Employer.**

### POSTDOCTORAL FELLOW/ RESEARCH ASSOCIATE

Position available immediately for a suitable candidate to participate in an active and expanding program of molecular genetics of human cancer. Current areas of investigation in the laboratory include: (i) cloning of translocation junctions and study of alterations in oncogene structure and expression in lymphoid and other malignancies, (ii) cloning of genes associated with cancer predisposition, and (iii) development of RFLP panels to study allogeneic bone marrow transplants. Experience in methods of molecular biology essential. Apply with curriculum vitae, names of referees, and a statement of experience and interests to: **Dr. R. S. K. Chaganti, Head, Laboratory of Cancer Genetics and Cytogenetics, Sloan-Kettering Institute for Cancer Research, 1275 York Avenue, New York, NY 10021.**

**POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE POSITIONS** available (M.D.'s or Ph.D.'s) for 2 to 3 years to study the molecular biology, genetics, or epidemiology of cytomegalovirus. Projects will be tailored to the interests and background of the individual. Salary commensurate with experience. Send curriculum vitae to: **Dr. Stuart P. Adler, Department of Pediatrics, Medical College of Virginia, P.O. Box 163, MCV Station, Richmond, Virginia 23298.**

### POSTDOCTORAL POSITION

Available 1 September 1986 to study developmental regulation of protein glycosylation and developmental functions of protein-linked oligosaccharides in wild-type and glycosylation mutants of *Dicotyostelium discoideum*. The position is in the Department of Biology, Georgetown University (Washington, D.C. 20057). Send résumé and names and telephone numbers of three references to: **Dr. Ellen J. Henderson** who is on sabbatical at the following address until mid-July: **Imperial Cancer Research Fund, Clare Hall Laboratories, Blanche Lane, Potters Bar, Herts EN6 3LD, United Kingdom.**

### POSTDOCTORAL POSITION

Available immediately for two NIH-funded projects. One on immunity to *Salmonella* infection in mice, and the other on host defenses to *Legionella pneumophila* in guinea pigs. Background in cellular immunology preferred, with expertise in T-cell clones, immunoregulation (including suppression), cytokines, or macrophage function. Send curriculum vitae and names of references to: **Dr. Toby K. Eisenstein, Department of Microbiology and Immunology, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, PA 19140. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available to study binding of adenine nucleotides to glycerol kinase. Experience in enzyme purification preferred. Please send curriculum vitae and have three letters of reference sent to: **Dr. Donald W. Pettigrew, Department of Biochemistry and Biophysics, Texas A&M University, College Station, TX 77843. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION.** Funding available for up to 3 years, starting 1 July, to study protein-DNA interactions involved in the activation and control of ribosomal RNA transcription in *E. coli* [see *Cell* 44, 197-205 (1986)]. Prokaryotic genetics and/or biochemistry background preferred. Send curriculum vitae including names and phone numbers of two references to: **Dr. Richard Gourse, Department of Genetics, University of Georgia, Athens, GA 30602.**

## Immunodiagnostic Scientists

Triton Biosciences Inc., a subsidiary of Shell Oil Company, is an emerging force in the development of diagnostics & therapeutics for human health care. As part of our partnership agreement with Technicon Instruments Corp., we are seeking innovative scientists with several years experience in the following areas:

### Development Scientists

Qualified candidates must have a PhD in biochemistry or related area and at least 2 years development experience in the area of in-vitro diagnostics. This position involves complete responsibility for development of immunoassay(s) for peptide hormones for use in a state-of-the-art automated immunoassay instrument. You also will be responsible for understanding all aspects of development, both instrumental and immunochemical.

### Development Associates

Requires a BS or MS in a biological science and 1-3 years experience in immunoassay development. Work in cancer, infectious disease, or hormone area is preferred.

Successful candidates will initially be assigned to Tarrytown, NY (Westchester County); however, should be open to relocation since we ultimately envision moving the development group to our headquarters located in the San Francisco Bay Area.

Triton offers competitive salaries and benefits. For prompt consideration, please forward your C.V., salary requirements, and the names of three references to: Triton Biosciences Inc., Box TT, 1501 Harbor Bay Parkway, Alameda, CA 94501. An Equal Opportunity Employer.



Triton Biosciences Inc.

## PROTEIN CHEMISTRY RESEARCH SCIENTISTS/ASSOCIATES

**Amgen** is a leading biotechnology company developing products for a variety of health care and specialty chemicals markets. We currently have opportunities for **Research Scientists** and **Research Associates** in Protein Chemistry.

Experience in purification and characterization (biochemical/biophysical) of natural and recombinant DNA derived proteins, is essential. Knowledge of formulation and drug delivery for protein products is highly desirable.

**Research Scientists** should have a Ph.D. degree with subsequent post-doctoral or industrial experience in protein biochemistry, biophysics, polymers or surface chemistry. **Research Associates** will have BS/MS degree in biochemistry or related field, and several years of relevant experience.

**Amgen** is located in an attractive community about an hour northwest of Los Angeles, and offers a stimulating and challenging scientific environment, as well as an attractive compensation and benefits program.

Qualified candidates should direct a resume including three references to: **Recruitment, Dept. 30, AMGEN, 1900 Oak Terrace Lane, Thousand Oaks, CA 91320**

AMGen

An Equal Opportunity Employer

## SENIOR RESEARCH ENGINEERS/SCIENTISTS AND M.S. RESEARCH SCIENTISTS

### Signal Processing and Cardiovascular Electropharmacology

Eli Lilly and Company, while continuing to increase its commitment in medical instrument systems research, is seeking a Ph.D. in electrical engineering, physiology or pharmacology with an interest and background in signal processing. In addition, we are seeking a masters degree candidate with an interest and background in pharmacology and/or physiology.

These individuals will be involved in the evaluation of cardioverting and antitachycardia wave forms, drugs, and pathophysiologic changes on the ability to perform conversion from ventricular tachycardia and ventricular fibrillation.

This work will involve a multidisciplinary approach within Lilly Research Laboratories and may include collaborative research with investigators at four companies in the medical instrument systems division—Advanced Cardiovascular Systems, Cardiac Pacemakers, Inc., IVAC and Physio-Control. In addition, there will be an affiliated clinical research program in Indianapolis.

Please send cover letter with resume and publication listings to:



Philip R. Reid, M.D.  
Executive Director, Medical  
Lilly Corporate Center  
MC617, 28/1  
Indianapolis, Indiana 46285  
An Equal Opportunity Employer M/F

## POSITIONS OPEN

**POSTDOCTORAL POSITIONS** are available for individuals interested in the development and application of frequency-domain fluorescence spectroscopy using psec laser sources. Positions are available at present and for the next 12 months. The projects include instrument development, measurement of picosecond protein dynamics, effects of pressure on proteins, software development, dynamics and energy computations, and chemical synthesis. Training in physics, chemistry, or biochemistry is acceptable. Individuals with previous postdoctoral experience may be appointed at the research level. Submit curriculum vitae, three letters of recommendation, and representative reprints to: **Joseph R. Lakowicz, University of Maryland, School of Medicine, Department of Biological Chemistry, Baltimore, Maryland 21201. An Equal Opportunity Employer.**

## POSTDOCTORAL POSITIONS

The Howard Hughes Medical Institute Laboratories at the Massachusetts General Hospital is seeking two postdoctoral fellows to study the mechanism of insulin action. One project involves insulin-regulated protein phosphorylation, and the other involves regulation of gene expression by insulin and growth factors. Candidates with experience in protein chemistry and/or molecular biology preferred. Send curriculum vitae, statement of interest, and three letters of support to: **Dr. Raphael Nemenoff or Maria Alexander-Bridges, Diabetes Unit, Massachusetts General Hospital, Wellman 3, Boston, MA 02114.**

**POSTDOCTORAL POSITION IN ANIMAL BIOTECHNOLOGY** is available immediately. Protein purification and molecular cloning of animal peptide growth factors and growth factor genes. Recent experience in protein purification and/or recombinant DNA is highly desirable. Send curriculum vitae, transcripts, and names and addresses of two references to: **Dr. Frank A. Simmen, Department of Animal Science and the Laboratories of Molecular and Development Biology, OARDC, The Ohio State University, Wooster, Ohio 44691. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH ASSOCIATE, ELECTROPHYSIOLOGY OF ENDOCRINE CELLS.** A position is available immediately to study cellular mechanisms underlying control of secretion from rat anterior pituitary cells. The project uses the reverse hemolytic plaque assay to identify specific cell subtypes for characterization with standard whole-cell and patch-clamp electrophysiology. A Ph.D. with experience in cellular electrophysiology and cell culture desirable. Salary: NIH equivalent. Duration: up to 4 years. Send curriculum vitae and three letters of recommendation to: **Dr. C. J. Lingle, Department of Biological Sciences, Florida State University (FSU), Tallahassee, FL 32306; telephone: 904-644-1759. FSU is an Affirmative Action/Equal Employment Opportunity Employer.**

**POSTDOCTORAL OR RESEARCH ASSOCIATE** position available immediately to study ion transport in subcellular membranes. Experience in one or more of the following areas preferred: membrane biochemistry, protein purification, and immunochemistry. However, individuals with a strong background in related areas are urged to apply. Please send curriculum vitae and three names of references to: **L. Tarallo, Personnel Department, THE MOUNT SINAI MEDICAL CENTER, 19 East 98 Street, New York, NY 10029. An Equal Opportunity Employer.**

The Department of Neurosciences, School of Medicine, University of California, San Diego, is seeking qualified candidates (Ph.D. in biochemistry or molecular biology) for one **POSTGRADUATE RESEARCH POSITION** to work in a laboratory of human biochemical genetics, available in the fall, 1986. Position requires background in (i) enzymology and protein chemistry, or (ii) molecular biology. Salary is competitive nationally. Send curriculum vitae and names of three referees to: **John S. O'Brien, M.D., Department of Neurosciences M-008, University of California, San Diego, La Jolla, California 92093.** Applications will be accepted through 30 November 1986. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available immediately to study steroid receptors and enzymes in the developing fetal monkey brain. Send curriculum vitae and names of three references to: **Dr. Samuel A. Sholl, Wisconsin Regional Primate Research Center, University of Wisconsin, 1223 Capitol Court, Madison, Wisconsin 53715. The University of Wisconsin-Madison is an Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE** position available immediately for NIH-funded studies on the tissue-specific control of transcription in lymphocytes. Emphasis is on the molecular regulation of immunoglobulin and T-cell surface antigen genes. Candidates should hold recent doctorate in biochemistry, immunology, or related field; experience with recombinant DNA preferred. Send curriculum vitae with names of three references to: **Tristram G. Parslow, M.D., Ph.D., Department of Pathology, University of California, San Francisco, CA 94143. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE.** Position available on 5-year NIH-sponsored research program to investigate mechanisms of excitation-contraction coupling in airway smooth muscle. Project will include the use of intracellular  $Ca^{2+}$  indicators, mechanical perturbations, and electrophysiological techniques. Excellent stipend and fringe benefits. Submit curriculum vitae, statement of research interests, and names of three references by 1 August 1986 to: **Dr. S. J. Gunst, Department of Physiology, Mayo Clinic and Foundation, Rochester, MN 55905. An Equal Opportunity/Affirmative Action Institution.**

**POSTDOCTORAL POSITION** available immediately to study the cellular pharmacology of novel folate antimetabolites. Experience in bio-organic chemistry and/or biochemistry, HPLC separations, and tissue culture is preferred. Send résumé and references to:

**G. Peter Beardsley, Ph.D., M.D.  
Department of Pediatrics and Pharmacology  
Yale University School of Medicine  
P.O. Box 3333  
New Haven, Connecticut 06510**

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## POSITIONS OPEN

Oregon State University/Physical Oceanography: Applications are invited for a 3-year, **POSTDOCTORAL POSITION** in the College of Oceanography. The successful applicant will join in the analysis of ocean turbulence data obtained on the TROPIC HEAT I cruise (1984), on the TROPIC HEAT II cruise (1987), and in the Coastal Transition Zone experiment (1987/1988). He or she will take an active role in seagoing work, and will be expected to undertake substantial responsibility for the CTZ experiment. Qualifications include (i) a Ph.D. in physical oceanography, physics or engineering, with a strong background in fluid dynamics, (ii) experience in seagoing experiments, (iii) the willingness to spend several months per year at sea, and (iv) genuine interest in small-scale processes in the ocean. Salary: \$24,000 to \$28,000, depending on qualifications. Résumé, with names, addresses, and telephone numbers of three references should be received by 30 July 1986 by: **Douglas R. Caldwell, College of Oceanography, Oregon State University, Corvallis, OR 97331.** For further information, please contact: **Douglas R. Caldwell, telephone: 503-754-3504; or Jim Moum, telephone: 503-754-4654.** *Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

**POSTDOCTORAL RESEARCH ASSOCIATE** position available immediately to join ongoing program investigating neural control of limb movements. Recent Ph.D. or equivalent with electrophysiological experience, preferably in awake animals. Experience with computer analysis and neuroanatomical methods also advantageous. Stipend consistent with NIH guidelines. Send curriculum vitae, reprints, and names of three references to: **Dr. Marjorie Anderson, Department of Physiology and Biophysics, University of Washington SJ-40, Seattle, WA 98195. Telephone: 206-543-3600.** *The University of Washington is an Equal Opportunity, Affirmative Action Employer.*

**POSTDOCTORAL RESEARCH ASSOCIATE** position available 1 July 1986 for up to 3 years to study molecular developmental genetics of the *frizzled* locus in *Drosophila*, a gene required for the morphogenesis of normal tissue polarity. Many mutant alleles have been isolated, and DNA from the locus has been cloned. Experience in *Drosophila* genetics, or recombinant DNA techniques useful, but talent and enthusiasm more important. Send curriculum vitae and names of three references to: **Dr. Paul Adler, Biology Department, Gilmer Hall, University of Virginia, Charlottesville, VA 22903.** *Equal Opportunity/Affirmative Action Employer.*

**PROJECT ASSOCIATE/ASSISTANT SCIENTIST:** The Department of Surgery, University of Wisconsin Medical School, has a vacancy for a Ph.D. biochemist to study the mechanism of loss of organ function during preservation for transplantation. This is an opportunity to participate in a nationally recognized research program. Competitive salary and fringe benefits. Send curriculum vitae and names of three references by 1 August 1986 to: **Dr. James Southard, Ph.D., The Department of Surgery, University of Wisconsin, 600 Highland Avenue, Madison, WI 53792.** *The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.*

**RADIATION PHYSICIST** to calibrate radiation therapy equipment; to determine radiation dosimetry characteristics for various types and energies of radiation; to calibrate and leak test brachytherapy sources; to develop treatment planning system, calculating dose distributions; to calibrate and maintain radiation dosimetry systems; to implement quality control for electronic imaging devices; to write computer programs for patient treatment planning and records; to evaluate new radiation therapy equipment and design new installations including calculation of shielding specifications; to inspect areas using radiation; to recommend radiation safety procedures; and to educate personnel to radiation protection practices. M.S. in radiological physics and 1 year of experience in some aspect of medical or health physics. Must be eligible for certification by American Association of Physicists in Medicine (or equivalent) and have completed one training course by the Nuclear Regulatory Commission. Salary: \$36,400 per annum. Send résumés to: **Nebraska Job Service, c/o Keith Myers, P.O. Box 94600, Lincoln, NE 68509.** (Job Order number 253089).

## POSITIONS OPEN

### PROFESSOR AND HEAD DEPARTMENT OF PHARMACOLOGY MEDICAL SCHOOL UNIVERSITY OF MINNESOTA

The University of Minnesota Medical School invites applications for the position of professor and head of the Department of Pharmacology. The head of the Department of Pharmacology will be the academic, scientific, and administrative leader of this major department. The department head has the responsibility of implementing medical, allied health, and graduate education in pharmacology and guiding the development of a strong departmental research program. A distinguished scientist is sought for leadership, coordination, and programmatic development. The head of the department is expected to support and extend the department's commitment to contemporary investigative approaches for defining and integrating pharmacologic principles at a cellular, molecular, and physical level.

We seek a candidate with outstanding academic credentials with an earned doctoral degree and at least 8 years of academic/research experience beyond the doctoral degree. The individual who will assume this new leadership must have international research stature and currently be directly engaged in or administering an active research program. Salary is competitive and negotiable. Starting date is 1 July 1987, or as soon as possible.

Interested persons who meet the qualifications described are requested to send a current curriculum vitae documenting their qualifications and professional accomplishments. The deadline for receiving applications is 1 October 1986. Please send to:

**J. H. Oppenheimer, M.D.  
Chairman, Search Committee  
Box 91, Mayo Memorial Building  
515 Delaware Street SE  
University of Minnesota  
Minneapolis, MN 55455**

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

## POSITIONS OPEN

### PROFESSOR OF NUTRITIONAL EPIDEMIOLOGY

The Harvard School of Public Health seeks to appoint a professor of nutritional epidemiology who will have a joint appointment in the Departments of Nutrition and Epidemiology.

The appointee is expected to be strongly qualified in epidemiology and to have a commitment to the study of nutritional components of health and disease.

*Expression of interest is particularly invited from qualified women and minority candidates.*

Send curriculum vitae to:

**Chairman  
Nutritional Epidemiology Search Committee  
Dean's Office  
Harvard School of Public Health  
677 Huntington Avenue  
Boston, Massachusetts 02115**

### RESEARCH ASSOCIATE OR RESEARCH ASSISTANT PROFESSOR IN MOLECULAR PHARMACOLOGY.

Available July 1986 to study the effects of aging on brain muscarinic receptor function in collaboration with **Dr. E. E. El-Fakahany.** Responsibilities also include some teaching in professional and graduate level courses in pharmacology/physiology. Facilities include fully equipped laboratory in recently constructed pharmacy school. Department thrusts in neuro- and behavioral pharmacology and toxicology, and biochemical pharmacology offer additional opportunities for collaborative research. Requirements: Ph.D. in pharmacology with strong background in biochemical techniques used to assess receptor function. Salary and fringe benefits commensurate with experience and level of appointment. Send curriculum vitae and three letters of recommendation to:

**J. Edward Moreton, Ph.D., Acting Chairman, Department of Pharmacology and Toxicology, University of Maryland School of Pharmacy, Baltimore, Maryland 21201.**

*An Equal Opportunity/Affirmative Action Employer.*

## Microbiologist



An equal opportunity employer

Pfizer Central Research has an immediate opening in its antibacterial discovery program. This position offers you an excellent opportunity to participate in an ongoing program to discover mechanistically novel antibacterials for animal health applications.

Your responsibilities will include the development of new *in vitro* and *in vivo* laboratory models and the management of established test systems. You must possess a PhD in microbiology plus two or more years of postdoctoral experience in bacterial physiology/pathogenesis or antimicrobial research.

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

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH FELLOW.** A postdoctoral position is available now to study the mechanism of light-mediated damage to the retina. Of particular interest are factors that may help cause aging-related macular degeneration, and the possible role of macular pigments (carotenoids) in protection proteins and lipids. The project will require tissue preparation, biochemical techniques, and spectroscopic methods (EPR, IR, CD, and so forth). Salary range up to \$20,000 per year, depending on experience. Send curriculum vitae and letters of recommendation to: **Dr. B. Chakrabarti, Eye Research Institute of Retina Foundation, 20 Staniford Street, Boston, MA 02114. Equal Opportunity/Affirmative Action Employer, M/F/H/V.**



### PROGRAM OFFICER NATIONAL RESEARCH COUNCIL BOARD ON AGRICULTURE

**ANIMAL NUTRITION AND ANIMAL HEALTH.** A program officer is sought to provide staff support to the Committee on Animal Nutrition, that has a 50-year history in preparing authoritative reports on the nutritional requirements of agriculturally important animal species. Duties include all aspects of organizing committee activities and the preparation and publication of reports in the animal nutrient requirement series. An opportunity exists also for establishing projects on science and policy issues related to animal health and nutrition. Ph.D. or equivalent level in training and experience in animal nutrition is required, as well as a demonstrated background in other areas of animal science. Competitive salary commensurate with level of experience. Send letter of application, curriculum vitae, and names of three references to: **Position number 320.006, NRC, 2101 Constitution Avenue, NW, Washington, DC 20418. An Equal Opportunity Employer.**

### REPRODUCTIVE ENDOCRINOLOGISTS/TOXICOLOGISTS

Postdoctoral and research assistant position(s) available to join a research group studying reproductive endocrinology and toxicology in marine fishes. Major research interests: steroid synthesis, molecular actions of steroid hormones, and gametogenesis. Strong background in vertebrate reproductive physiology required for postdoctoral position. Master's degree and laboratory experience required for research assistant position. Send curriculum vitae and names of references to: **Dr. Peter Thomas, University of Texas Marine Science Institute, Port Aransas, TX 78373. An Equal Opportunity/Affirmative Action Employer.**

**RESEARCH ASSISTANT PROFESSOR** position available immediately to study cytoskeletal alterations in Alzheimer's disease and diabetic and toxic neuropathies. A strong background and publications in protein chemistry or molecular biology is required. Send curriculum vitae, reprints of recent publications, and names of three references to: **George Perry, Ph.D., Institute of Pathology, Case Western Reserve University, Cleveland, Ohio 44106.**

**RESEARCH ASSOCIATE**-Division of Radiation Sciences in Radiology Department at Medical University of South Carolina (MUSC) seeks a research associate in cell culture cell biology and/or biophysics. Preference will be given to a candidate who has basic knowledge of IC ion level determination by fluorescence and p-31 NMR spectroscopy. Salary will be \$20,000 to \$30,000, depending on qualification. Send curriculum vitae and three letters of reference by 20 July to: **Dr. P. N. Yi, 808 Research Building, Medical University of South Carolina, Charleston, SC 29425.**

### RESEARCH ASSOCIATE

Seeking recent Ph.D. or postdoctoral scientist with 1 to 2 years of experience to carry out research in nutrition, cancer, and mutagenesis. Experience in techniques for studying fecal mutagenesis or measuring genetic damage is required. Submit curriculum vitae and three letters of reference by 31 July 1986 to: **Jerome Block, M.D., Medical Oncology Division, Harbor-UCLA Medical Center, 1000 West Carson Street, Torrance, CA 90509.**

## POSITIONS OPEN

### RESEARCH ASSOCIATE

Howard Hughes Medical Institute Laboratory at the Brigham and Womens Hospital (Harvard affiliated) is looking for a research associate to work in the area of thyroid hormone action at cellular level. Applicant should hold a Ph.D. degree and have extensive experience in molecular biology techniques, as well as familiarity with protein chemistry and cell culture. Salary will depend on experience and qualifications. Please send curriculum vitae and a brief letter of intent to: **J. Enrique Silva, M.D., Thorn Research Building, 20 Shattuck Street, 10th floor, Boston, MA 02115.**

### RESEARCH ASSOCIATE

Postdoctoral/research associate position is available to investigate growth factor production by human monocytes/peritoneal macrophages in relation to peritoneal disease processes. Opportunity to learn molecular biology techniques regarding oncogene expression. Send curriculum vitae and bibliography and telephone number to:

**Jouko K. Halme, M.D., Ph.D.  
Stephen Haskill, Ph.D.  
Divisions of Reproductive Endocrinology  
and Fertility and Gynecology Oncology  
Department of Obstetrics and Gynecology  
University of North Carolina  
Chapel Hill, NC 27514**

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

**RESEARCH ASSOCIATE** position to study viral and cellular tyrosine kinases is available immediately. Ongoing research is focusing on the structural studies of tyrosine kinases towards the rational design of tyrosine kinase inhibitors. Applicants should have a Ph.D. in chemistry, at least 4 years of experience in research in related areas of enzymology and synthetic chemistry. Molecular cloning is involved in this project. The applicant must be familiar with the application of NMR to biological problems, peptide synthesis, chemistry of phosphorus, electrophoretic, immunochemical, and radiochemical techniques. Some knowledge of tissue culture is required. Must be capable of interfacing with biologically and chemically oriented research groups. Salary \$24,000 per year. Send résumé and three letters of recommendation to: **Dr. Allan R. Goldberg, Box 60, The Rockefeller University, 1230 York Avenue, New York, NY 10021. The Rockefeller University is an Equal Opportunity Employer.**

### RESEARCH BIOCHEMIST/IMMUNOLOGIST

GS-11/12, research associate, Helminthic Diseases Laboratory, Beltsville, Maryland. Agricultural Research Service (ARS) is seeking a recent Ph.D. with background in biochemistry, immunology, or parasitology. Successful candidate will participate in basic research program on the biochemistry and immunology of nematode parasites of ruminant livestock. Appointment to this position will be for 2 years. Salary: \$26,000 to \$31,000. For information, contact: **Dr. H. R. Gamble, U.S. Department of Agriculture (USDA), Agricultural Research Service, BA, Animal Parasitology Institute, Building 1040, Room 2, BARC-East, Beltsville, MD 20705; telephone: 301-344-1770 or J. A. Murchison, telephone: 301-344-3953. Mark applications 6E039. Deadline 1 October 1986. An Equal Opportunity Employer.**

### RESEARCH IMMUNOLOGIST/PARASITOLOGIST

GS-11/12, research associate, Helminthic Diseases Laboratory, Beltsville, Maryland. Agricultural Research Service (ARS) is seeking a recent Ph.D. to study immune response of genetically inbred mice and pigs to *Trichinella spiralis* infection and to genetically engineered vaccines. Appointment to this position will be for 2 years. Salary: \$26,000 to \$31,000. For information, contact: **Dr. J. Lunney, U.S. Department of Agriculture (USDA), Agricultural Research Service, BA, Animal Parasitology Institute, Building 1040, Room 2, BARC-East, Beltsville, MD 20705, telephone: 301-344-1768 or J. A. Murchison, 301-344-3953. Mark applications 6E040. Deadline 1 October 1986. An Equal Opportunity Employer.**

## POSITIONS OPEN

**RESEARCH ASSOCIATE POSITION**, coordinating clinical research studies in diabetes, preparing statistical analyses of all data, and preparing material on results for scientific papers. Requires B.S. or equivalent, minimum of 5 years, experience as laboratory director, and experience with insulin and glucose clamp studies in human subjects, isotopic dilution studies, radioimmunoassays, and high performance liquid chromatography and a thorough understanding of biomedical statistics. Salary: \$25,000 to \$27,000. Send résumé and three letters of reference to: **Diabetes/Metabolic Unit (R-77), University of Miami, School of Medicine, POB 016960, Miami, FL 33101. Equal Opportunity/Affirmative Action Employer.**

### RESEARCH DIRECTOR

The University of Nebraska Medical Center is seeking a qualified research director with a Ph.D. and/or M.D. degree for the Department of Anesthesiology. Must demonstrate capability for teaching the principles of research to medical students, residents, and junior faculty. Experience in administering research laboratories, demonstrated record of publishing, and ability to lead independent research effort in an anesthesiology-related field. Respond to: **Dr. Michael Nahrold, M.D., University of Nebraska, Department of Anesthesiology, 42nd and Dewey Avenue, Omaha, NE 68105. Equal Opportunity/Affirmative Action Employer.**

### DEPARTMENT OF AGRICULTURE (USDA) AGRICULTURAL RESEARCH SERVICE (ARS)

**RESEARCH IMMUNOLOGIST (MICROBIOLOGIST/CHEMIST)**, U.S. Meat Animal Research Center, Clay Center, Nebraska.

ARS is seeking a research immunologist (microbiologist/chemist) to conduct research on immune mechanisms in cattle of known major histocompatibility type relevant to studies in genetics of disease resistance. Candidate must have: (i) a knowledge of immunology, (ii) the ability to determine efficacy of antibody and cell-mediated immune responses, and (iii) a knowledge of methodology for measuring primary and secondary immune responses.

Must be U.S. citizen. Salary is commensurate with experience (\$31,619 to \$48,876). For information on the research program and/or position, contact: **Dr. John M. Vetterling; telephone: 402-762-3241.** For information on application procedures/forms, contact: **Mr. Lee Triplett; telephone: 301-344-1863.** Applications in response to this advertisement should be marked 6N009 and must be received by 1 August 1986.

Mailing address: **USDA, Agricultural Research Service  
Personnel Operations Branch  
North Central Section-6N009  
Room 318H, Building 003,  
BARC-W  
Beltsville, Maryland 20705**

*An Equal Opportunity Employer*

### THE AGRICULTURAL RESEARCH COUNCIL OF NORWAY INSTITUTE OF AQUACULTURE RESEARCH (AKVAFORSK)

At AKVAFORSK there is a vacancy for a **RESEARCHER IN QUANTITATIVE GENETICS**. Applicants should have a Ph.D. degree or equivalent qualifications. Experience in research in aquaculture is an advantage, but not a request.

AKVAFORSK carries out research in fish farming with special emphasis on quantitative genetics/selection, nutrition, and fish health. AKVAFORSK has two large, well-equipped research stations on the coast south of Trondheim, at Averøy and Sunndalsøra. Some of the scientists are working at the Agricultural University of Norway Ås, in close cooperation with the Department of Animal Genetics and Breeding and the Department of Poultry and Fur Animals.

Salary of Nkr. 141.209 to 191.678, according to earlier experiences and qualifications.

Applications should include curriculum vitae and the names of two referees and should be sent to: **Institute of Aquaculture Research, Box 10, 1432 Ås-NLH, Norway.** Closing date: 15 July 1986.



# RESEARCH AND DEVELOPMENT SCIENTISTS

**Amgen** is a leading biotechnology company developing innovative therapeutic, diagnostic, and specialty chemical products. Rapid progress in the development of product candidates and our commitment to innovation, necessitates the addition of a select number of highly qualified staff who possess a record of research excellence.

The following positions require a Ph.D. in an appropriate field and relevant graduate, postdoctoral and/or industrial experience:

## **Experimental Hematology**

Experience *in vitro* and *in vivo* hematology and immunological assays, cell differentiation, growth factors, anti-proliferative agents and immunomodulation. (Dept. 21)

## **Immunology**

Experience in *in vitro* and *in vivo* assessment of lymphokine and cytokine biology, cell surface marker analysis, hybridoma and immunochemical technology, immunoassays and immunoaffinity purification. (Dept. 23)

## **Immunoassay Development**

Experience in immunoassay technology and hybridoma methodology. (Dept. 23a)

## **Molecular Biology**

Experience in molecular biology or enzymology of cofactors, multi-enzyme pathways, cDNA cloning and expression, expression in prokaryotes. (Dept. 41)

## **Molecular Cell Biology**

Experience in eukaryotic molecular genetics, cell culture methodology, cell biology, and virology. (Dept. 220)

## **Parenteral Formulation/ Novel Drug Delivery**

Development of preformulation/formulation/sustained release dosage forms of recombinant DNA derived proteins, including development of specific analytical methods, and use of biocompatible polymers. (Dept. 71)

## **Process Development**

Development of large scale GMP protein purification/recovery and mammalian cell culture processes. (Dept. 72)

## **Protein Chemistry**

Purification and characterization (biochemical and biophysical) of natural and recombinant DNA derived proteins. (Dept. 123)

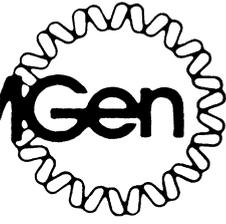
## **Fermentation**

Development of large scale industrial fermentation processes. (Dept. 54)

**Amgen** offers an attractive compensation and benefits package and a dynamic and stimulating environment. Qualified candidates are requested to forward a resume/-curriculum vitae, and the names of three references. **Please refer to the appropriate department number listed above.**

**Recruitment (Specify Dept. #)**

**AMGEN**  
1900 Oak Terrace Lane  
Thousand Oaks, CA 91320



**AMGen**

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## POSITIONS OPEN

**RESEARCH ASSOCIATE** for Institute of Reproductive Medicine at Eastern Virginia Medical Authority and Eastern Virginia Medical School. Applicant must possess M.S. in biological science or B.S. in biological science and 2 years of research experience. Experience in *in vitro* fertilization preferred. Excellent salary and benefits offered. Please send résumé to: **Eastern Virginia Medical Authority, Personnel Department, P.O. Box 1980, Norfolk, VA 23501. We are an Equal Opportunity Employer/Affirmative Action Employer.**

### RESPIRATORY NEUROPHYSIOLOGIST

**Assistant Professor level**—A specific interest and knowledge of respiratory control systems is preferred. Minimum requirements: Ph.D. with 2 years of postdoctoral training. Candidate will be expected to establish a vigorous research program to complement studies of respiratory neuroanatomy, eustachian tube reflex mechanisms, and laryngeal function. Send curriculum vitae to: **Dr. Avrim R. Eden, Department of Otolaryngology, MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, NY 10029. Telephone: 212-650-6307. An Equal Opportunity Employer.**

**SCIENTIST—CHEMIST.** Responsible for environmental impact assessment projects in major Asian countries. Should be familiar with mathematical modeling of physical-chemical/physical-biochemical processes with extensive computational experience and programming. Requires Ph.D. in chemistry or may be substituted with M.S., plus 3 years of experience in mathematical modeling of the uncertainties of parameters using risk analysis or sensitivity analysis technique including data interpretation. Must speak, read, and write Chinese. Salary \$40,000 per annum. Job in Bellevue, Washington. Mail résumé to: **Employment Security Department; ES Division, Attention: AEC number 45752; Olympia, WA 98504.**

### SCIENTIST —IMMUNOLOGY—

Genentech, Inc., a leader in the field of biotechnology, has an opening for an immunologist with research experience involving the pathogenesis of autoimmune diseases in murine models. Knowledge of lymphokine immunobiological and mouse genetics is essential. The successful candidate will have a Ph.D. in immunology and at least 3 years of relevant postdoctoral experience; ability to establish collaborations with clinicians and basic researchers is important.

Genentech offers competitive salaries and benefits coupled with the opportunity to make a significant contribution to our organization. Please send résumé to: **Human Resources Department number 4316, Genentech, Inc., 460 Point San Bruno Boulevard, South San Francisco, CA 94080. An Equal Opportunity Employer.**

**SENIOR PHARMACEUTICAL RESEARCH SCIENTIST.** Conduct research and development in the area of transdermal drug delivery systems, and the diffusional properties of skin. Prepare progress reports on findings. Requires detailed practical knowledge of design and function of transdermal drug delivery systems, skin as a membrane especially including *in-vitro* methods in characterization of diffusional properties of skin, and skill in applying non-invasive techniques in skin and membrane research. Requires a strong background in basic pharmaceuticals with strong skills in physical chemistry, advanced mathematics, and some computer analysis. Requires Ph.D. in pharmaceuticals. No specific experience required. Monday through Friday, 8 a.m. to 5 p.m. \$35,000 per annum. Apply at: **Job Service of Florida, 4205 Hollywood Boulevard, Hollywood, Florida 33022. Refer to Job Order Number FL5119498.**

**SYSTEMS PROGRAMMER** with significant experience in language and system design, and with interest in developing well-tested reliable systems for non-expert users, especially for educational purposes. To develop software tools for use in a networked educational computing environment. Ph.D. or comparable experience. Salary commensurate with experience. Deadline 15 July 1986. Send résumé and cover letter (no telephone calls) to: **Search Committee, CDEC, Building B, Carnegie-Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213.**

## POSITIONS OPEN

### PATHOLOGY LABORATORY

The National College of Chiropractic in Lombard, Illinois, is seeking a person to **SUPERVISE** the Pathology Laboratory, teach the laboratory part of systems pathology, and eventually become involved in lecturing in pathology. Ability and willingness to teach well is important. This is a 12-month, tenure-track position for Ph.D., M.D., or D.C., non-tenure-track for M.S. One month paid vacation, health insurance, and retirement plan, as well as other benefits are part of the salary package. Salary and rank dependent upon qualifications and experience.

Application should include transcripts and three letters of recommendation sent to:

**Dr. Calvin C. Kuehner  
Chairman, Search Committee  
The National College of Chiropractic  
200 E. Roosevelt Road  
Lombard, IL 60148**

### SENIOR RESEARCH ASSOCIATE

Protein biochemist holding Ph.D. degree and at least 2 years of postdoctoral training to be an active participant in well-developed, but innovative study of biologically relevant protein-lipid interactions. Problem area deals primarily with separation, isolation, and characterization of unique human liver secretory proteins having a variety of biological functions. Co-workers consist of an interactive group already of critical size for productivity. Candidates should have appropriate biochemistry, cell biology, and possibly applied immunochemistry experience. Submit complete résumé and names of three references to: **G.I. Research Unit, Cleveland Clinic Foundation Research Institute, 9500 Euclid Avenue, Cleveland, OH 44106-0410. An Equal Opportunity Employer.**

Graduate students for temporary position as **TEACHING AND RESEARCH ASSISTANTS** at Kennedy Space Center, Florida Space Life Sciences Training Program, January to August 1987. Teaching and/or research experience: vestibular or cardiovascular physiology, animal nutrition, microbiology, aquatic ecology, invertebrate developmental biology, or plant physiology required. Opportunity to organize and direct curriculum and laboratory activities for NASA undergraduate educational program; learn space life sciences research; and participate in student flight research project. Submit résumé and names of three references to: **J. R. Puleo, The Bionetics Corporation, Mail Code BIO-1, Kennedy Space Center, FL 32899. Equal Opportunity Employer.**

### TOXICOLOGIST

The Connecticut Department of Health Services seeks an individual with experience in environmental and/or research toxicology, preferably with Ph.D., M.S., or M.P.H. with experience in toxicology. This position requires a knowledge of toxicological risk assessment, including assessing chemical exposures in air and water, as well as the industrial environment. The qualified individual will be involved in the evaluation of toxicology data and in program development to assess the biomedical mechanisms of toxicity for selected chemicals. Good communication skills are essential.

Supervisory experience is required. This is a civil service position and requires an examination.

Send résumé to: **Personnel Administrator  
Connecticut Department of Health Services  
150 Washington Street  
Hartford, CT 06106**

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## CONFERENCE

**INTERNATIONAL CONFERENCE ON PROSTAGLANDINS AND LIPID METABOLISM IN RADIATION INJURY.** To be held 2 and 3 October 1986 at the Crowne Plaza Hotel in Rockville, Maryland. The proceedings will be published. The abstract deadline is 16 August 1986. Registration fee is \$45 (\$25 for students). Sponsored by **The Armed Forces Radiobiology Research Institute.** For further information contact: **Dingle Associates, 1625 Eye Street, NW, Suite 915, Washington, DC 20006.**

## CONFERENCE

### 16TH CONFERENCE ON TOXICOLOGY

A conference will be held 28 to 30 October 1986, at the Radisson Inn, Dayton, Ohio, sponsored by the Air Force Armstrong Aerospace Medical Research Laboratory/Toxic Hazards Division and the Naval Medical Research Institute/Toxicology Detachment, Wright-Patterson AFB, Ohio.

Topics in environmental, occupational, and predictive toxicology will be featured.

Abstracts for poster presentations are being solicited and must be received by 1 August 1986.

Attendance is by invitation only. To request an invitation or to obtain further information, contact: **Linda Cooper, Conference Coordinator, Northrop Services, Inc., P.O. Box 12313, Research Triangle Park, NC 27709; Telephone: 919-549-0652.**

## FELLOWSHIPS

### ARCHBOLD BIOLOGICAL STATION POSTDOCTORAL FELLOWSHIP

An ecologist or evolutionary biologist with special expertise in statistics and computer applications is sought. Duties will include half-time consulting with scientific staff and half-time research. Research interests should be appropriate for work on the station property or in southern Florida. One-year appointment possibly renewable for a second year. Available immediately. Housing and a stipend of \$17,000 per year will be provided. Applications should include a letter detailing skills and experience in statistics/computer applications, a short research proposal, curriculum vitae, and three letters of recommendation. Deadline 1 August 1986. Send applications or requests for information to: **Executive Director, Archbold Biological Station, P.O. Box 2057, Lake Placid, FL 33852. Telephone: 813-465-2571.**

**POSTDOCTORAL FELLOWSHIP IN CLINICAL IMMUNOLOGY.** Two-year program accredited by CPEP, AAM. Salary commensurate with experience. Contact: **Director, Clinical Immunopathology, University of Pittsburgh, 5725 Main Tower, One Children's Place, Pittsburgh, PA 15213.**

### POSTDOCTORAL FELLOWSHIPS IN REPRODUCTIVE BIOLOGY

The Laboratories for Reproductive Biology at The University of North Carolina, Duke University, North Carolina State University, and the National Institute of Environmental Health Sciences announce a training program in the areas of neuroendocrinology, regulation of gonadal function, sperm maturation and fertilization, and steroid hormone action. Research emphasis is on molecular mechanisms of regulation. A full description of the program is available upon request.

Send inquiries to: **Dr. Frank S. French, The Laboratories for Reproductive Biology, Box 4, MacNider Building 202-H, The University of North Carolina School of Medicine, Chapel Hill, North Carolina 27514. Telephone: 919-966-5159.**

### STAFF FELLOWSHIP VACANCY

**NMR SPECTROSCOPIST.** The National Institute of Alcohol Abuse and Alcoholism (NIAAA) invites applications for qualified individuals with a strong background in high resolution and/or solid state NMR for the position of staff fellow in the Intramural Research Program of NIAAA. Candidates should have a Ph.D. degree in chemistry, biophysics, or equivalent and preferably some postdoctoral training. Research opportunities will involve the use of NMR in studies of membranes and proteins in a program that will seek to investigate the effects of alcohol on the cell and molecular basis of alcohol tolerance and dependence. Excellent instrumentation is available. Initial appointment for 2 years with possible renewal, full federal benefits. Salary range from \$17,000 to \$36,889, commensurate with relevant postdoctoral experience. Stipend is determined by the candidate's educational and professional experience. Send curriculum vitae including publication reprints, and three letters of reference to: **Kathleen Hanratty, Division of Personnel Management, Room 15C18, 5600 Fishers Lane, Rockville, Maryland 20857. Telephone: 301-443-5407. NIAAA is an Equal Opportunity Employer.**

# Opportunities in Biopharmaceutical Research and Development

The Department of Macromolecular Sciences in Biopharmaceutical Research and Development of Smith Kline & French Laboratories is seeking outstanding scientists with expertise in the structure, function and analysis of proteins. The Department is comprised of scientists experienced in the application of biophysical and bioanalytical methods to protein structure and in the isolation, purification, characterization and chemical modification of proteins. SmithKline is committed to scientific excellence and we encourage staff to publish, hold adjunct academic posts, and to interact fully with the scientific community.

## **ASSOCIATE DIRECTOR**

An outstanding scientist is being sought to develop and direct a research group involved in the study of the chemistry and biochemistry of proteins. Scientists with interest and experience in structure-function studies of virus proteins, immunoregulatory proteins and their receptors, growth hormones and their receptors, and proteases would be of special interest. The position offers an excellent opportunity for establishing an innovative research program and for the recruitment and supervision of a number of talented scientists. Applicants for this position should have: a Ph.D. degree and eight years experience after the doctorate in Biochemistry, Chemistry or related disciplines; experience in protein isolation, purification, and structure-function relationships; a demonstrated record of research in academia or industry; supervisory abilities and the capacity to motivate a research team; excellent communication skills; a national or international reputation as a scholar with a bibliography of publications reflecting a record of significant scientific achievement.

## **ASSOCIATE SENIOR INVESTIGATOR**

A scientist is being sought to complement a research group involved in frontier research in protein bioanalytical methodology. Emphasis will be on the development of innovative methods for the analysis of proteins. Applicants for this position should have: a Ph.D. in Chemistry or Biochemistry; experience in radiochemistry, electrophoresis and electroblotting; an outstanding record of publication; experience in statistical analysis and analytical methodology are preferred.

## **ASSOCIATE SCIENTIST**

A scientist is being sought with interest in conducting experiments in protein purification and characterization, setting up protein solutions for crystallography experiments and assisting in the design, interpretation, and modification of experiments and techniques. Applicants for this position should have: a B.S. in Chemistry, Biochemistry or Biology and a minimum of 3 years laboratory experience; experience in protein purification and characterization; knowledge and experience in analytical techniques such as liquid chromatography and electrophoresis; an M.S. in Chemistry, Biochemistry or Biology and/or experience with HPLC, protein crystallography and antibody production in small quantities are highly desirable.

Smith Kline & French Laboratories is located in a new, state-of-the-art research facility near Valley Forge, Pennsylvania. We offer an excellent salary, benefits, and relocation package as well as opportunities for personal and professional growth. Please forward your C.V. and names of three references to George P. Kissell, Jr., Manager, Personnel Relations, 1588 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer M/F/H/V.

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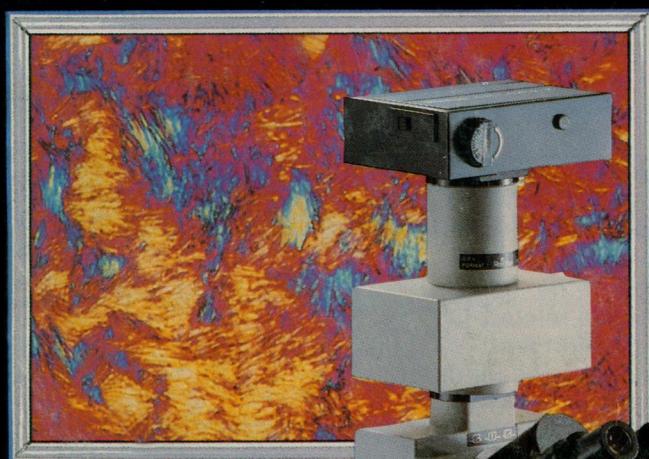
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