

includes a number of textbook-style illustrations and boxed explanations of matters ranging from human evolution to the functions of interagency task forces, as well as a glossary. A paperback version is available from the Government Printing Office (stock no. 052-003011069; \$10).—K.L.

Technology and Politics. MICHAEL E. KRAFT and NORMAN J. VIG, Eds. Duke University Press, Durham, NC, 1988. xvi, 358 pp. \$59.75; paper, \$17.95.

In this volume Kraft and Vig have brought together 13 essays in an attempt to "take a broad approach to the question of governing technology in the human interest." The first group of essays is characterized by the editors as philosophical—Vig on technology, philosophy, and the state, Langdon Winner on whether artifacts have politics, and Albert Borgmann on the connections between technology and democracy. The second group deals with institutions and processes involved in the governing of technology—W. Henry Lambright and Diane Rahm on presidential management, John H. Gibbons and Holly L. Gwin on the Office of Technology Assessment, Roger G. Noll and Linda R. Cohen on government support of R&D programs, and Allan Mazur on the mass media. In the third group issues of risk assessment and management are discussed by Harvey Brooks, Kraft (who includes some data about federal efforts), and Edward J. Woodhouse. The final group deals with "cases and controversies"—Robert H. Blank on biomedical technology, Kraft on nuclear waste disposal, and Roger D. Masters and Arthur R. Kantrowitz on science adversary procedures at Dartmouth focused on the Strategic Defense Initiative. Each group of essays has an introduction by the editors, who also provide a conclusion to the collection as a whole.—K.L.

The Earth's Fragile Systems. Perspectives on Global Change. THORKIL KRISTENSEN and JOHAN PETER PALUDAN, Eds. Westview, Boulder, CO, 1988. xiv, 109 pp. \$30. International Federation of Institutes for Advanced Study Research Series, vol. 4.

This collection of papers was prepared by members of the International Federation of Institutes for Advanced Study (IFIAS), an association of 35 research institutes in industrialized and developing countries whose purpose is to work together "to address major global problems of long-term importance in environment, economy and science and technology." According to the chairman of IFIAS, Hermann Bondi, "In this, as in all

IFIAS work, the final aim is a severely practical one—to be of real help to those who have to make major decisions." The book's four chapters cover deforestation in the tropics, urbanization in developing countries, the greenhouse effect, and the transformation of arid lands into "thriving habitats." Each chapter is followed by critical comments from representatives of other IFIAS member institutes; for example, "Greening of the desert," by Amos Richmond of the Jacob Blaustein Institute for Desert Research, Israel, is discussed by E. El-Hinnawi of the National Research Centre, Egypt, who comments that Richmond draws too heavily on the Israeli experience and should "internationalize" his arguments, and by Malcolm Slesser of the Resource Use Institute, Scotland, who finds Richmond's prediction that the next century will see "a significant exodus into today's drylands" overly optimistic. Responses to comments are included. In a final commentary on the papers, Bent Elbek of the Niels Bohr Institute, Denmark, identifies and discusses two common and related themes, development and energy, concluding that "it will require political skill and good luck if we are not going to reenact the energy crisis sometime in the 1990s."

—D.F.W.

Books Received

Animal Physiology. Mechanisms and Adaptations. Roger Eckert, David Randall, and George Augustine. 3rd ed. Freeman, New York, 1988. xiv, 683 pp., illus. \$39.95.

The Antigens. Vol. 7. Michael Sela, Ed. Academic Press, San Diego, CA, 1987. xvi, 341 pp., illus. \$95.

The Art of Scientific Writing. From Student Reports to Professional Publications in Chemistry and Related Fields. Hans F. Ebel, Claus Bliefert, and William E. Russey. VCH, New York, 1987. xx, 493 pp. \$59.95; paper, \$24.95.

Astrophotography. S. Marx, Ed. Springer-Verlag, New York, 1988. x, 241 pp., illus. \$45. From a workshop, Jena, G.D.R., April 1987.

The Atlantic Continental Margin. U.S. Robert E. Sheridan and John A. Grow, Eds. Geological Society of America, Boulder, CO, 1988. x, 610 pp., illus., + charts in slipcase. \$49.50. The Geology of North America, vol. I-2.

The Biophysics of Organ Cryopreservation. David E. Pegg and Armand M. Karow, Jr., Eds. Plenum, New York, 1987. x, 485 pp., illus. \$95. NATP Advanced Science Institutes Series A, vol. 147. From an institute, Atlanta, GA, April 1987.

Bioseparations. Downstream Processing for Biotechnology. Paul A. Belter, E. L. Cussler, and Wei-Shou Hu. Wiley-Interscience, New York, 1988. xvi, 368 pp., illus. \$39.95.

Biotechnology in Invertebrate Pathology and Cell Culture. Karl Maramoroschi, Ed. Academic Press, San Diego, CA, 1987. xx, 511 pp., illus. \$95.

Designing Foods. Animal Product Options in the Marketplace. National Research Council. National Academy Press, Washington, DC, 1988. xvi, 367 pp., illus. \$39.95; paper, \$29.95.

Diagenesis of Sedimentary Sequences. J. D. Marshall, Ed. Published for the Geological Society by Blackwell Scientific, Palo Alto, CA, 1988. vii, 360 pp., illus., + plates. \$135. Geological Society Special Publication no. 36. Based on a meeting, Liverpool, U.K., Sept.–Oct. 1986.

Electrical and Electronic Properties of Polymers. A State-of-the-Art Compendium. Jacqueline I. Kroschwitz, Ed. Wiley-Interscience, New York, 1988. xxvi, 330 pp., illus. \$45. Encyclopedia Reprint Series.

The Electronic Era of Publishing. An Overview of Concepts, Technologies and Methods. Oldrich Standera. Elsevier, New York, 1987. xiv, 407 pp., illus. \$39.95.

Elements of Inorganic Chemistry. G. J. Ferraudi. Wiley-Interscience, New York, 1988. xiv, 248 pp., illus. \$37.50.

Flanagan's Version. A Spectator's Guide to Science on the Eve of the 21st Century. Dennis Flanagan. Knopf, New York, 1988. x, 272 pp. \$18.95.

Linear Least Squares Computations. R. W. Farebrother. Dekker, New York, 1988. xiv, 293 pp. \$45. Statistics, vol. 91.

Low-Level Radioactive Waste Regulation. Science, Politics and Fear. Michael E. Burns, Ed. Lewis, Chelsea, MI, 1988. xxii, 311 pp. \$39.

Luminescence Centers of Rare Earth Ions in Crystal Phosphors. M. D. Galanin, Ed. Nova Science, Commack, NY, 1988. vi, 161 pp., illus. \$71. Proceedings of the Lebedev Physics Institute of the Academy of Sciences of the U.S.S.R., vol. 175. Translated from the Russian edition (Moscow, 1986) by Michael L. Allen.

McGraw-Hill Encyclopedia of Electronics and Computers. Sybil P. Parker, Ed. 2nd ed. McGraw-Hill, New York, 1988. xvi, 1047 pp., illus. \$75. Reprinted from *McGraw-Hill Encyclopedia of Science and Technology*, 1987.

McGraw-Hill Encyclopedia of the Geological Sciences. Sybil P. Parker, Ed. 2nd ed. McGraw-Hill, New York, 1988. xiv, 722 pp., illus. \$85. Reprinted from *McGraw-Hill Encyclopedia of Science and Technology*, 1987.

Memory in Historical Perspective. The Literature Before Ebbinghaus. Douglas J. Herrmann and Roger Chaffin, Eds. Springer-Verlag, New York, 1988. xiv, 254 pp. Paper, \$2. Recent Research in Psychology.

Messages from Home. The Mother-Child Home Program and the Prevention of School Disadvantage. Phyllis Levenstein. Ohio State University Press, Columbus, OH, 1988. xii, 247 pp. \$22.50.

Multivariate Exploratory Data Analysis. A Perspective on Exploratory Factor Analysis. Allen Yates. State University of New York Press, Albany, 1988. xviii, 354 pp., illus. \$59.50; paper, \$19.95.

Nature in Its Greatest Extent. Western Science in the Pacific. Roy MacLeod and Philip F. Rehbock, Eds. University of Hawaii Press, Honolulu, HI, 1988. xiv, 288 pp., illus. \$43. From a symposium, Berkeley, CA, 1985.

Neural Control of Rhythmic Movements in Vertebrates. Avis H. Cohen, Serge Rossignol, and Sten Grillner, Eds. Wiley-Interscience, New York, 1988. xii, 500 pp., illus. \$75. Wiley Series in Neurobiology.

Peptidergic Mechanisms in the Cerebral Circulation. L. Edvinsson and J. McCulloch, Eds. VCH, New York, and Horwood, Chichester, U.K., 1987. 240 pp., illus. \$115.95. Ellis Horwood Series in Biomedicine.

Persephone's Quest. Entheogens and the Origins of Religion. R. Gordon Wasson et al. Yale University Press, New Haven, CT, 1988. 257 pp., illus. \$32.50. Reprint, 1986 edition.

Persistent Spectral Hole-Burning. Science and Applications. W. E. Moerner, Ed. Springer-Verlag, New York, 1988. xiv, 315 pp., illus. \$52.70. Topics in Current Physics, vol. 44.

Perspectives in Psychopharmacology. A collection of Papers in Honor of Earl Usdin. Jack D. Barchas and William E. Bunney, Jr., Eds. Liss, New York, 1988. xxxviii, 681 pp., illus. \$120. Neurology and Neurobiology, vol. 40. From a symposium, Irvine, CA, 1984.

Perspectives in Shock Research. Robert F. Bond, H. Richard Adams, and Irshad H. Chaudry, Eds. Liss, New York, 1988. xxii, 452 pp., illus. \$90. Progress in Clinical and Biological Research, vol. 264. From a conference, Montreal, Quebec, June 1987.

Pharmacokinetics. Mathematical and Statistical Approaches to Metabolism and Distribution of Chemicals and Drugs. A. Pecile and A. Rescigno, Eds. Plenum, New York, 1988. x, 348 pp., illus. \$65. NATO Advanced Science Institutes Series A, vol. 145. From an institute, Erice, Italy, June 1987.

Phase Transitions and Critical Phenomena. Vol. 12. C. Domb and J. L. Lebowitz, Eds. Academic Press, San Diego, CA, 1988. xviii, 498 pp., illus. \$50.

The Psychology of Human Thought. Robert J. Sternberg and Edward E. Smith, Eds. Cambridge University Press, New York, 1988. xii, 480 pp., illus. \$54.50; paper, \$19.95.

Sensors and Controls in the Analysis of Distributed Systems. A. El Jai and A. J. Pritchard. Horwood, Chichester, U.K., and Wiley, New York, 1988. 125 pp., illus. \$64.95. Mathematics and its Applications.

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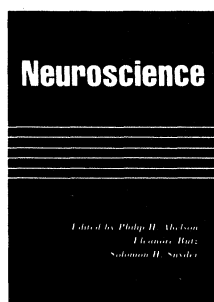
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Neuroscience

Edited by Philip H. Abelson, Eleanore Butz, and Solomon H. Snyder

A collection of 27 *Science* articles on neuroscience research — ranging from genetic engineering to clinical therapy. Provides an integrative treatment of brain anatomy, physiology, and chemistry, and addresses fundamental questions concerning nervous system functioning. 1985; 454 pp.; hardcover \$29.95 (\$23.95 for AAAS members); softcover \$14.95 (\$11.95 for AAAS members); AAAS Publication #84-13.

Biotechnology: The Renewable Frontier

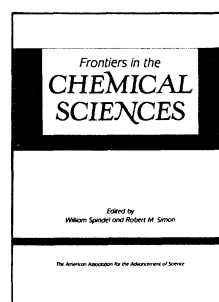
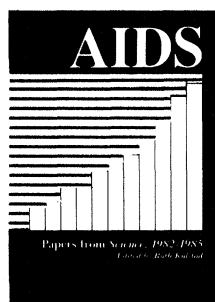
Edited by Daniel E. Koshland, Jr.

Covers the latest and most important topics at the forefront of biological research in 26 papers from *Science*. Illustrates the extraordinary cross-disciplinary aspects of modern biology and its tremendous impact on the future. Topics include virology, immunology, developmental biology, cancer, hormones, sensory phenomena, and more. 1986; 384 pp.; hardcover \$29.95 (\$23.95 for AAAS members); softcover \$17.95 (\$14.35 for AAAS members); AAAS Publication #85-26.

AIDS: Papers from Science, 1982–1985

Edited by Ruth Kulstad

Presents some of the most frequently cited research papers and news reports on AIDS, published in *Science* between 1982 and 1985. Chronicles how far AIDS research has come and provides an indication of the



direction in which it might go. An overview of AIDS research is provided by Myron Essex, chairman of the Department of Cancer Biology, Harvard University School of Public Health. 1986; 654 pp.; hardcover \$32.95 (\$26.35 for AAAS members); softcover \$19.95 (\$15.95 for AAAS members); AAAS Publication #85-23.

Frontiers in the Chemical Sciences

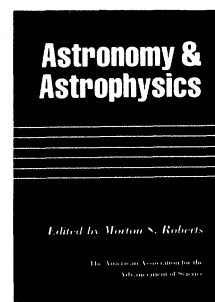
Edited by William Spindel and Robert M. Simon

Describes recent progress in all areas of chemistry, including new work in ultrafast reactions, chemical catalysis, organic synthesis, enzyme mechanisms, theoretical chemistry, analysis, and the chemistry of materials. Compiled from 38 *Science* articles. 1986; 624 pp.; hardcover \$29.95 (\$23.95 for AAAS members); softcover \$17.95 (\$14.35 for AAAS members); AAAS Publication #85-10.

Astronomy & Astrophysics

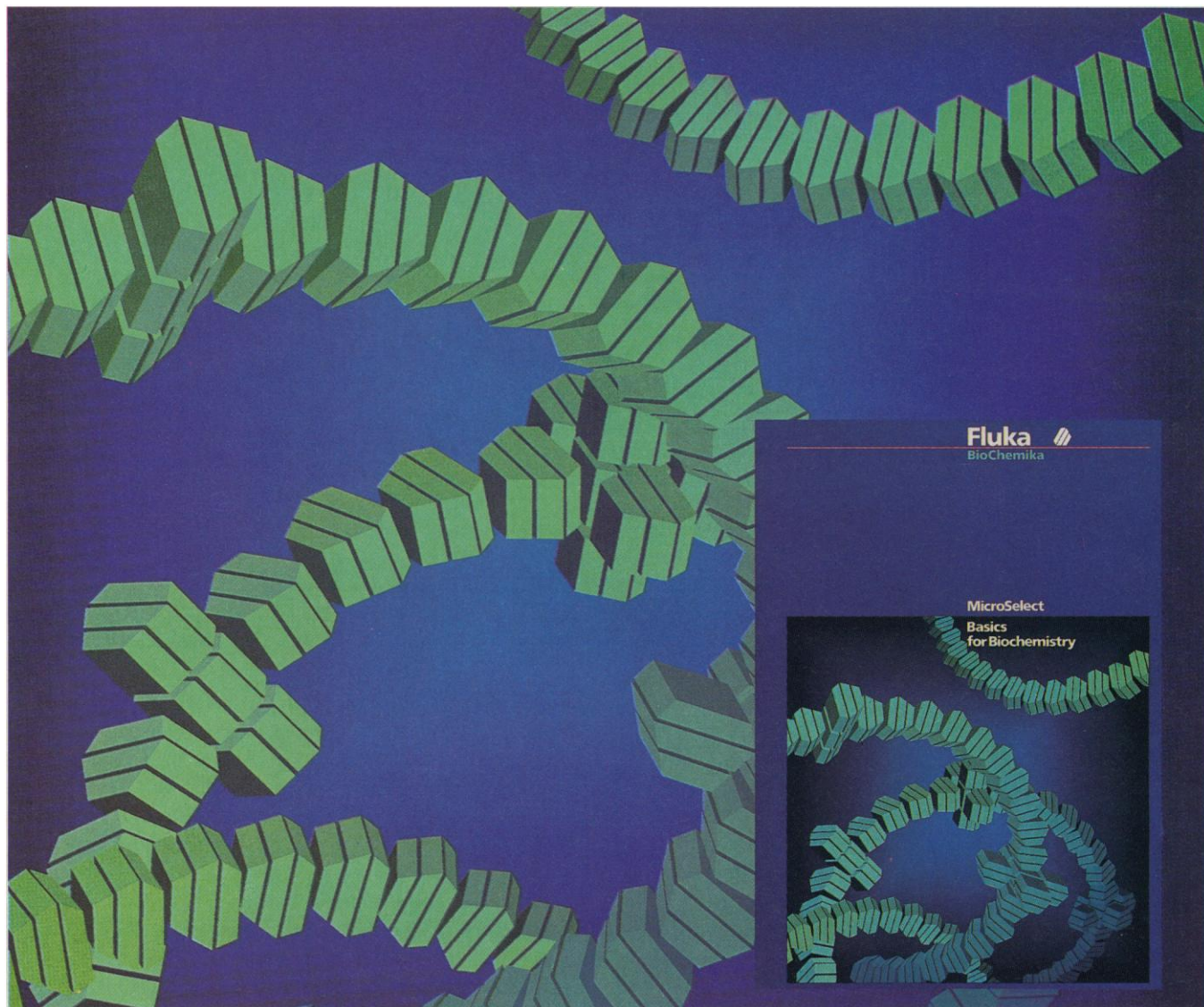
Edited by Morton S. Roberts

From our own solar system to the pulsars at the very edge of the cosmos, this collection of 24 articles from *Science* reveals a broad, coherent, and contemporary picture of our astronomical universe. Topics include galaxies and cosmology, the solar system, instrumentation, and the structure and content of the galaxy. 1985; 384 pp.; hardcover \$29.95 (\$23.95 for AAAS members); softcover \$17.95 (\$14.35 for AAAS members); AAAS Publication #85-4.



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Science, Arms Control, and National Security

The Verification Challenge: Problems and Promise of Strategic Nuclear Arms Control Verification. By Richard A. Scribner, Theodore J. Ralston, and William D. Metz.

An authoritative examination of strategic nuclear arms control verification. Addresses principles and tasks of verification, technology and monitoring, compliance issues, and future verification needs. 1985; 249 pp.; softcover \$18.75 (\$15.00 for AAAS members); AAAS #85-31.

1986 Colloquium Reader—Science and Security: The Future of Arms Control. Edited by W. Thomas Wander, Richard A. Scribner, and Kenneth N. Luongo. More than 40 essays by leading experts. Examines key issues in arms control and national security. 1986; 205 pp.; softcover \$8.00 (\$6.40 for AAAS members); AAAS #86-16.

1986 Colloquium Proceedings—Science and Security: The Future of Arms Control. Edited by W. Thomas Wander and Kenneth N. Luongo. The edited proceedings from the first Annual AAAS Science, Arms Control, and National Security Colloquium. 1987; 326 pp.; softcover \$15.00 (\$12.00 for AAAS members); AAAS #87-17.

The Strategic Defense Initiative: Some Arms Control Implications. By Richard A. Scribner and Jeffrey Boutwell. A concise overview of topical SDI issues. 1987 (2nd ed.); 44 pp.; softcover \$2.50 (\$2.00 for AAAS members); AAAS #87-5.

Preventing Nuclear War: Steps That Can Be Taken Now. Edited by Richard A. Scribner. A survey of recent proposals for reducing the risk of nuclear war. It includes an extensive bibliography and glossary. 1987; 80 pp.; softcover \$4.00 (\$3.20 for AAAS members); AAAS #87-10.

Strategic Nuclear Arms Control Verification: An Annotated Bibliography, 1977–1984. By Richard A.

Scribner and Robert Travis Scott. A comprehensive guide to literature that is suitable for class or research use. Cross-referenced by subject. 1985; 90 pp.; softcover \$7.50 (\$6.00 for AAAS members); AAAS #85-8.

Strategic Nuclear Arms Control Verification Terms and Concepts: A Glossary. By Richard A. Scribner and Kenneth N. Luongo. A comprehensive glossary of weapons technology, arms control, and treaty terminology. 1985; 42 pp.; softcover \$2.50 (\$2.00 for AAAS members); AAAS #85-2.

Nuclear and Conventional Forces in Europe: Implications for Security and Arms Control. Edited by W. Thomas Wander. Original essays on major issues related to European security. 1987; 220pp.; softcover \$10.00 (\$8.00 for AAAS members); AAAS #87-18.

Emerging Technologies and the Conventional Defense of NATO. By Jonathan B. Tucker. Examines the broad range of issues in the debate over high technology conventional weapons and their implications for NATO defense. 1987; 74pp.; softcover \$7.00 (\$5.60 for AAAS members); AAAS #87-20.

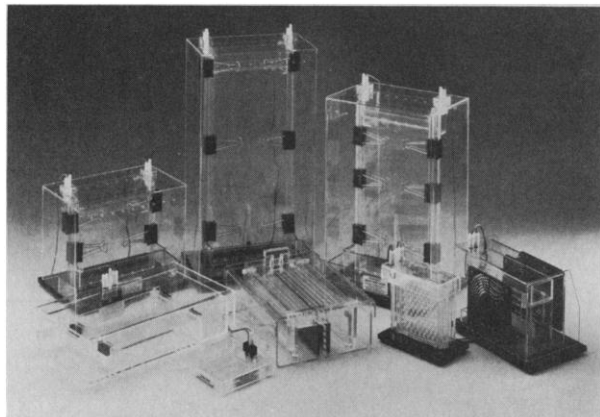
Strategic Anti-Submarine Warfare: Technology and Strategy. By Tom Stefanick. An overview of the technologies, operations, and implications of strategic anti-submarine warfare. 1988; 60pp.; \$5.00 (\$4.00 for AAAS members); available in Fall 1988; AAAS #87-19.

Fear of Cheating, Fear of Spying: A Videotape and Companion Guide. Prepared by Richard A. Scribner and Shelley Alpern. This 40-minute videotape addresses the politics and technology of nuclear arms control verification with a special emphasis on the current compliance controversy. 1986; \$60.00 for VHS or Beta, \$75.00 for U-matic (please specify format); AAAS #86-10.

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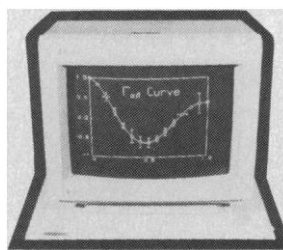
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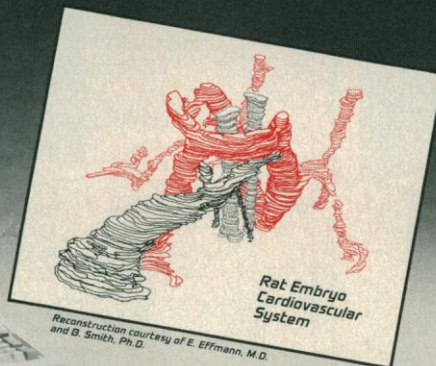
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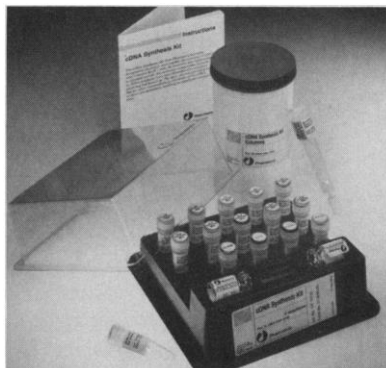
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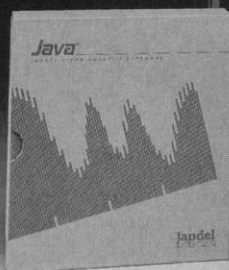
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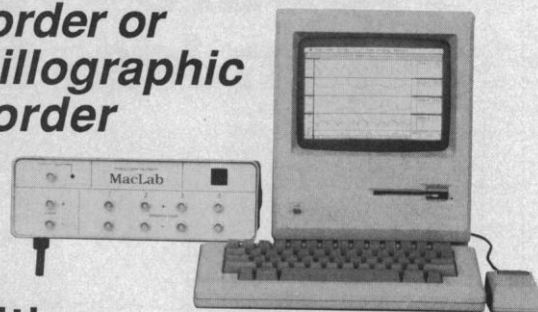
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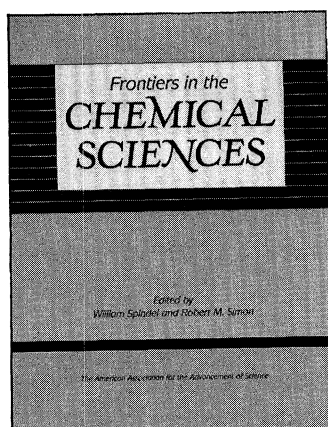
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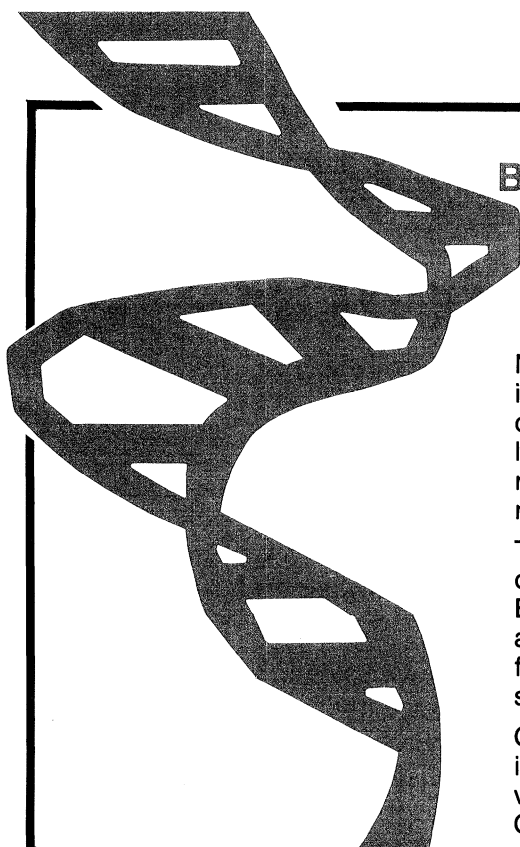
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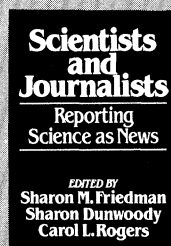
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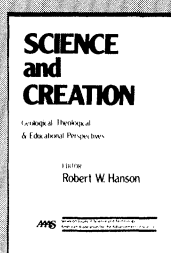
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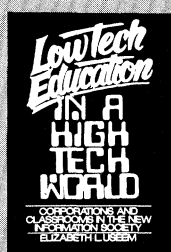
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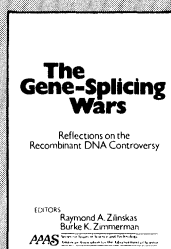
Science and Creation: Geological, Theological, and Educational Perspectives, Edited by Robert W. Hanson.

The creation/evolution controversy is examined by scientists, theologians, educators, and historians. These authors view the controversy as a false dichotomy and as an attempt to force a choice between two ideas that are not mutually exclusive. Includes case studies from several states. 1986; 240 pp.; hardcover \$24.95 (\$19.95 for AAAS members); AAAS Publication #86-19.



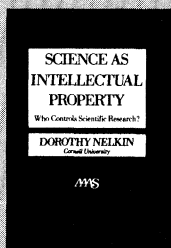
Low Tech Education in a High Tech World: Corporations and Classrooms in the New Information Society, By Elizabeth L. Useem.

Are students in the U.S. developing the skills necessary for a high technology society, or will it be technological boom, educational gloom? Useem examines education in California's "Silicon Valley" and Boston's Route 128, two of the country's leading high tech centers, and suggests ways for education and industry to forge a stronger partnership for the future. 1986; 278 pp.; hardcover \$19.95 (\$15.95 for AAAS members); AAAS Publication #86-21.



The Gene-Splicing Wars: Reflections on the Recombinant DNA Controversy, Edited by Raymond A. Zilinskas and Burke K. Zimmerman.

Questions of safety and ethics about recombinant DNA techniques continue to surface. This book takes a look at historical, political, industrial, scientific, and international aspects of these issues. The authors show how lessons learned from the experience can be used to cope with similar issues in the future. 1986; 288 pp.; hardcover \$24.95 (\$19.95 for AAAS members); AAAS Publication #86-18.



Science as Intellectual Property: Who Controls Scientific Research? By Dorothy Nelkin.

Who controls research? A growing number of legal and administrative disputes raise critical issues of professional sovereignty, scientific secrecy, and proprietary rights. Nelkin offers cases illustrating the dilemmas that arise as the interests of scientists, the rights of citizens, and the security needs of government and industry come into increasing conflict. 1984; 130 pp.; softcover \$9.00 (\$7.25 for AAAS members); AAAS Publication #84-17.

Order from: AAAS Marketing, Dept. SP, 1333 H Street, NW, Washington, DC 20005. Please specify the appropriate AAAS Publication #(s), add \$2.00 postage & handling per order, and allow 4-6 weeks for delivery. VISA and MasterCard accepted. For shipments to CA, add applicable sales tax.

Published by Macmillan, Inc., for the American Association for the Advancement of Science

Products & Materials

Electron Microscope

The CM12/STEM is a combination transmission and scanning electron microscope. It has four condenser lenses, including a mini lens that allows switching between transmission and scanning modes quickly. Function knobs are generic: the focus knob, for example, sharpens scanning-mode images, transmission-mode images, and transmission-mode diffraction patterns. Philips Electronic Instruments. Circle 502.

Vector Removal System

The MagniProbe vector absorption system removes labeled pBR322 vectors from recombinant DNA probes. MagniProbe consists of a suspension of very small magnetic particles with covalently attached single-stranded pBR322 DNA. By prehybridizing labeled probes with magnetic particles, it is possible to adsorb contaminating pBR322 sequences. Once MagniProbe has adsorbed the contaminating pBR322 DNA, the magnetic particles are separated from the probe solution by centrifugation or with a magnet; the probe can then be used directly in a hybridization reaction. The magnetic particles can be washed and reused several times with no performance loss. Du Pont, Biotechnology Systems. Circle 541.

Gene CD-ROM Database

CD-GENE is a 500-megabyte compact disk that contains the databases GenBank, EMBL, and Protein Identification Resource. Users can retrieve sequence information by either a direct query by database variables or a similarity search based on the user's data. For a direct query, the user can specify author names, key words, directory phrases, entry names, or accession numbers. For a similarity search, the user specifies the sequence to be compared with the database sequences. CD-GENE searches for similar sequences by comparing base pairs, or CD-

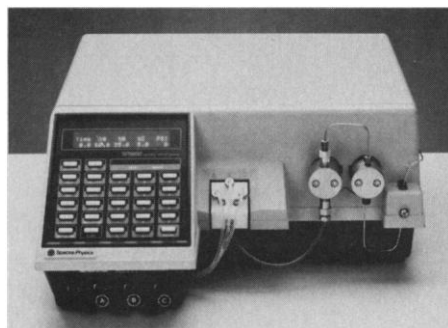
GENE can analyze homology among sequences in a database. Data retrieved from CD-GENE can be extracted and saved either as a user file for further analysis or as an ASCII file. CD-GENE operates on IBM XT, AT, and PS/2 and fully compatible computers with MS-DOS 3.1 or later. \$750. Hitachi America, Computer Division. Circle 527.

Computing Integrator

The CI-4000 is a computing integrator for gas and liquid chromatography. It has a built-in high-resolution printer-plotter with 288 kilobytes of memory, expandable to 544 kilobytes. The memory is protected by a battery backup. The user programs the integrator with the alphanumeric keypad. Optionally, the CI-4000 can be equipped with an IEEE port for control by computer. Milton Roy, LDC Division. Circle 531.

Titanium Pump for Chromatography

The SP8800Ti and the SP8810Ti are chemically inert pumps for the analysis of amino acid derivatives, peptides, and proteins by liquid chromatography. The



SP8800Ti is a gradient pump, and the SP8810Ti is an isocratic pump. Titanium withstands high pressures as well as stainless steel does, and it resists corrosion when the solvent pH is less than 2.2 or more than 9. From \$7750. Spectra-Physics, Autolab Division. Circle 530.

DNA Sequencing System

The KiloBase Sequencing System can sequence 1000 bases per reaction set with M13 templates. Its sequencing technique is based on Sanger's chain-termination method. The system works with either ^{35}S - or ^{32}P -labeled nucleotides and can sequence either single- or double-stranded DNA templates. The Klenow fragment of DNA poly-

merase I may be used at high temperatures to reduce artifacts caused by template secondary structure, and it can also remove nucleotides incorrectly incorporated into the synthesized sequence. Bethesda Research Laboratories. Circle 521.

Peptide Synthesizer

The 9050 PepSynthesizer automatically synthesizes peptides by fluorenylmethoxycarbonyl polyamide chemistry. The three-column continuous-flow instrument dissolves preformed amino acid-active esters at the high concentrations desirable for maximum coupling efficiencies. Either 60-min or 30-min cycle times are possible. Three peptide analogs may be produced simultaneously, and 72 amino acids may be coupled automatically. Users can increase the amount of peptide synthesized from 0.1 to 5 mmol by increasing reaction column diameter and pump flow rates. The 9050 PepSynthesizer's software calculates needed reagent quantities, controls instrument operations, and documents the synthesis. Continuous on-line ultraviolet detection allows the user to monitor the synthesis. MilliGen Division of Millipore. Circle 573.

Literature

Germanium Peaks is a newsletter about high-purity germanium detectors. EG&C Ortec. Circle 488.

Modular Waveform Digitizers is a 16-page brochure about long-memory waveform digitizers. LeCroy. Circle 532.

We're Turning the Lab Coat into a Three-Piece Suit is a product information kit about acousto-optic, electro-optic, and fiber-optic photonics devices. Hoechst Celanese. Circle 535.

Rotators and Shakers is a catalog that describes a line of rocking, orbital, and reciprocating action shakers. Nautilus Scientific. Circle 536.

Solid, Sensible Balances and Scales for the Laboratory is a 20-page catalog of specifications for a line of electronic and mechanical balances, scales, and accessories. Ohaus Scale. Circle 540.

Application: Immunogold Staining describes the use of the Axioskop research microscope to study antibodies labeled by colloidal gold. Carl Zeiss. Circle 542.

The *General Catalog* contains information on more than 200 items, including accelerometers, pressure transducers, microphones, signal conditioning equipment, calibration equipment, and test systems. Endevco. Circle 543.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.



Yale UNIVERSITY

Director Peabody Museum

Yale University invites applications for the Directorship of the Peabody Museum. The Director will have responsibility for a broad spectrum of collections encompassing the biological sciences, geology, and anthropology. The Director has traditionally held an academic appointment in one or more of the University departments representing the above fields of study. The Director will also have responsibility for the public education functions of the Museum's acquisitions and basic research pertaining to the above fields.

Applicants should forward letters of inquiry and interest together with a curriculum vitae to the Chairman of the Peabody Directorship Search Committee, Yale University, Department of Biology, P.O. Box 6666, New Haven, CT 06511. Applications should be received by 15 November 1988.

Yale University is an Affirmative Action/Equal Opportunity Employer, m/f.

Vanderbilt University Faculty Positions in Molecular Biology

The Department of Molecular Biology invites applications and nominations for **three faculty members**.

- **Stevenson Professor of Molecular Biology**, a new chair endowed by the generous bequest of Eldon Stevenson. We seek an individual with an outstanding record of accomplishment whose research interests are molecular aspects of cell and/or developmental biology, primarily in mammalian systems.

- **Two faculty positions, open at any rank.**

(i) **Mammalian molecular biology.** All areas of cell/molecular/developmental biology will be considered.

(ii) **Molecular biophysics or structural biology.**

Possible areas of interest include X-ray crystallography, 2-dimensional NMR and other spectroscopic methods, and electron microscopic image reconstruction.

Laboratory space and start-up funds will be appropriate for establishing vigorous research programs. Responsibilities include the conduct of productive research and participation in our instructional programs. Preference will be given to candidates who apply before November 1, 1988. Applicants should submit curriculum vitae, a description of research interests and plans, and names and addresses of at least three references to **Dr. Oscar Touster, Chairman, Department of Molecular Biology, Box 6076, Station B, Vanderbilt University, Nashville, TN 37235.** *Women and minority scientists are urged to apply. An Equal Opportunity/Affirmative Action Employer.*

DEPARTMENT HEAD

Genetics and Cell Biology

University of Minnesota Minneapolis-Saint Paul

The Department of Genetics and Cell Biology is seeking highly qualified candidates for a position of Department Head. This department of 27 faculty is a major teaching and research unit of the College of Biological Sciences.

The Department Head will be selected on the basis of administrative and leadership abilities. The individual selected for this position should have a strong, continuing record of research accomplishment and will be expected to maintain a vigorous research program in an area that is complementary to existing departmental research efforts in genetics, cell biology, and developmental biology. This appointment is at the rank of Professor with tenure.

Nominations, applications, and expressions of interest are invited and should be received as soon as possible. Applications for this position should include a *curriculum vitae* (with teaching experience indicated) and names and addresses of three potential referees. Applications must be received by November 1, 1988. Please address nominations and applications to **Ms. Ellen Dahl; Administrator, Department of Genetics and Cell Biology; 250 Biological Sciences Center; 1445 Gortner Avenue; The University of Minnesota; Saint Paul, Minnesota 55108; (Telephone 612/624-2240).**

The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities.

Molecular Biologist/ Postdoctoral Position

American Cyanamid Company's Agricultural Research Division seeks a Postdoctoral Fellow to join an energetic and growing Molecular Biology Group. This is a two year position in a collaborative project between American Cyanamid and the Molecular Biology Department at Princeton University. This position will involve the construction and analysis of transgenic animals, and requires extensive experience in molecular biology techniques. Familiarity with immunological techniques and bacterial expression systems will be useful as well. This position is partially funded through Princeton University, but the successful candidate will work at Cyanamid.

American Cyanamid offers a competitive compensation and benefits package. The Agricultural Research Center is located just outside of Princeton, one hour from New York and Philadelphia. For prompt consideration, please forward your C.V., and the names and addresses of three references to the Employment Office, and refer to position PD5.



American Cyanamid Company

Agricultural Research Division

P.O. Box 400

Princeton, NJ 08540

An Equal Opportunity Employer M/F/H/V

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR tenure-track faculty position available for a virologist or microbiologist. Applicants must have a Ph.D. and/or M.D. with relevant postdoctoral experience. Individuals with research interests in the molecular basis of pathogenesis and expertise in molecular genetics will be given preference. Candidates must have the ability to teach medical and graduate students, as well as supervise dissertation research of graduate students. Applicants at the assistant professor level will be judged on their potential to develop a vigorous independent research program which can attract extramural support. Applicants to be considered for associate professor must have a significant publication record and extramural funding. An attractive start-up package will be available. *Minority candidates are encouraged to apply.* Submit curriculum vitae, statement of research interests and a list of three references to: **Dr. Paul C. Montgomery, Professor and Chair, Department of Immunology and Microbiology, Wayne State University School of Medicine, 540 East Canfield Avenue, Detroit, MI 48201. An Equal Opportunity/Affirmative Action Employer.**

THE UNIVERSITY OF NEW MEXICO SCHOOL OF MEDICINE AND THE UNM CANCER CENTER

have reopened the search for an outstanding investigator whose innovative use of flow cytometry contributes to a strong, established research program in cell or molecular biology or immunology. The tenure-track appointment will be at the **ASSOCIATE OR FULL PROFESSOR** level in the Departments of Pathology or Cell Biology. The successful applicant will guide the development of a state-of-the-art Flow Cytometry Resource that contains four cytometers (2 BD FACScans, a BD FACS 111 and a Coulter 753), a Microvax 11/GPX computer and supporting equipment. The Resource has an outstanding technical staff and important collaborative ties to the National Flow Cytometry Resource at Los Alamos National Laboratory. Submit letter of application, curriculum vitae, and a list of references before 31 October 1988 to:

Dr. J. M. Oliver
University of New Mexico School of Medicine
Cell Pathology Laboratory, Surge Building,
Albuquerque, NM 87131

The University of New Mexico is an Equal Opportunity Employer

BIOCHEMISTRY/MOLECULAR BIOLOGY

A tenure-track **ASSISTANT PROFESSORSHIP** in biochemistry is available at the University of Maine. The appointee will share newly-constructed research facilities with biochemists, molecular biologists, and immunologists working with a variety of plant, animal and microbial systems and will participate in the graduate and undergraduate teaching programs of the Department. No specific requirements are placed on the research area other than that it address significant questions in biochemistry, molecular biology or cell biology, that it complement existing programs within the Department and University and that it employ experimental approaches appropriate to the discipline of biochemistry. Apply with curriculum vitae, detailed description of proposed research, and minimum of three references to: **Dr. Robert Roxby, Chairman, Biochemistry Department, University of Maine, Orono, ME 04469.**

CHAIR, Department of Medical Microbiology and Immunology, The Medical School, University of Wisconsin, Madison. Applications are invited for the position of Professor and Chair of the Department of Medical Microbiology and Immunology. Candidates should be established investigators in bacteriology, immunology, parasitology, or virology, and have had teaching experience. The Chair is expected to pursue an active research program in addition to providing administrative leadership for the department, which is one of the basic science departments in the medical school. It has an active research faculty with interest in the areas mentioned above. Applicants should send curriculum vitae, a brief statement of research plans, and three letters of reference to: **Doctor Oliver Nelson, Chairman of the Search Committee, Laboratory of Genetics, University of Wisconsin, Madison, WI 53706.** The closing date for applications is December 1988. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

CELL BIOLOGIST/MOLECULAR BIOLOGIST. Need Ph.D. scientist to study cellular molecular aspects of lipoprotein receptor protein and cognate neuroscience areas. Seeking candidates familiar with protein isolation/characterization techniques and experience in molecular biology. Submit brief description of research interests, curriculum vitae, and three letters of reference to: **Dr. Frank M. Yatsu, Professor and Chairman, Department of Neurology, UTHSC, 6431 Fannin, Suite 7044, Houston, TX 77030.**

CELLULAR/MOLECULAR BIOLOGIST—The Division of Radiation Biology, Department of Radiation Oncology, Stanford University School of Medicine has an opening for a biologist at the research associate level. Successful candidate will join research group investigating the mechanism of action and potential clinical applicability in cancer therapy of a new class of bioreductive cytotoxic and radiosensitizing drugs. Experience with culture of mammalian cells and basic biochemical and molecular procedures is sought. Postdoctoral experience would be desirable, although not essential. Salary \$28,000 plus, depending on experience.

Applicants should submit curriculum vitae and the names of three references to: **Dr. J. Martin Brown, Director, Division of Radiation Biology, Department of Radiation Oncology, Stanford Medical Center, Stanford, CA 94305.**

Stanford University is an Equal Opportunity Employer and welcomes nominations of women and minority group members and applications from them.

CHAIR IN LAND STEWARDSHIP

A Chair in Land Stewardship has been created at the University of Guelph to provide leadership in research and extension in Ontario. Applications are invited from scientists with a Ph.D. (or equivalent) and with an established research record and demonstrated communication skills in crop production and/or environmental systems.

Responsibilities include promotion of all aspects of land stewardship including preservation of water quality, protection of natural areas and agroforestry. Research will emphasize the development of innovative soil management and crop production systems that are economically viable and environmentally sound. Funding is available to provide an assistant and a significant operating budget. The position is tenured or tenure-track with salary and rank commensurate with qualifications and experience.

Applications, including a résumé and the names and addresses of at least three references, should be submitted by 15 November 1988 to: **Dr. L. P. Milligan, Dean of Research, University of Guelph, Guelph, Ontario, Canada N1G 2W1.**

The University of Guelph has a commitment to Employment Equity.

JOHN AND EMMA BONICA ENDOWED CHAIR FOR ANESTHESIOLOGY AND PAIN RESEARCH UNIVERSITY OF WASHINGTON

The Department of Anesthesiology and the Multidisciplinary Pain Center at the University of Washington School of Medicine are seeking applicants with either a clinical or basic science research interest for the newly established John and Emma Bonica Chair for Anesthesiology and Pain Research. Opportunities exist to interact with the outstanding research programs in molecular, cellular and systems neurobiology as well as the behavioral and clinical neurosciences at the University of Washington. The successful candidate must have a well-established and active research program with a national and international reputation. Letters of application including curriculum vitae, bibliography, a brief statement of research interests, and the names of three references should be sent to: **Dr. Wayne E. Crill, Chairman of the Bonica Search Committee, Professor and Chairman, Department of Physiology and Biophysics SJ-40, University of Washington, Seattle, WA 98195**—before 31 October 1988. *The University of Washington is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

CHIEF OF STAFF, Louisiana State University Medical Center (LSUMC), Shreveport, and the Veterans Administration seek an academic administrator to serve as Chief of Staff for the Veterans Administration Medical Center, Shreveport. The Shreveport VAMC is a 448-bed teaching hospital and a major site for instruction of the LSUMC, Shreveport house staff and medical students in surgery, internal medicine, and 11 other specialties. Significant experience in academic administration, expertise and interest in clinical teaching and investigation, and credentials commensurate with LSUMC faculty appointment are highly desirable. Delightful living conditions in Northwest Louisiana location offering ready access to outdoor activities, educational and cultural opportunities. Please direct inquiries to: **Daniel J. Culin, M.D., Chief of the Division of Urology, Department of Surgery, VAMC, 510 East Stoner Avenue, Shreveport, LA 71101-4295.**

DIRECTOR OF CLINICAL HEMATOLOGY LABORATORY CASE WESTERN RESERVE UNIVERSITY/ UNIVERSITY HOSPITALS OF CLEVELAND

The Division of Clinical Pathology of the Department of Pathology, Case Western Reserve University School of Medicine and University Hospitals of Cleveland is seeking a Director for its Clinical Hematology Laboratory. Duties involve hospital service, teaching and training, and research. The Laboratory is housed in new quarters, which are geographically and administratively integrated with the other components of the Division of Clinical Pathology. Rank and salary according to qualifications and experience. The new Director will also have the opportunity to appoint a more junior faculty colleague to work in laboratory hematology. Applicants should be certified in clinical pathology, and preferably also in the hematology subspecialty. Send curriculum vitae, bibliography, brief statement of background and career goals, and names of three references to: **Michael E. Lamm, M.D., Director, Institute of Pathology, Case Western Reserve University, 2085 Adelbert Road, Cleveland, OH 44106.** *Case Western Reserve University and University Hospitals are Equal Opportunity/Affirmative Action Employers.*

DIRECTOR OF CLINICAL PATHOLOGY CASE WESTERN RESERVE UNIVERSITY/ UNIVERSITY HOSPITALS OF CLEVELAND

Applications are invited for Director of the Division of Clinical Pathology at University Hospitals of Cleveland, the 850-bed principal teaching hospital of Case Western Reserve University School of Medicine. This Division of the Department of Pathology, which includes hematology, chemistry, microbiology, immunology, and blood banking, is responsible for all clinical laboratory services, and is physically and administratively integrated in well equipped, new quarters with a new hospital laboratory computer system. Rank and salary commensurate with qualifications and experience. Applicants should be certified in clinical pathology, active in research, and committed to teaching and training. Send curriculum vitae, bibliography, names of three references, and a brief statement of background and career goals to: **Michael E. Lamm, M.D., Director, Institute for Pathology, Case Western Reserve University, 2085 Adelbert Road, Cleveland, OH 44106.** *Case Western Reserve University and University Hospitals are Equal Opportunity/Affirmative Action Employers.*

EUKARYOTIC MOLECULAR BIOLOGIST

Assistant professor, tenure-track position at Kenyon College. Candidates should have a Ph.D., an active research program that will involve undergraduates, and evidence of excellence in teaching. Consideration will be given to all types of eukaryotic research utilizing tools of molecular genetics and/or molecular immunology, irrespective of the organisms of study. Teaching duties include work in introductory and advanced courses. *Kenyon College is an Equal Opportunity Employer.* Interested individuals should submit curriculum vitae, graduate and undergraduate transcripts, three references, and a description of teaching and research interests to: **Molecular Biologist Search Committee, Biology Department, Kenyon College, Gambier, OH 43022.**

Application Deadline is 15 January 1989.

POSITIONS OPEN

ECOLOGY AND PHYSIOLOGY (TWO POSITIONS)

The Department of Biology at the University of Utah seeks to hire two **TENURE-TRACK BIOLOGISTS**, specializing in non-marine invertebrates (especially insects). Positions will be filled at the assistant professor level in the areas of (i) evolutionary ecology/systematics and (ii) comparative and/or ecological physiology. We are especially interested in candidates who can establish mutually beneficial interactions with existing faculty and graduate students. The successful applicant will be expected to establish a strong independent research program and to contribute to graduate and undergraduate instruction.

Applications will be accepted until the position is filled, but we will begin screening applications 1 December 1988.

Interested persons should send a letter of application, curriculum vitae, copies of representative publications, and three letters of recommendation to:

Dr. Diane Davidson
Department of Biology
University of Utah
Salt Lake City, UT 84112

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

AMERICAN COLLEGE OF PHYSICIANS EDITOR ANNALS OF INTERNAL MEDICINE

The American College of Physicians invites nominations and applications for position of Editor for *Annals*, world's leading medical specialty journal with a circulation of over 93,000.

Candidates must hold M.D. degree and have a broad knowledge of internal medicine, and extensive experience in medical writing. Significant editorial experience and knowledge of the complexities in medical publishing is highly desirable, as is familiarity with experimental design, clinical epidemiology, and judging the scientific validity and importance of research reports and review articles.

Position also carries the title of Associate Executive Vice President for Publication and is recognized as a Senior Staff Officer of the College. Skills in staff leadership, policy development and budget management are therefore important. Individual will report directly to the Board of Regents as Editor and to the Executive Vice President as AEVP for Publication. Deadline for applications is 31 October 1988. Appointment anticipated to begin July, 1989. Send detailed résumés to:

American College of Physicians
Attention: Editorial Search Committee
4200 Pine Street
Philadelphia, PA 19104

EMINENT SCHOLAR/ AN ENDOWED PROFESSORSHIP IN ION CHANNELS AND TRANSPORT PROTEINS

The Department of Physiology and Biophysics, through the Ohio Eminent Scholar Program, has been awarded an endowed Professorship. To fill this position, the Department will recruit a distinguished scientist with interest in membrane biophysics or molecular biology of ion channels and transport proteins. The Ohio Eminent Scholar Professorship is intended to strengthen our research and education by the recruitment of an outstanding scientist. The Eminent Scholar will help to promote the goals of this program by serving as a catalyst for interactions between our Department faculty and the outside scientific and medical community. The Department has well-established programs in electrophysiology, transport, and membrane biophysics. The University of Cincinnati is a long-established, distinguished, and comprehensive state university. Letters, with curriculum vitae, should be sent to:

Dr. Nicholas Sperelakis
Department of Physiology & Biophysics
University of Cincinnati
College of Medicine
231 Bethesda Avenue
Cincinnati, OH 45267-0576

Affirmative Action/Equal Opportunity Employer

HHMI-NIH Research Scholars at the National Institutes of Health

The Howard Hughes Medical Institute (HHMI) and the National Institutes of Health are accepting applications for the 1989-1990 class of Research Scholars to begin in the summer of 1989.

- HHMI-NIH Scholars are selected from medical schools, usually after the first two years, for a year of laboratory research at the NIH in Bethesda.
- Scholars must be U.S. citizens or permanent residents attending medical school in the United States or Puerto Rico.
- Scholars are paid as employees of HHMI and housed on the NIH campus.
- Applications must be received by January 15, 1989. Candidates will be notified of results by April 1, 1989.
- Application kits and brochures have been sent to the deans' offices of all medical schools. Additional kits and brochures can be obtained from:

Howard Hughes Medical Institute
1 Cloister Court
Bethesda, Maryland 20814-1460
(301) 951-6710

HHMI is an Equal Opportunity Employer.

Howard Hughes Medical Institute Announces a New Program

Medical Student Research Training Fellowships

The Howard Hughes Medical Institute will award up to 60 fellowships to medical students who wish to spend a year in intensive research during the 1989-90 academic year.

Eligibility:

- Applicants must be attending a U.S. medical school, but there are no citizenship requirements.
- The fellowship research may be undertaken at any academic or research institution in the United States.
- Students enrolled in M.D./Ph.D. programs are not eligible.
- Applicants may not apply simultaneously to the HHMI-NIH Research Scholars Program.

Fellowship Awards:

- \$12,300 stipend.
- \$7,700 allowance to the fellowship institution for research supplies (\$4,000) and institutional expenses (\$3,700).

Deadlines:

- January 13, 1989, for completed applications.
- Awards announced by early April 1989.
- Fellowship tenure must begin by October 1989, at the latest.

For information:
Call (301) 571-0324
or write:

Medical Student Research Training Fellowships
Office of Grants and Special Programs
Howard Hughes Medical Institute
6701 Rockledge Drive
Bethesda, Maryland 20817

The Howard Hughes Medical Institute welcomes all qualified applicants and encourages women and members of minority groups to apply.

POSITIONS OPEN

CHAIR ENVIRONMENTAL STUDIES PROGRAM DARTMOUTH COLLEGE

Dartmouth College is seeking a Chair for the Environmental Studies Program. The appointment will be tenure-track at the associate or full professor level, depending upon the qualifications of the candidate. Appointments at the full professor level are normally made with tenure.

Candidates must have an outstanding scholarly record, with an active research program in some field of natural science and evidence of interest and some experience in the broader societal or policy implications of environmental matters. In addition, candidates must be able to direct and participate in the broadly based interdisciplinary teaching and research program that has evolved at Dartmouth. The curriculum and research efforts of the Program involve environmental science, policy, and values, and there are foreign study programs in Kenya and the Soviet Union.

Applications should be sent to: **P. Bruce Pipes, Chair, Environmental Studies Search Committee, Dartmouth College, Nathan Smith Building, Hanover, NH 03755.** The search committee will begin to read applications on 15 October 1988.

Dartmouth College is an Equal Opportunity/Affirmative Action Employer.

DIRECTOR—New York State (NYS) (Albany based) Commission on Science and Technology seeks Director with Ph.D. degree in scientific, engineering or appropriate public policy field; strong communication and management skills as well as significant legislative experience. Candidate will coordinate the program research and analysis work of staff. **Résumés: Maureen Casale, NYS Commission on Science and Technology, Room 410, Capitol Building, Albany, NY 12248.** *Affirmative Action Employer.*

EVOLUTIONARY GENETICIST

A tenure-track position at Washington State University is available at the level of assistant or associate professor beginning fall, 1989. Applications are invited especially from those using an experimental approach to major questions in evolutionary genetics of plants, animals, or species interactions. The appointment will be in an appropriate biological science department. There is particular interest in candidates whose research complements our faculty's research in molecular evolution and systematics; population, physiological, and evolutionary ecology; and population and ecological genetics, and who can teach population and quantitative genetics at the undergraduate and/or graduate level. Postdoctoral experience is preferred. Applicants should send curriculum vitae, a statement of current research and long-term research interests, and three letters of reference by 15 December 1988 to: **Dr. John N. Thompson, Evolutionary Geneticist Search Committee, Departments of Botany and Zoology, Washington State University, Pullman, WA 99164-4230.** *WSU is an Equal Opportunity/Affirmative Action Educator and Employer. Protected group members are encouraged to apply.*

BROWN UNIVERSITY EVOLUTIONARY MORPHOLOGIST

The Division of Biology and Medicine plans to make a senior appointment (associate professor or professor), to take effect for the 1989 to 1990 academic year. The appointee is expected to assume leadership in teaching anatomy to medical students in the Program in Medicine, establish an externally-supported research program in vertebrate evolutionary morphology at the organismal level, and serve as a member of the Graduate Program in Ecology and Evolutionary Biology. The appointee will also lead the search to fill two junior faculty positions. Responsibilities include organizing and teaching the course in human anatomy, teaching a course in a specialty area, and academic advising of students. Opportunities exist for interaction with programs in biomechanics, applied mathematics, paleoecology, and a wide range of biological and clinical areas. Applicants should submit a résumé including teaching and research experience, plans for teaching medical anatomy, future research plans, a list of publications and representative reprints, and arrange to have three letters of reference sent, all to be received by 15 October 1988, to: **Dean Frank G. Rothman, Division of Biology and Medicine, Brown University, Providence, RI 02912.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

THE UNIVERSITY OF CALIFORNIA SAN DIEGO (UCSD) DEPARTMENT OF BIOLOGY FACULTY POSITION

The University of California, San Diego invites applications for a tenure-track faculty position at the assistant or associate professor level in the general area of cell biology, mammalian molecular genetics, animal virology, or related areas.

Salary will be commensurate with qualifications and experience and based on UC pay scales. The successful candidate is expected to develop (assistant professor) or continue (associate professor) a vigorous research program in one of the rapidly-moving areas. A Ph.D. degree and several years of productive postdoctoral research are required.

Applicants should send curriculum vitae, statement of interests, copies of publications and names of three references, by 10 November 1988 to:

**C. Ring, Biology Search Committee
UCSD, Department of Biology B-046
La Jolla, CA 92093**

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

FACULTY POSITION IN VIROLOGY. Tenure-track assistant or associate professor position in a growing department with research strengths in molecular pathogenesis and immune regulation. Preference will be given to individuals with independent research programs in the interaction of viruses with cells of the immune system. Potential for collaboration with other large research programs in inflammation, oncology, atherosclerosis, and molecular genetics. The successful candidate will be expected to participate in the teaching of graduate and medical students. Send curriculum vitae, description of research goals, and names of three references to: **Dr. Steven Mizel, Chairman, Department of Microbiology and Immunology, Bowman Gray School of Medicine of Wake Forest University, Winston-Salem, NC, 27103.** *WFU is an Affirmative Action/Equal Opportunity Employer.*

JUNIOR AND SENIOR FACULTY POSITIONS MOLECULAR BIOLOGY OF THE IMMUNE SYSTEM

The Department of Microbiology and Immunology invites applications for junior and senior level, tenure-track positions focusing on the molecular analysis of significant problems in immunology. Senior candidates should have strong records of research accomplishment with sustained program growth and development. Junior candidates will be expected to develop high quality, independent research programs with long-term growth potential. Teaching responsibilities, which emphasize quality rather than quantity, include medical, dental, and graduate students. A large Center of Excellence grant has resulted in establishment of a Molecular Resource Center within the Department featuring state-of-the-art facilities for: oligonucleotide synthesis, peptide synthesis, hybridoma antibody production, amino acid analysis, protein sequencing, molecular graphics, and flow cytometry. Funds for the initiation of research programs will be available and salaries will be highly competitive. Applications should consist of curriculum vitae, copies of several recent publications, a brief statement of future research goals and three letters of reference to be sent to: **Dr. Terrance G. Cooper, Department of Microbiology and Immunology, University of Tennessee, Memphis, 858 Madison Avenue, Memphis, TN 38163.** Applications will be received until 15 October 1988 or until the positions are filled thereafter. *The University of Tennessee is an Affirmative Action/Equal Opportunity Employer.*

THE EVERGREEN STATE COLLEGE FACULTY POSITIONS FOR 1989 TO 1990

The Evergreen State College invites applications for the faculty positions listed below. Evergreen is a public, liberal arts college emphasizing interdisciplinary study, team teaching, and cultural diversity. Positions open in physics, physical and organic chemistry, history and philosophy of science and technology, agricultural science, computer science, and human biology. For complete position description and application procedures write to: **Dean B. Smith, The Evergreen State College, Olympia, WA 98505** before 1 October 1988.

POSITIONS OPEN

EVOLUTIONARY GENETICIST UNIVERSITY OF GEORGIA

Applications are invited for a tenure-track position at the level of assistant professor in the Department of Genetics, University of Georgia. We are seeking a junior-level scientist who can interact with and complement a faculty group active in the field of evolutionary biology. Research and teaching interests could be in molecular evolution, macroevolution, quantitative genetics, behavioral genetics, or related areas involving a genetic approach to evolutionary study. We would prefer someone with an experimental rather than a purely theoretical approach. The successful candidate is expected to establish an independent research program, direct graduate student research, assist in undergraduate teaching, and develop a graduate course in his or her area of specialty. Postdoctoral experience is desirable but not absolutely required. Applicants should supply curriculum vitae, reprints of pertinent publications, and statements of research and teaching interests; they also should arrange to have four letters of reference sent to the search committee. Send materials by 1 December 1988 to: **Dr. Wyatt Anderson, Chairman, Evolutionary Geneticist Search Committee, Department of Genetics, University of Georgia, Athens, GA 30602.** *The University of Georgia is an Equal Opportunity/Affirmative Action Institution.*

FACULTY POSITION IN BIOCHEMISTRY

California State University (CSU), Fullerton, Department of Chemistry and Biochemistry invites applications for a full-time, tenure-track faculty position in biochemistry, commencing in the fall of 1989 or 1990. This position offers an excellent opportunity for a balanced emphasis on both teaching and research. Faculty are expected to develop a productive research program in biochemistry and to be committed to excellence in teaching at both the undergraduate and Masters' levels. Our interdisciplinary program encourages collaboration both within the Department and the Institute for Molecular Biology and Nutrition. We are interested in an individual with postdoctoral experience and a strong background in biochemistry. Applicants at the assistant professor level are preferred, but all qualified applicants will be considered. Curriculum vitae, a summary of research and teaching interests, and three letters of recommendation should be sent before 1 November 1988 to: **Dr. Bruce Weber, Search Committee Chair, Department of Chemistry and Biochemistry, CSU, Fullerton, Fullerton, CA 92634.** *Affirmative Action/Equal Opportunity Employer. Women and minority candidates are particularly encouraged to apply.*

JUNIOR AND SENIOR FACULTY POSITIONS EUKARYOTIC CELL AND MOLECULAR BIOLOGY

The Department of Microbiology and Immunology in the College of Medicine at The University of Tennessee, Memphis, invites applications for junior and senior level, tenure-track positions focusing on the molecular analysis of significant problems in eucaryotic cell and molecular biology. Senior candidates should have a strong record of research accomplishment with sustained program growth and development. Junior candidates will be expected to develop a high quality, independent research program with long term growth potential. Teaching responsibilities, which emphasize quality rather than quantity, include medical, dental, and graduate students. A large Center of Excellence grant has resulted in establishment of a Molecular Resource Center within the Department featuring state-of-the-art facilities for: oligonucleotide synthesis, peptide synthesis, monoclonal antibody production, amino acid analysis, protein sequencing, molecular graphics, polymerase chain reaction, and flow cytometry. Funds for the initiation of research programs will be available and salaries will be highly competitive. Applications should consist of curriculum vitae, copies of several recent publications, a brief statement of future research goals, and three letters of reference to be sent to: **Dr. Terrance G. Cooper, Department of Microbiology and Immunology, The University of Tennessee, Memphis, 858 Madison Avenue, Memphis, TN 38163.** Applications will be received until 1 November 1988 or until the positions are filled thereafter. *The University of Tennessee is an Affirmative Action/Equal Opportunity Employer.*

**TWO FACULTY POSITIONS
IN NEUROBIOLOGY
NEUROBIOLOGY RESEARCH CENTER
UNIVERSITY OF ALABAMA AT BIRMINGHAM
MEDICAL SCHOOL**

The University of Alabama at Birmingham has recently established a Neurobiology Research Center. Two tenure-track faculty positions are available beginning October 1, 1989 to be filled at any level (Assistant, Associate or Full Professor). Faculty will hold appointments in basic science departments (Physiology and Biophysics, Cell Biology and Anatomy, etc.) but be housed together in the newly renovated Neurobiology Research Center. One position is for a person with research interests in integrative neurobiology, preferably with an emphasis on motor systems. The second position is for a person with research interests in cellular/molecular neurobiology. Excellent facilities, start-up funds and salaries are available.

Candidates should hold the Ph.D. or M.D. degree and have a minimum of 2 years postdoctoral experience. Successful candidates will be expected to maintain strong extramurally funded research programs. Teaching responsibilities are minimal.

Please send a curriculum vitae, statement of future research plans and have 4 letters of reference sent by October 15 to:

Dr. Michael Friedlander
Director, Neurobiology Research Center
Volker Hall G82B
University of Alabama at Birmingham
Birmingham, Alabama 35294 U.S.A.

UAB is an equal opportunity/affirmative action employer.

**POSTDOCTORAL
SCIENTIST**

Molecular Biologist / Virologist / Immunologist (recent Ph.D.) to develop recombinant DNA-based vaccine for dengue virus, a mosquito-borne agent responsible for high levels of morbidity throughout the tropical Third World.

Duties will involve molecular cloning, identification and characterization of viral sequences encoding viral protein epitopes recognized by human convalescent sera, incorporation of these sequences into vectors to generate immunogens, and analyzing sera elicited by these immunogens.

Please send your application, curriculum vitae, and the names, addresses, and phone numbers of three references to:



Dr. Tom Humphreys
Director of Research
Hawaii Biotechnology Group, Inc.
99-193 Aiea Heights Drive
Honolulu, Hawaii 96701

An Equal Opportunity Employer

The Research Institute of the Hospital for Sick Children offers a staff position in its Division of Cardiovascular Research, with the opportunity for a cross-appointment to the University of Toronto. We are currently seeking a...

Scientist (Ph.D. or M.D.)

With post-doctoral training in the molecular biology of connective tissue/extracellular matrix.

You must be capable of establishing a vigorous independent research programme within the context of a team of five investigators whose focus is the developmental biology of the myocardium and blood vessels, and their adaptation to stress. Excellent facilities and space are available. Interested candidates are invited to quote file #C102A and send their curriculum vitae including three references, to: Marlene Rabinovitch, M.D., Director of Cardiovascular Research, 555 University Avenue, Toronto, Ontario, Canada M5G 1X8

Deadline: November 1, 1988



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FOR SICK CHILDREN**



Ph.D. or M.D.

Count on making a noticeable contribution to fast expanding programs in

**AUTOIMMUNE DISEASE
RESEARCH**

Hoechst, one of the world's largest pharmaceutical companies, has opportunities for creative, highly motivated scientists to join its Japanese Research Laboratories. We are committed to the rapid expansion of autoimmune disease research, pursuing programs in biochemistry, molecular biology, humoral immunology and cellular immunology.

Located in a pleasant suburb of Tokyo, our laboratories offer an open and independent research environment. Interaction with other scientists throughout the world and publication of scientific papers are actively supported.

Candidates for these highly visible positions must be fluent in both Japanese and English. Ph.D. or M.D. degree essential with autoimmune background and ability to carry out independent research at the bench plus state-of-the-art knowledge and experience in the following areas:

- Purification and structural analysis of antigens
- Characterization of autoantibodies

If you are interested and qualified, please send CV including details of publications, to: Dr. Elmar Konz, Division Manager, Pharma Research Laboratories, Hoechst Japan Limited, 1-3-2 Minami-dai, Kawagoe-shi, Saitama 350, Japan (0492-43-6100).

Hoechst

Postdoctoral Research Associates

As part of a program of growth and development, the Pediatric Research Center of "L'Hôpital Sainte-Justine" plans to recruit 3 postdoctoral research associates by April 1989. These positions will offer the opportunity to participate in research programs on cell and molecular biology, retrovirology and developmental biology.

We offer a competitive salary for at least 4 years and start-up funds. Candidates should have a doctoral degree and at least 2 years of postdoctoral experience. Applications, including 3 letters of reference, should be submitted to:



hôpital
sainte-justine
centre
hospitalier
affilié à
l'université
de montréal
centre
de recherche
pédiatrique

Dr Robert Collu
Director
Pediatric Research Center
Hôpital Sainte-Justine
3175 Côte
Sainte-Catherine Road
Montreal, Quebec
Canada H3T 1C5

SENIOR RESEARCH SCIENTIST

Dade Division of Baxter Healthcare Corporation is a leading supplier of diagnostic products and instrumentation for clinical laboratories. Presently, we have an opening for a Senior Research Scientist in our Reagent Development Department. This position requires a Ph.D. in Biochemistry or Bio-Organic Chemistry. The selected candidate will be responsible for protein modifications, covalent coupling of haptens with proteins and development of biochemical methods for analysis and characterization of proteins. A background in protein chemistry and chromatographic separations is essential. Strong interpersonal, oral and written communication skills are required. A candidate with postdoctoral or industrial experience will be preferred. Knowledge of immunology and EIA would be helpful, though not required.

The Dade Division is based on the east coast of South Florida where, in addition to paying no state or local income taxes, you will enjoy a year-round quality lifestyle which attracts new residents and visitors from around the world.

For prompt consideration please send your resume along with salary history to: **Professional Staffing, Baxter Healthcare Corporation, Dade Division, P.O. Box 140520, Coral Gables, FL 33114.** Equal Opportunity Employer.

Dade Division

Baxter

BIOPHARMACEUTICALS RESEARCH SCIENTISTS

Allelix Inc, Canada's leading biotechnology Company, is expanding its efforts in bone research.

We are currently seeking Scientists with a Ph.D. in cell biology/biochemistry to study factors influencing bone differentiation and to develop new therapeutics in osteoporosis, and associated bone disorders.

Experience with primary cell cultures and cell lines is required. Relevant industrial experience is desirable.

Qualified candidates should submit a resumé, along with the names of three referees to:

Mr. Walter L. Gagen,
Allelix Inc.,
6850 Goreway Drive,
Mississauga, Ontario,
Canada L4V 1P1

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DEPARTMENT HEAD: PSYCHIATRY

The University of Arizona College of Medicine invites applications and nominations for the position of Head of the Department of Psychiatry. The position involves leadership in the areas of teaching, research, and patient care in Psychiatry. The medical school is the only one in the state, and psychiatric teaching is carried out in three Tucson hospitals and several clinics. Candidates should be established investigators with a record of scholarly contributions to biologic psychiatry and clinical investigation. The department head designate will have the opportunity to reorganize the department. Nominations should include a curriculum vitae and the names of three references and should be received by November 1, 1988 for first consideration. Send applications and nominations to: **R. Bressler, M.D., Arizona Health Sciences Center, 1501 N. Campbell Avenue, Tucson, Arizona 85724.** The University of Arizona is an equal opportunity/affirmative action employer.

NATIONAL CANCER INSTITUTE
National Institutes of Health, Public Health Service

CANCER PREVENTION FELLOWSHIP PROGRAM (CPFP)

The DIVISION OF CANCER PREVENTION AND CONTROL (DCPC) is accepting applications for the Cancer Prevention Fellowship Program (CPFP). The primary purpose of this program is to attract individuals from a multiplicity of health science disciplines into the field of cancer prevention and control research. The program provides for: participation in the DCPC Cancer Control Academic Program (a formal four-month course in cancer prevention and control); 20 months at NCI working directly with individual preceptors on ongoing cancer prevention and control projects; and, one year at a DCPC-approved cancer control program or State Health Department (may be optional). Funding permitting, up to 10 Fellows will be accepted for up to three years of training, beginning August 27, 1989.

APPLICANTS MUST (BY THE DEADLINE):

1. Possess an M.D. or D.O. degree from a U.S., territorial, or Canadian medical school OR foreign medical graduates must have current ECFMG/FMGEMS certification and have completed one year residency in a training program approved by the Accreditation Council for Graduate Medical Education --OR-- Possess other accredited U.S., territorial, or Canadian doctoral degree (Ph.D., Dr. P.H., D.D.S., etc.) in a discipline related to cancer prevention and control research (biomedical, medical, nutritional, public health or behavioral sciences). Foreign doctoral graduates must provide documented evidence that the foreign education is comparable to doctoral education received in accredited institutions noted above;
2. Possess U.S. citizenship or be a resident alien eligible for citizenship within four years;
3. Complete and return the application packet by the deadline (including arranging for official academic transcripts and four current, original letters of reference to be sent directly by the academic institutions and referees to the CPFP Coordinator).

For questions concerning the program's scientific or administrative aspects, please contact Dr. Peter Greenwald or Mrs. Barbara Redding at (301) 496-8640. Application packets may be obtained by sending a POSTCARD with your name and home address to CPFP Coordinator, NIH/NCI/DCPC/CCAB, EXPS Terrace Level, 9000 Rockville Pike, Bethesda, MD 20892. Please do not send any material until after you have read the instructions in the application packet.

DEADLINE FOR RECEIPT OF APPLICATIONS: JANUARY 11, 1989

NIH is an Equal Opportunity Employer

Diabetes Research BS/MS

The Upjohn Company is actively seeking a highly motivated research assistant for an opening in our Metabolic Diseases Research Group to participate in diabetes research studies. The selected candidate will assist a scientist in performing studies of the biochemical events involved in triggering pancreatic hormone secretion in normal and diabetic rodents and rodent islet cell lines. There is also the opportunity to perform a variety of laboratory techniques including culture of primary and continuous cell lines, *in vitro* tissue preparation, tissue perfusion, radioimmunoassays of peptide hormones, and radioisotopic measurements of metabolic flux. The position requires good oral and written communication skills and the ability to effectively design, carry out, and interpret experiments in collaboration with the scientist. These studies are directed at discovery of new drugs that modify secretion of pancreatic hormones.

The successful candidate will have a BS or MS in biology, biochemistry, or a related area with some laboratory experience in pharmacology, physiology, and/or biochemistry. Knowledge and experience in the following areas is desirable: isolation and culture of pancreatic islets, islet perfusion or organ perfusion, radioisotopic techniques for

measuring metabolic flux, and radioimmunoassays; experience with diabetic animal models and aged rodents will be helpful. Several years of recent and relevant experience are highly desirable.

We are located in Kalamazoo, in southwestern Michigan, midway between Chicago and Detroit. Our area offers varied cultural events, lakes and woodlands minutes away, abundant year-round sports and recreation. Upjohn offers advancement opportunities, a highly competitive salary commensurate with experience, comprehensive benefits and relocation assistance. For prompt, confidential consideration, please send your CV/resume and a copy of transcripts to M. William Rex, The Upjohn Company, Corporate Employment, Kalamazoo, MI 49001. Please refer to Ad Position Number 23076-HA in your correspondence. We are an Equal Opportunity Employer M/F.

**Our Commitment to Scientific
Excellence Continues...**

Upjohn

POSITIONS OPEN

JUNIOR OR SENIOR FACULTY POSITION MOLECULAR PATHOGENESIS

The Department of Microbiology and Immunology invites applications for a junior or senior level, tenure-track position focusing on significant problems in bacterial pathogenesis using genetic and molecular approaches. Senior candidates should have strong records of research accomplishment with sustained program growth and development. Junior candidates will be expected to develop high quality, independent research programs with long-term growth potential. Teaching responsibilities, which emphasize quality rather than quantity, include medical, dental and graduate students. A large Center of Excellence grant has resulted in establishment of a Molecular Resource Center within the Department featuring state-of-the-art facilities for: oligonucleotide synthesis, peptide synthesis, hybridoma antibody production, amino acid analysis, protein sequencing, molecular graphics, and flow cytometry. Funds for the initiation of research programs will be available and salaries will be highly competitive. Applications should consist of curriculum vitae, copies of several recent publications, a brief statement of future research goals and three letters of reference to be sent to: **Dr. Terrance G. Cooper, Department of Microbiology and Immunology, The University of Tennessee, Memphis, 858 Madison Avenue, Memphis, TN 38163.** Applications will be received until 1 October 1988 or until the position is filled thereafter. *The University of Tennessee is an Affirmative Action/Equal Opportunity Employer.*

University of Rochester. The Department of Chemistry invites applications for tenure-track **FACULTY POSITIONS** beginning fall 1989 at the level of assistant professor or higher. We seek applicants who will establish an outstanding research program; candidates in organic chemistry and inorganic chemistry including materials and surface science are encouraged. Applicants should submit curriculum vitae (including selected reprints), a statement of research plans and objectives and arrange for three letters of reference to be sent to: **Douglas H. Turner, Chairman, Search Committee, Department of Chemistry, University of Rochester, Rochester, NY 14627.** Deadline for receipt of completed applications is 1 November 1988. *The University of Rochester is an Affirmative Action/Equal Opportunity Employer/M/F.*

FACULTY POSITIONS IN MOLECULAR BIOLOGY

The Department of Biology at the University of Virginia invites applications from molecular biologists who use structural and/or molecular genetic approaches to study fundamental problems in biology. Positions at the assistant professor or more senior levels are available immediately as part of an expanding program in molecular biology. Our search will consider candidates in all areas of molecular biology research including macromolecular structure and function, nuclear or cytoplasmic function, and developmental and neuronal regulation. Send résumé, description of research program, summary of teaching interests, and three letters of reference by 1 November 1988, to: **Molecular Biology Search Committee, Department of Biology, University of Virginia, Charlottesville, VA 22901.** *Equal Opportunity/Affirmative Action Employment.*

HEAD, DEPARTMENT OF BIOLOGY

Virginia Polytechnic Institute (VPI) and State University (SU), a land grant institution, invites applications for the position of Department Head in Biology to begin 1 July 1989. The candidate must have a strong record of research achievement in any area of biology and is expected to provide the administrative leadership to foster research as well as quality teaching at all levels. This diverse department has 43 faculty, 850 undergraduate majors, and 80 graduate students. It offers the B.S. in biology and the M.S. and Ph.D. in: cellular and molecular biology, ecology, genetics, microbiology and immunology, physiology, and systematics and evolution. Submit application, curriculum vitae, and the names addresses, and telephone numbers of four references by 15 November 1988 to: **Dr. Allan A. Yousten, Biology Department, VPI and SU, Blacksburg, VA 24061.** *We are an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

THE UNIVERSITY OF CALIFORNIA SAN DIEGO DEPARTMENT OF BIOLOGY FACULTY POSITION

The Department of Biology of the University of California, San Diego (UCSD), invites applications for a tenure-track assistant or associate professor position in plant biology (molecular, cellular, or developmental biology, including plant-microorganism interactions). Salary will be commensurate with level of appointment and based on the UC salary scale. The successful candidate is expected to develop (assistant professor) or continue (associate professor) a vigorous research program in one of the rapidly-moving areas of experimental plant biology, and participate in undergraduate and graduate training. A Ph.D. degree and several years of productive postdoctoral research are required.

Please submit curriculum vitae, a statement of professional goals and research interests, and names of three references by: 15 November 1988 to: **C. Ring, Plant Biology Search Committee, Department of Biology, University of California, San Diego, B-046, La Jolla, CA 92093.**

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

IMMUNOCHEMIST/IMMUNOVIROLOGIST

Cytel is a growing biotechnology company pursuing recent breakthroughs in the fields of molecular immunology and bioorganic chemistry.

IMMUNOCHEMIST/PROTEIN BIOCHEMIST: A Ph.D. level candidate is sought with experience in the isolation and characterization of soluble and cell associated proteins using both physical/biochemical and immunochemical techniques. Responsibilities will primarily focus on HLA molecules, as well as a diverse group of protein antigens. The position requires the ability to work independently, as well as participate in disease-related group projects.

IMMUNOVIROLOGIST: A Ph.D./M.D. level candidate is sought with experience in virology and immunology to investigate the human T cell response to viral infection. The position will include an opportunity to apply novel approaches to modulation of the immune response based on immune recognition.

Cytel offers competitive salaries and excellent benefits. Interested applicants please send résumés to:

**CYTEL Corporation
Attention: Department RC
12520 High Bluff Drive, Suite 250
San Diego, CA 92130**

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LABORATORY MANAGER, Research and Development/Transfusion Diagnostics Manages and exercises responsibility for product development group of six scientists and research professionals in the transfusion associated diseases diagnostic area. Develops technologies to produce human lymphoblastoid cell line secreting monoclonal antibodies to human cell antigens. Innovates retrovirus diagnostic tests utilizing enzyme immunoassay, monoclonal antibodies and DNA recombinant proteins. Identifies and has personal responsibility for innovating diagnostic tests in the retrobiology and cell typing area or special applications including oncologist and epidemiology applications. M.D. in medicine required together with 3 years of experience in the job offered or 3 years of experience as senior scientist/laboratory manager in cell biology. The 3 years of experience as a senior scientist/laboratory manager in cell biology must have involved managing a test development group for Hybridoma and Lymphocyte transformation by Epstein Barr Virus utilizing enzyme immunoassay, monoclonal antibody, recombinant DNA and other biochemical test methods for test development. The required experience must also include 2 years of clinical experience in virology. Forty hours Monday through Friday, 8:15 a.m. to 4:55 p.m., \$4,770 per month. Send résumé and social security number to: **Illinois Department of Employment Security, 401 South State Street-3 South, Chicago, IL 60605, Attention: Mrs. Marie Ninnehan, Reference #8213-N, An Employer-paid ad.**

POSITIONS OPEN

BROCK UNIVERSITY DEPARTMENT OF BIOLOGICAL SCIENCES

A tenure-stream position for a **GENETICIST** is available from 1 July 1989. The appointee will be expected to develop a strong research and teaching program in the area of his/her expertise, to supervise graduate students and to interact with other faculty working at several different levels of biological organization. Salary and rank will be commensurate with qualifications; a senior appointment is possible for an appropriate candidate. *All qualified individuals are encouraged to apply, but preference will be given to Canadian citizens and permanent residents.*

Applicants should submit a complete curriculum vitae by 15 November 1988, together with a statement of research and teaching experience, reprints of published research and the names of three referees to:

**Chairman, Genetics Search Committee
Department of Biological Sciences
Brock University
St. Catharines, Ontario, Canada L2S 3A1**
Brock University is an Equal Opportunity Employer.

GENETICS AND HEALTH: FACULTY POSITION as Associate Professor of Genetics and Health and Human Issues. Provide outreach and teaching through a joint appointment between the Departments of Health and Human Issues and the Department of Medical Genetics. Ph.D. in genetics is required along with extensive background and experience related to the Outreach Function. Deadline for applications is 15 October 1988. For more information, contact: **Roger T. Williams, Chairman, Health and Human Issues, University of Wisconsin-Madison, 610 Langdon Street, Madison, WI 53703. Telephone: 608-263-4432.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

INSECT PHYSIOLOGIST/BIOCHEMIST

Applicant must possess a Ph.D. degree in biology or biochemistry and have a minimum of 3 years of postdoctoral training. Ph.D. and postdoctoral education should include at least 3 years of work in insect physiology/biochemistry and hormonal control of energy metabolism in insects, such as *Manduca sexta*, as well as experience in lipid and carbohydrate metabolism, peptide purification and synthesis. The applicant is expected to conduct independent research, to publish original papers in the above areas, and to supervise students and technical employees. Forty hours per week, \$24,000 annual salary. Qualified applicants send résumé or application letter to: **AZ DES Job Service Attention 732-A Re: 0802682, PO Box 6123, Phoenix, AZ 85005** (Job Location: Tucson, AZ; Employer paid ad; Proof of authorization to work in U.S. required if hired.)

UNIVERSITY OF OTAGO DUNEDIN-NEW ZEALAND LECTURER IN ZOOLOGY

Applications are invited for the position of Lecturer in the Department of Zoology, tenable for 3 years from 1 February 1989. Applicants should be qualified to contribute to the teaching of undergraduate courses in biology and zoology, and to supervise undergraduate and postgraduate research. Candidates must have a good record of published research in some area of experimental zoology and will be expected to engage in an active programme of research. Preference may be given to applicants with research experience in one or more of the following areas: comparative physiology; experimental marine biology; wildlife biology or management; genetics or evolutionary biology; theoretical ecology. Enquiries may be made to: **Associate Professor C. W. Burns, Department of Zoology, facsimile number NZ (024)-741-607 or by telephoning NZ (024) 797-975.**

Salary: Lecturer \$NZ35,000 to \$NZ42,100 per annum.

Intending applicants can obtain further information, including a description of the Department, from the undersigned, **P.O. Box 56, Dunedin, New Zealand.** Applications quoting reference number A88/48 close on 15 October 1988 or as soon as possible thereafter. **D. W. Girvan, REGISTRAR.**

POSITIONS OPEN

THE UNIVERSITY OF WESTERN AUSTRALIA PERTH

LECTURER (REF:A51/88) Department of Anatomy and Human Biology. Applications are invited for a tenurable Lectureship. The Department has strong teaching and research commitments in the Faculties of Science and Medicine. Extensive research, both basic and applied is being undertaken in such areas of human biology as evolution, genetics, variation and ecology; comparative and functional anatomy including biomechanics and morphometrics; reproduction, development, growth and ageing; histology and cell biology and growth, plasticity and regeneration in the nervous system. Techniques available include light and electron microscopy, surgical procedures, stereology, computer modelling, image and data analysis of various types. Applications are sought from persons with academic qualifications and teaching and research experience in reproductive biology together with any other of the more general human biology fields mentioned above. Duties will include research development and supervision, and co-ordination of courses, lecturing, laboratory and tutorial teaching. For further details, contact: **The Head of Department, Professor C. E. Oxnard on (09) 380 3298.**

Salary range: \$A29,842–\$A38,932 per annum.

Closing date: 28 October 1988.

Benefits include superannuation, fares to Perth for appointee and dependent family, removal allowance and long service leave.

Conditions of employment will be specified in any offer of appointment which may be made as a result of this advertisement.

Written applications quoting reference number, telephone number, date of birth, qualifications and experience, name and addresses of three referees should reach: **The Manager, Appointments and Payroll, The University of Western Australia, Nedlands 6009**, by the closing date.

Equal Employment Opportunity is University Policy.

MOLECULAR BIOLOGIST

A professionally rewarding staff position exists for a molecular biologist in the expanding Medical Research Institute of The Mary Imogene Bassett Hospital, affiliated with Columbia University. Ample laboratory space, generous start-up funds, and excellent salary and benefits are offered. Academic appointment to an appropriate department in Columbia University is encouraged. The Institute provides a supportive, congenial environment in which the successful candidate will develop a full-time independent research program and interact with colleagues investigating significant biomedical problems. Postdoctoral experience is desirable. A starting date of July 1989, is anticipated. Located on a lake in the scenic foothills of the Catskill Mountains in upstate New York, Cooperstown and the surrounding area offer affordable housing, good schools, and a range of cultural and outdoor activities. Applicants should submit research interests, curriculum vitae, and the names of three references by 1 November 1988 to: **Dr. William E. Bowers, Associate Director of Basic Research, Medical Research Institute, The Mary Imogene Bassett Hospital, Cooperstown, NY 13326.**

MOLECULAR BIOLOGIST

Tenure-track position at the assistant/associate rank beginning August 1989 for a molecular biologist. Ph.D. required. Candidates must demonstrate a commitment to teach undergraduate students, a desire to involve undergraduates in scholarly activity, and a willingness to teach non-major service courses. The candidate will be expected to develop and teach an undergraduate molecular biology course and establish an independent research program. Salary and fringe benefits are excellent. *Minorities and women are encouraged to apply.* Send letter of application, curriculum vitae, transcripts, a statement of interests, and three letters of references to: **Dr. Robert Hart, Biology Department, Slippery Rock University, Slippery Rock, PA 16057.** To ensure consideration, application materials should be received by 1 November 1988.

Slippery Rock University is an Affirmative Action/Equal Opportunity Employer.

16 SEPTEMBER 1988

PROJECT SCIENTISTS

NSI Technology Services Corporation is recruiting Project Scientists for an expanding environmental research program in Corvallis, Oregon. Incumbents will assume a leadership role in developing and implementing team research along with publishing results in peer-reviewed journals.

Acid Rain Research and Terrestrial Effects Program: PhD in forestry, ecology or related science with 4-6 years of research experience. Demonstrated knowledge of forest soils or forest ecosystem processes and factors affecting those processes.

National Surface Water Survey—Acid Deposition Program: PhD in chemical limnology, aquatic chemistry, low temperature geochemistry or related science. Experience working with acidic deposition data and issues. Solid statistical training and outstanding communication and interpersonal skills required.

Stratospheric Ozone Depletion Program: PhD in ecophysiology, terrestrial or aquatic ecology or related discipline. Position requires applied research experience in biogenically emitted gases, demonstrated experience in instrumentation and analytical skills, trace gas handling and measuring of emission flux rates. Modeling capabilities are desired.

Tropospheric Ozone Modification Program: PhD in environmental toxicology or chemistry, agricultural chemistry or ecophysiology. Demonstrated knowledge of one or more of the following: toxic chemicals, deposition and fate of air toxics and toxic chemical effects at the biological and ecosystem level of organization.

Global Climatic Change Program: 1) PhD in hydrology, ecology, fisheries or related discipline with demonstrated experience in watershed hydrology, specifically, rainfall-runoff modeling. Deterministic modeling capabilities are desired. 2) PhD in biological sciences, preferably in population genetics/ecology or in community, ecosystem, landscape or regional ecology. Demonstrated experience and knowledge of factors affecting biodiversity at all major levels of biological organization.

Additional junior level positions will be created in many of the above programs. Specific interests are in candidates with MS degrees in ecophysiology, tree physiology, aquatic ecology and forest ecology.

Collection of applications will continue until each position is filled. Submit cover letter (specifically relating experience to the position requirements), salary requirements, resume and the names, telephone numbers and addresses of three references.

**Human Resources
NSI Technology Services Corporation
200 SW 35th Street
Corvallis, Oregon 97333**

A subsidiary of ManTech International. An EEO Employer

Neuroscientists

Pfizer's expanding commitment to neuroscience research has created new career opportunities at the level of Research Scientist. These positions require a PhD in a neuroscience-related discipline and 2-3 years of additional experience during which a solid record of research achievement has been established. Evidence of the practical application of research techniques to the field of neuropharmacology also is required.

You will be expected to interact with a multidisciplinary research team whose goal is the discovery of novel drugs that act on targets in the central nervous system. Your scientific expertise should be compatible with a role in the research and development of pharmacotherapy for one or more of the following clinical applications: affective disorder, anxiety, psychosis, addiction, pain, obesity or dementia.

These positions offer a stimulating intellectual environment with potential for professional growth. We are located in an attractive southeastern Connecticut shore location and offer a competitive salary/benefits package with relocation assistance. Qualified applicants should submit their resume, description of research experience and references to: Dr. Jerry K. Larson, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.



An equal opportunity employer

THE LADY DAVIS FELLOWSHIP TRUST

P.O. Box 1255, Jerusalem 91904, Israel

FELLOWSHIP FOR 1989/90

AT THE HEBREW UNIVERSITY OF JERUSALEM OR
THE TECHNION-ISRAEL INSTITUTE OF TECHNOLOGY, HAIFA
GRADUATE AND POST-DOCTORAL FELLOWSHIPS

ELIGIBILITY: Lady Davis Fellows are selected on the basis of demonstrated excellence in their studies and promise of distinction in their chosen fields of specialization.

APPLICATION INFORMATION: Graduate applicants may apply during their senior undergraduate year or after they have undertaken study in a graduate school. Post-doctoral applicants to the Hebrew University may apply not later than 3 years after completion of their doctoral dissertation.

The Fellowships are tenable for one academic year and may be extended for another year.

The grant covers travel, tuition fees (whenever applicable) and reasonable living expenses.

VISITING PROFESSORSHIPS are intended for candidates with the rank of Full or Associate Professor at their own institution. They are tenable from one semester to a full academic year. The grant includes a professorial salary and travel.

DEADLINE: November 30, 1988. Requests from applicants (including Israelis) indicating category of Fellowship should be sent to above address.

POSTDOCTORAL FELLOWSHIP

A position is available in the laboratory of Dr. John Abrams to pursue postdoctoral studies in either of two areas:

The immunohistochemical and immunocytochemical localization of particular lymphokines within expressing cells. Goals of these studies include identifying cells which are producing these factors in certain model and clinical immunopathologies, searching for novel cell types which may produce these lymphokines, and investigating mechanism of release of these mediators from activated T cells at the ultrastructural level.

Investigating the biological effects of certain neutralizing anti-colony stimulating factor (CSF) antibodies *in vivo* in mice. We are planning to examine the effect of CSF ablation on the development and maintenance of immune function as well as the potential for affecting certain other systems such as the developing nervous system.

DNAX Research Institute is supported by Schering-Plough Corporation and operates as a separate research institute committed to basic research in immunology and molecular biology. The Institute provides a unique resource for productive collaborative efforts between immunologists and molecular biologists in a generously funded and open academic-like atmosphere. Postdoctoral Fellows are encouraged to interact with other scientists at DNAX and, where appropriate, with members of the Scientific Advisory Board and scientists at universities. DNAX two-year Postdoctoral Fellowships have generous stipends and benefits.

Applicants should send a curriculum vitae, a concise statement of research interests, and the names of three references to the Human Resources Department, DNAX Research Institute of Molecular and Cellular Biology, 901 California Avenue, Palo Alto, California 94304-1104.

Scientist

Turn your technical expertise to clinical products startup in FDA-regulated environment

The challenge couldn't be more demanding the objective more noteworthy, nor the setting more visible, as you contribute strong support to new product startup at Fisher Diagnostics.

You'll be in the forefront of improving blood gas QC products working with this recognized leader in the world's multi-billion dollar clinical products markets. You will also function as problem-solving liaison between R&D and manufacturing groups.

Candidates must have at least an MS in a life science. Knowledge of hemoglobin chemistry and industrial experience are assets. We offer excellent compensation and a pleasant, convenient location on the west side of the Hudson, just 30 minutes from NYC and 5 minutes north of New Jersey. For consideration, please send resume, in confidence, to: Employee Relations Manager



Fisher Scientific Group, Inc.

Instrumentation
Laboratory Division
526 Route 303
Orangeburg, New York 10962
Equal opportunity employer M/F/H

Executive Director California Academy of Sciences San Francisco

The Academy, the natural history museum, aquarium, and planetarium complex in San Francisco's Golden Gate Park, is seeking an Executive Director. The Academy has a broadly defined mission in research, public education, and exhibition with a staff of 250, including 85 professionals, and serves more than 1.5 million visitors annually. Continued strong and creative leadership is required to bring to completion the ambitious, funded program of modernization and expansion now underway.

The Director will report to the Academy's Board of Trustees and be responsible for providing executive leadership, administration, direction, and oversight for the institution's diverse activities. The Academy seeks an individual with proven qualities of leadership and successful management of complex organizations, abilities in fund-raising, excellent communication skills; he/she should share enthusiasm for science, and commitment to the kinds of research and public programs undertaken at the Academy. A scientific background is highly desirable.

A full salary and benefit package, including use of a home in San Francisco, will be provided.



Forward applications and nominations to Mr. John Grey, Chair of the Search Committee, The California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118. Applications will be kept confidential. For information, please contact Dolores Rogers, Personnel Manager, (415) 750-7212.

Application closing date is Oct. 14, 1988.

GRADUATE PROGRAM CELL AND MOLECULAR BIOLOGY (MULTI-DEPARTMENTAL)

- GENE REGULATION
- MOLECULAR GENETICS
- DEVELOPMENTAL BIOLOGY
- ONCOGENES AND GROWTH FACTORS
- STRUCTURAL BIOLOGY
- NEUROBIOLOGY
- MOLECULAR VIROLOGY AND IMMUNOLOGY

The Graduate School at BAYLOR COLLEGE OF MEDICINE has recently created a graduate program in CELL AND MOLECULAR BIOLOGY stressing basic research in the above areas. Students accepted for studies leading to the Ph.D. degree will receive financial support. For further information contact:

Dr. Savio Woo, Director
Graduate Program in Cell and Molecular Biology
Baylor College of Medicine, Room 185A
One Baylor Plaza
Houston, Texas 77030
Phone: (713) 798-6557

Cell Culture R & D Career Openings

GIBCO Laboratories is rapidly expanding its development of innovative products for research, biotechnology, and experimental therapeutics. The Cell Culture Research and Development team of highly motivated, multidisciplinary scientists is playing a leading role in this effort and has several new positions open at both the B.S./M.Sc and the doctoral (Ph.D., D.Sc.) levels. In addition to these academic qualifications, the successful candidate will have demonstrated significant expertise in mammalian and insect cell culture. Preferential consideration will be given to candidates with experience or postdoctoral training in the following areas:

1. **Development of defined for serum-free mammalian and insect media.**
2. **Nutritional requirements of large-scale, high density production of biologicals by mammalian and insect cells.**
3. **Isolation, production, and characterization of growth factors and other active components of biological tissues and fluids.**
4. **Regulation of cellular proliferation and biological production of macromolecules.**
5. **Protein purification and characterization.**

Scientists who join the GIBCO R&D team will combine bench level research, technical supervision, interactions with other GIBCO/BRL departments, and active collaboration with leading investigators in academia and the private sector.

GIBCO has been the acknowledged leader in supplying high quality cell culture media, sera, and reagents to the research and industrial communities for over a quarter of a century. Recruitment of outstanding scientists to the Cell Culture Research and Development Department is a fundamental component to ensure GIBCO's leadership in this demanding and innovative field.

GIBCO offers an attractive benefits package and competitive salary commensurate with experience and job responsibilities. GIBCO Laboratories is located in scenic Western New York State which offers a wide variety of cultural, recreational, and educational opportunities and an excellent quality of life.

Interested candidates should send curriculum vitae, career interests, salary history, and bibliography to:

Mr. Harry Cardin
Personnel Manager
GIBCO Laboratories
3175 Staley Road
Grand Island, NY 14072

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LABORATORIES
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POSITIONS OPEN

MOLECULAR GENETICIST

Applications are invited for a tenure-track faculty position at the rank of associate professor or professor in the Department of Comparative Medicine, Schools of Medicine and Dentistry, University of Alabama at Birmingham (UAB). Applicants should have a Ph.D., M.D. or D.V.M. degree with extensive postdoctoral experience in molecular genetics and metabolic diseases. The successful candidate will be expected to develop a strong, extramurally-funded research program devoted to molecular mechanisms and treatment of inherited diseases of metabolism. Modest teaching, at the graduate level. Submit curriculum vitae, a statement of your career interests and goals, and three references to: **J. Russell Lindsey, Chairman, Department of Comparative Medicine, Schools of Medicine and Dentistry, University of Alabama at Birmingham, Birmingham, AL 35294. Telephone: 205-934-2117. UAB is an Affirmative Action/Equal Opportunity Employer.**

NEUROBIOLOGY

The Department of Biology at Loyola University of Chicago invites applications for a 9-month tenure-track position at the level of **ASSISTANT PROFESSOR**. A Ph.D. and postdoctoral experience are required. Individuals having thorough training in the neurosciences and who are conducting innovative research using modern techniques will be considered. The successful candidate will develop an active, funded research program, direct graduate student research, develop and teach an introductory undergraduate neurobiology course, and teach at the graduate level. Submit curriculum vitae, a description of research interests, and the names of three references by 1 November 1988 to: **Dr. Albert Rotermund, Chairman Search Committee, Department of Biology, Loyola University of Chicago, 6525 North Sheridan Road, Chicago, IL 60626. An Equal Opportunity Employer.**

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE

The University of Maryland at Baltimore, School of Medicine, is seeking an individual with a **Ph.D.**, (D.V.M. or M.D.) in Biochemistry, Microbiology, or related discipline for an NIH-funded study on the pathogens of bacterial induced colitis. Major emphasis will be on immune response to protective antigens. Knowledge of ELISA, PAGE, Western blotting, protein purification, hybridoma and cell culture techniques are especially sought. Starting date for position is 1 October 1988. Salary will be \$25,000 to \$28,000 depending on experience and qualifications. Send curriculum vitae and three work references to:

**Dr. Robert Russell
Chief of Veterinary Pathology
10 South Pine Street, Room 300, MSTF
Baltimore, MD 21201
Telephone: 301-328-3540**

PLANT PHYSIOLOGY

The Department of Biology at the University of Utah, continuing its development in plant biology, invites applications for a **TENURE-TRACK POSITION** in plant physiology. We seek candidates with extensive backgrounds in plant biology who will establish a strong research program and contribute to instruction at undergraduate and graduate levels, including a basic course in plant physiology. We particularly hope to appoint a colleague who can establish productive interactions with existing programs in the Department. This position may be filled at either a junior or senior level. Under exceptional circumstances, a second position may be filled, pending final budgetary approval.

Address applications or nominations to:

**Dr. James Ehleringer
Plant Physiology Search Committee
Department of Biology
University of Utah
Salt Lake City, UT 84112**

Please send a résumé, copies of recent publications, and three letters of reference. The deadline for receipt of all application materials is 15 December 1988.

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

POSITIONS OPEN

MOLECULAR BIOLOGISTS: The State University of New York College of Environmental Science and Forestry seeks applications for two tenure-track positions as part of a major college-wide thrust in biotechnology in forestry. The successful candidates must have research interests in such areas as plant growth and development, plant-microbe or plant-insect interactions, bioconversion of lignocellulose, or molecular chemical ecology. One position, which can be filled at the associate or assistant professor level, must have demonstrated expertise in higher plant recombinant-DNA techniques. The area of expertise for the second position, which will be filled at the assistant professor level, may be with higher plants, insects or microorganisms. Candidates will be expected to develop strong research programs, and teach courses in molecular biology, and recombinant techniques. Minimal qualifications include a Ph.D. and postdoctoral experience. Salaries commensurate with qualifications and experience. The positions are available 1 January 1989. Submit current curriculum vitae and statements of research accomplishments, future interests and teaching experience. These plus official transcripts and three letters of reference should arrive by 15 October 1988. Send to: **Dr. Frederick A. Valentine, Faculty of Environmental and Forest Biology, SUNY-CESF, Syracuse, NY 13210. Telephone: 315-470-6790.**

SUNY-CESF Is An Affirmative Action/Equal Opportunity Employer.

MOLECULAR IMMUNOLOGIST—Research associate (M.D. or Ph.D.) to work on the molecular biology of inherited humoral immunodeficiencies in humans. Three years of experience in molecular immunology required, especially genomic cloning, DNA and RNA sequencing, tissue culture and immunochemical assays. Salary \$18,720 per year, 40 hours per week. Send curriculum vitae and names of two references. **Job Order Number NC 8905666, DOT Code 090.227-010.** Interested persons should apply to: **Job Service, 630 West Sixth Street, Winston-Salem, NC 27102, or their nearest Job Service Office. Affirmative Action/Equal Opportunity Employer.**

DEPARTMENT OF MOLECULAR PHARMACOLOGY ALBERT EINSTEIN COLLEGE OF MEDICINE

Individuals with a record of excellence in postdoctoral research who can apply skills in biochemistry, molecular biology, genetics and cell biology to solve problems relevant to molecular pharmacology are being sought. Candidates are expected to devise an innovative research program and participate in teaching. The theme of the transmission of information and molecules across membranes is the focus for recruitment. Research areas of interest include: mechanisms of drug, hormone, growth factor and neurotransmitter actions; regulation of gene expression and differentiation by carcinogens, hormones and therapeutic agents; molecular basis of drug resistance; structure, function and regulation of receptors and channels; molecular parasitology, signalling mediated by calcium-calmodulin and protein phosphorylation and reconstitution of membrane functions from purified components. Candidates should submit curriculum vitae, research plan, and the names of four referees who can evaluate their research capabilities to: **Ms. Ginny Privitar, Administrator, Department of Molecular Pharmacology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461. Equal Opportunity Employer.**

POSTDOCTORAL/ASSOCIATE RESEARCH SCIENTIST positions available in the Department of Pharmacology at Yale University School of Medicine to study: (i) regulation of induced differentiation of neoplastic cells with emphasis on factors involved in epidermal cell differentiation, and (ii) mechanisms of action of drugs on hypoxic tumor cells with emphasis on the reductive activation of bioreductive alkylating agents. Ph.D. required and experience in biochemistry and/or molecular biology desired. Deadline for receipt of applications is 31 December 1988. Send curriculum vitae and three letters of reference to: **Dr. Alan C. Sartorelli, Director, Comprehensive Cancer Center, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.**

Yale University is an Equal Opportunity/Affirmative Action Employer. The Department of Pharmacology encourages applications from women and minority group members.

POSITIONS OPEN

NEUROBIOLOGIST

Two postdoctoral positions are available immediately in a multidisciplinary laboratory for individuals interested in pursuing studies on the functions of astrocytes. One position involves examination of astrocytic responsiveness using a video-based imaging system to monitor changes in intracellular ions via fluorescent probes. The second position involves isolation of pharmacologically-distinct subpopulations of astrocytes and examination of factors released from astrocytes following receptor stimulation. Individuals interested should have a strong background in biochemistry and pharmacology. Send curriculum vitae to: **Dr. Ken D. McCarthy, Department of Pharmacology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC 27514. Equal Opportunity Employer.**

PHYSICAL OCEANOGRAPHER—CIRCULATION MODELER. The National Ocean Service has a Supervisory Oceanographer vacancy at \$39,501 (GM 13) starting salary with technical management and applied research duties: application of circulation models to estuaries, verification measurements, and information products. Research experience in circulation modeling required. Quality ranking factors include related publications, ability to select and apply appropriate models, ability to plan and use personnel, computers, and funding resources effectively, and to serve as liaison with other organizations. Submit SF-171 by 17 October 1988 to: **NOAA/NCASC Personnel Division, 11420 Rockville Pike, Rockville, MD 20852.** For a copy of Vacancy Announcement NOS 88-119SM, call: **301-443-8105.** For further technical information, call: **Dr. Henry R. Frey at 301-443-8510.**

PHYSIOLOGIST

Applications are invited for a full-time position in the Department of Physiology. The individual filling this position is expected to have an active fundable research program in cardiovascular, neurotransmitter, or renal physiology. Other areas of specialization will be considered. A priority of our program is on delivering a high quality of teaching to our medical students. The school has special commitments to increasing the number of physicians from presently underrepresented minority groups, to emphasizing the role of primary care, and to training for community-based primary care service to underserved urban areas of New York City. The position is currently available. Salary and rank commensurate with experience. Closing date for applications is 14 October 1988, or until a suitable candidate is found. Send curriculum vitae to: **Dr. Stanley Kalsner, Chairman, Department of Physiology, PP, CUNY Medical School, 138th Street and Convent Avenue, New York, NY 10031.**

Equal Opportunity/Affirmative Action Employer M/F

University of Washington—**TWO TENURE-TRACK POSITIONS**, one in **PLANT MOLECULAR BIOLOGY** and one in **PLANT POPULATION/EVOLUTIONARY BIOLOGY**, available beginning autumn 1989. Junior or senior levels; postdoctoral experience preferred. Candidates expected to develop a strong research program and to teach lower division biology/botany and courses in specialty. Send curriculum vitae, short statement of research goals, and three letters of reference by 15 November 1988, to: **Dr. Melinda Denton, Search Committee, Department of Botany KB-15, University of Washington, Seattle, WA 98195. The University of Washington is an Equal Opportunity/Affirmative Action Employer.**

NEPHROLOGY RESEARCH—A POSTDOCTORAL FELLOWSHIP is available beginning 1 October 1988 in the Nephrology Research and Training Center at the University of Alabama at Birmingham. The applicant should be familiar with protein purification and separation, and with immunopurification techniques. The focus of the project is on the identification and purification of membrane transport proteins, especially the Na/H exchanger. Send curriculum vitae and three letters of recommendation to: **David G. Warnock, M.D., Director, Division of Nephrology and the Nephrology Research and Training Center, University of Alabama at Birmingham, University Station, Birmingham, AL 35294. UAB is an Affirmative Action/Equal Opportunity Employer.**

ENZYMOLGY/ ORGANIC CHEMISTRY

Enzymatics, Inc. uses state-of-the-art applied enzymology in developing a new generation of machine independent medical diagnostics and biosensors. We are looking for motivated problem solvers to join our rapidly growing team.

Group Leader, Ph.D.: will have 4+ years postdoctoral experience. Strong background in organic chemistry. Experience in enzymology or protein chemistry required.

QC/QA Director: must establish and run a biotech Quality Control Department. FDA experience required.

Research Associates, MS/BS: requires 2+ years of problem solving experience in biochemistry.

Enzymatics employees work in an innovative and dynamic R&D environment. We offer equity participation, competitive salary and benefits, and unlimited growth potential. Send resume, including salary history and three references to: **Personnel, Enzymatics, Inc., 355 Business Center Drive, Horsham, PA 19044, EOE M/F**



ENZYMATICS, INC.

PROTEIN BASED SMART MATERIALS

Environmental Scientists/Toxicologists

International Technology Corporation, a leader in the environmental management field, is expanding its capabilities in the area of health and environmental risk evaluation.

We have immediate openings for Ph.D's in toxicology, environmental chemistry and biology, public health or epidemiology. The ideal candidates will have a minimum of two years' post-doctoral work experience and knowledge of:

- the conduct of health and environmental risk assessments
- federal environmental and hazardous waste regulations including CERCLA and RCRA

Computer literacy and excellent communication skills are essential.

The positions in Knoxville, TN and Pittsburgh, PA are with multidisciplinary groups that provide opportunities to contribute to the success of large environmental restoration projects. The persons selected will also be involved in resolving technical issues with regulatory agencies and representing the company at scientific and trade association meetings.

We offer a salary commensurate with experience and education and an attractive fringe benefit program. Candidates should forward their resumes in confidence to: **Tony Dury, International Technology Corporation, 2790 Mossdale Boulevard, Monroeville, PA 15146.** An Equal Opportunity Employer M/F/H/V.



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McKNIGHT AWARDS FOR INDIVIDUAL RESEARCH PROJECTS IN PLANT BIOLOGY

The McKnight Foundation announces the third series of McKnight Awards for Individual Research Projects in Plant Biology to provide awards to outstanding individual scientists who are conducting basic research in plant biology as it relates to agriculture. The primary purpose of the awards is to make support available to gifted individuals who are conducting independent research. A secondary purpose is to support investigators who desire to undertake new initiatives in plant biology which may be beyond the scope of their previous endeavors.

To be eligible, a candidate must hold regular university faculty status which involves instructional and research responsibilities at a U.S. university and at least two years but not more than six years of research experience after receiving the Ph.D. Applicants must be U.S. citizens or lawful permanent residents.

The McKnight Awards will be 10 in number in the amount of \$35,000 per year for a three-year period. Use of the funds is flexible in order to permit approaches to research and training that are not presently possible through the usual funding channels. Each awardee will be supported with an award of \$35,000 payable annually to the sponsoring institution in 1989, 1990 and 1991. These awards are personal and their use is at the discretion of the awardee. Funds may be used for salary and direct costs but not indirect costs.

Applications will be evaluated by a review committee which will recommend candidates to the Foundation for appointment. Applications must be received by the Foundation no later than December 2, 1988, with the awards being effective July 1, 1989.

Requests for further information and instructions about applications should be directed to The McKnight Foundation office at 410 Peavey Building, Minneapolis, MN 55402 (telephone 612-333-4220).

MS Biochemist/ Molecular Biologist

Du Pont's Central Research and Development Department is seeking experienced MS level scientists for its basic research programs in recombinant genetics.

Individuals will work closely with established members of the research staff engaged in structural studies of protein-nucleic acid complexes. Successful candidates will have a masters degree in biochemistry or molecular biology with 2-3 years experience in protein purification (including HPLC), oligonucleotide synthesis and purification, and/or recombinant molecular biology techniques. Experience with personal computer systems is desirable.

At Du Pont you'll find a stimulating scientific environment in a modern research facility located near Wilmington, DE. Our Mid-Atlantic location offers a wide range of academic, cultural, and recreational activities. We provide excellent compensation, benefits and relocation assistance. Qualified candidates should send resumes to Professional Staffing Section, Employee Relations Department, Room X-51431, Du Pont Company, Wilmington, DE 19898



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U.S. Citizenship
or Permanent Resident Visa Required*

NEUROCHEMIST

**National Institute of Neurological and
Communicative Disorders and Stroke**
National Institutes of Health/Public Health Service

Intramural Research Training Award (IRTA) fellowship for two years available in Neuroimaging Section, National Institute of Neurological and Communicative Disorders and Stroke, Bethesda, Maryland. A neurochemist is needed with experience or interest in dopaminergic systems and organic synthetic chemistry. The Fellow will be engaged in neurochemical research involving HPLC and autoradiography, related to Positron Emission Tomography studies of patients with dopamine related diseases. NIH facilities include three PET scanners and two dedicated cyclotrons.

Candidate must be an American citizen with no more than three years research experience following doctorate. Stipend is \$24,000 the first year, with no fringe benefits. Because of the training nature of the position, no federal or state tax is withheld, although ultimate determination of taxability must be made by the Internal Revenue Service.

For other information on qualifications and benefits, contact Wallace Holland (301) 496-6334. Interested candidates should send a curriculum vitae, a brief statement of research interests and the names of three references to:

Dr. Giovanni Di Chiro
Bldg. 10, Room 1C451
National Institutes of Health
9000 Rockville Pike
Bethesda, Maryland 20892
(301) 496-6801



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THE UNIVERSITY OF CALIFORNIA, DAVIS VICE CHANCELLOR—RESEARCH AND DEAN—GRADUATE STUDIES

The University of California, Davis, is seeking to fill two executive positions: Dean—Graduate Studies and Vice Chancellor—Research.

The Dean—Graduate Studies will provide overall management of the graduate programs; increase the number of graduate students from under-represented groups; help form new graduate degree programs to capitalize on present and emerging campus strengths; reevaluate and increase the bases of support for and strengthen the administration of interdepartmental programs and graduate groups; and increase financial support for graduate students. The Dean—Graduate Studies helps assess and plan for meeting campus needs for financial and other resources for graduate education and, in consultation with other administrators and faculty, plays a key role in the establishment, review, and revision of postbaccalaureate programs.

The Vice Chancellor—Research is the senior campus officer responsible for overall leadership, development, management, and quality of the research programs of the Davis campus. The Vice Chancellor—Research will enhance, promote, and oversee research within all of the campus's colleges, schools, hospitals, and clinics; enhance the research ethos of the campus; increase and manage extramural financial support including support for large, long-term, and interdisciplinary projects; increase the computing capacity of the campus; and further relationships with government and industry.

Nominations and applications should be sent to Chancellor Theodore L. Hullar, Office of the Chancellor, University of California, Davis, CA 95616. Applicants should include a curriculum vita and the names, addresses, and telephone numbers of five references. Applications and nominations desired by 17 October 1988; positions open until filled. Salary will be commensurate with experience and qualifications.

An Equal Opportunity/Affirmative Action Employer

Research Assistant

Pfizer, a U.S. based multinational pharmaceutical company, has an immediate opening for a Research Assistant to join our Central Research facility in Groton, Connecticut. You will apply your strong background and skills in molecular biology to the application of genetic manipulation of different microorganisms in our Fermentation Process Research Department.

You should possess an MS or BS degree with relevant laboratory research experience, and be skilled in basic recombinant DNA techniques. In addition, you should have experience in one or all of the following:

- DNA cloning and sequencing
- Analysis of gene expression at all levels
- RNA isolation and characterization
- DNA/RNA hybridization

In addition to a stimulating scientific environment, we offer a competitive compensation/benefit package and relocation assistance to an attractive southeastern Connecticut shore community. Please send a resume, description of research experience and names of three references to: Mrs. Lorraine C. Corr, Personnel Associate, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.



An equal opportunity employer



SCIENCE AND ENGINEERING RESEARCH SEMESTER Opportunities for UNDERGRADUATE RESEARCH

The U.S. Department of Energy offers college juniors and seniors the opportunity to spend one academic term in energy-related research. Qualified students work at one of six federal laboratories: Argonne National Laboratory, Brookhaven National Laboratory, Lawrence Berkeley Laboratory, Los Alamos National Laboratory, Oak Ridge National Laboratory, and Pacific Northwest Laboratory.

- ☞ Research areas include: computer sciences, engineering, physics, environmental and life sciences, mathematics, and physical sciences
- ☞ Stipends up to \$175 per week; round-trip travel; housing
- ☞ Must be U.S. Citizen or Permanent Resident Alien

For application information contact:

**SCIENCE and ENGINEERING
RESEARCH SEMESTER
U.S. Department of Energy
Office of Energy Research, ER-44, Room 3F-061
1000 Independence Avenue, SW
Washington, D.C. 20585**

Application Deadlines:
October 10, 1988 for Spring 1989 Cycle
March 15, 1989 for Fall 1989 Cycle

Research Associates BS/MS Level

The Hairgrowth Research Unit of the Upjohn Company is seeking motivated research associates to participate in studies aimed at elucidating mechanisms that promote growth and differentiation in hair and/or skin. Qualified applicants will have a BS and several years' experience or an MS in a relevant biological science. Evidence of training or expertise in skin and/or hair growth biology and ability to work independently as well as to collaborate with members of a multi-disciplinary research team are needed.

Cell Biologist—Identify, purify and characterize proteins that modulate intercellular communication in hair follicles and/or skin in response to growth stimulants. Thorough working knowledge of mammalian cell isolation and maintenance, and some aspect of protein biochemistry (e.g., purification, electrophoretic analyses) is necessary. Experience in the use of antibodies as probes in microscopy or cloning techniques is highly desirable.

Morphologist—Conduct *in vivo* research with animals and primates to characterize structural derangement in the skin and hair follicles of animal models that display impaired hair growth. Develop improved assays to quantitatively evaluate stimulation or inhibition of hair growth by chemical agents in these models. Must be skilled in administration of drugs to animals, collection and preparation of skin and hair including sectioning and staining for examination at

the light and electron microscopic levels. Experience in modern morphological techniques such as computerized image analysis, immunohistochemistry and autoradiography is needed.

Biochemist—Investigate biochemical events associated with epithelial cellular proliferation and/or differentiation. Studies require experience in purification and reconstitution of enzyme systems using radiochemical and HPLC techniques. Demonstrated skills in isolation of proteins and/or proteoglycans are highly desirable.

Upjohn commits 14% of annual sales to funding our research efforts. Strengths include worldwide marketing excellence and new emphasis placed upon joint ventures. We are located in southwestern Michigan, midway between Chicago and Detroit. Upjohn offers advancement opportunities, a highly competitive salary, comprehensive benefits and relocation assistance. For prompt, confidential consideration, send your CV/resume, a copy of transcripts and three reference names to M. William Rex, Recruitment Representative, The Upjohn Company, Employment, Kalamazoo, MI 49001. Please refer to advertisement number 21949-HA in your correspondence. We are an Equal Opportunity Employer M/F.

Our Commitment to Scientific
Excellence Continues...

Upjohn

RESEARCH OPPORTUNITIES IMMUNOLOGY AND MOLECULAR BIOLOGY

Bionetics Research Institute conducts cancer research and diagnostic product development under the umbrella of the Pharma Division of AKZO, N.V., a worldwide organization with commercial endeavors in 50 countries. We are currently conducting recruitment for two experienced scientists.

One scientist will develop and characterize new murine monoclonal antibodies for use in commercial immunoassay development and supervise the hybridoma laboratory. Duties will be performed in cooperation with animal resources and product development laboratories. The successful candidate will have a Ph.D. in immunology or related discipline and several years postdoctoral monoclonal antibody research with publications.

The second position will provide the successful candidate with an opportunity to develop research projects in gene cloning, analysis, and expression in prokaryotic and eucaryotic cells. The following qualifications are sought: Ph.D. in molecular biology or related discipline; at least two years postdoctoral research experience; and demonstrated capabilities in library construction and screening and DNA sequencing.

BRI benefits are excellent and include company-paid premiums for employee health, life, and dental insurance and a generous company matching savings plan.

For consideration, please submit a C.V., including salary requirements.



BIONETICS RESEARCH INSTITUTE
1330-A Piccard Drive
Rockville, MD 20850

BRI is an equal opportunity employer M/F/V/H
PRINCIPALS ONLY

POSITIONS OPEN

POSTDOCTORAL AND JUNIOR STAFF POSITION available immediately to study tumor-immunity relations and proteins and receptors involved in leukemia cell differentiation and growth. Background in biochemistry and immunology is desirable. Send curriculum vitae to: **Dr. J. W. Chiao, Department of Medicine, New York Medical College, Valhalla, NY 10595.** New York Medical College is located 25 miles north of New York City.

POSTDOCTORAL ASSOCIATE—Postdoctoral opportunity available to study gene products of hepatitis viruses on the molecular level in the laboratory of **Dr. Mark Feitelson.** Studies include further structural characterization of these products as well as structure-function relationships essential to better understanding of virus replication and persistence in chronic infection. Naturally and experimentally infected animal models are available to study the immunology, genetics, molecular biology, and pathology of acute and chronic hepatitis virus infections which are important to the establishment and maintenance of chronicity as well as hepatocellular carcinoma. Preference will be given to candidates with training in molecular biology and/or immunology. Please send curriculum vitae, interests, and the names of three references to: **Mary Ann Michini, Personnel Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111.** *Equal Opportunity Employer.*

POSTDOCTORAL FELLOW. Fully funded position available for the theoretical study of protein chain folding. Recent Ph.D. with background/experience in protein structure, protein design, computational chemistry, or computer science. Send curriculum vitae and two letters of recommendation to: **Fred Cohen, Department of Pharmaceutical Chemistry University of California, San Francisco, San Francisco, CA 94143-0446.** *The University of California is an Affirmative Action/Equal Opportunity Employer. Minorities and women are encouraged to apply.*

POSTDOCTORAL FELLOWSHIP available immediately in the field of somatic cell genetics and biochemistry. Candidates should be trained in the techniques of plant cell and protoplast culture, plant regeneration from cell cultures, plant biochemistry, and molecular genetics.

Send curriculum vitae including the names, addresses, and telephone numbers of three referees to: **Dr. John King, Department of Biology, University of Saskatchewan, Saskatoon, SK S7N 0W0, Canada.**

POSTDOCTORAL FELLOWSHIP

Available in the Section of Experimental Oncology, Department of Radiology, University of Utah Medical Center. The project examines the mechanisms of interaction of hyperthermia and platinum coordination complexes (Cisplatin, esp.), using the RIF-1 tumor model, grown in vitro and in vivo. Studies will initially focus on the quantity and nature of DNA adducts and the rates of their removal. Experience with this or similar tumor models, HPLC, atomic absorption spectrophotometry, and DNA isolation techniques will be an advantage. Salary is negotiable depending upon experience. Contact: **Dr. R. Rowley, Section of Experimental Oncology, Department of Radiology, University of Utah Medical Center, Salt Lake City, UT 84132.** Telephone: 801-581-4581.

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

POSTDOCTORAL FELLOWSHIPS. Two positions are available, one for an individual interested in pathogenesis from the perspective of the anti-viral immune response. Previous training in immunology is helpful but not mandatory. The second position involves the biology of macrophage-tumor cell interactions with emphasis on the cytoskeleton and cell motility. Experience in cytochemistry and biochemistry would be helpful. Salary range is from \$18,500 to \$23,000 (plus fringe benefits) depending upon experience.

Applicants should send curriculum vitae and the names and addresses of three references to: **Linda R. Gooding, Ph.D., Department of Microbiology and Immunology, Emory University School of Medicine, 507 Woodruff Memorial Building, Atlanta, GA 30322.**

Emory University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL FELLOW—Leading vascular biology/growth factor laboratory has an immediate opening for a postdoctoral fellow with experience in molecular biology. Our research program involves analysis of growth factor expression (e.g. FGF, TGF- β) in neural development and pathology. Familiarity with in situ hybridization, mRNA analysis and recombinant cDNA techniques is desired. Send curriculum vitae and names of three references to: **Drs. Patricia A. D'Amore and Michael Klagsbrun, Laboratory for Surgical Research, The Children's Hospital and Harvard Medical School, 300 Longwood Avenue, Boston MA 02115.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW/CELLULAR IMMUNOLOGY Position available to study the cells involved in tumor necrosis factor mediated anti-tumor activity. Projects include regulation of TNF production, tumor recognition, and TNF susceptibility at cellular and molecular levels. Send curriculum vitae and names of three references to: **Edmund C. Lattime, Ph.D., Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW

Rush-Presbyterian—St. Luke's Medical Center, in Chicago, has an excellent opportunity for a highly skilled professional to become part of an innovative oncology research project involving the cloning of interleukin receptor genes and a study of their expression in cancer cells.

The chosen candidate will be a Ph.D. with experience in the area of molecular immunology and laboratory research. Background in biochemistry or molecular biology also acceptable.

We offer a competitive salary, comprehensive benefits package and opportunity for professional growth. Please send letter of interest and curriculum vitae to:

**Pamela Mims
Rush-Presbyterian—St. Luke's
Medical Center
729 South Paulina Street
Chicago, IL 60612
*Equal Opportunity Employer M/F***

POSTDOCTORAL OPPORTUNITIES

Howard Hughes Medical Institute, a leading medical research organization, has postdoctoral positions available to study the structure-function relationships of blood clotting proteins or cellular regulation of receptor expression.

You will work in a new facility with monoclonal, tissue culture, and structural biology core facilities. Experience in molecular or cell biology, or protein or physical chemistry is preferred.

To apply, send curriculum vitae and two recommendations to: **Charles T. Esmon, Ph.D., Howard Hughes Medical Institute, c/o Oklahoma Medical Research Foundation, 825 NE 13, Oklahoma City, OK 73104.** *Equal Opportunity Employer.*

POSTDOCTORAL POSITION to study either mechanism of assembly of enveloped viruses or mechanisms of recognition of viral antigens by cytotoxic T lymphocytes. Projects available offer training opportunity or experience in the use of eukaryotic expression vectors, membrane molecular biology techniques, and/or biophysical structural techniques to study interactions of viral and host membrane proteins. Send curriculum vitae and names of three references to: **Douglas Lyles, Ph.D., Department of Microbiology and Immunology, Bowman Gray School of Medicine of Wake Forest University, Winston-Salem, NC 27103.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION CELL BIOLOGY

To study the mechanisms of clathrin-coated pit formation, membrane protein sorting and vesicular transport during receptor-mediated endocytosis through the use of functional assays which faithfully reproduce these membrane sorting and traffic events in vitro. Send curriculum vitae and three letters of reference to: **Dr. Sandra Schmid, Department of Molecular Biology, Research Institute of the Scripps Clinic, 10666 North Torrey Pines Road, La Jolla, CA 92037.**

POSITIONS OPEN

POSTDOCTORAL POSITION for work on molecular biology of hormone receptors. Send résumé, names of three references and description of future plans to: **Dr. Gerald Litwack, Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, PA 19140.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Postdoctoral position to work in cell biology of extracellular matrix. Salary commensurate with previous experience.

Position is available for a period of 2 to 5 years and is renewable annually. Applications including curriculum vitae, names of three references, and a brief summary of research interests should be sent to: **Mr. H. Schurr, Academic Administrator, Department of Pathology and Cell Biology, Thomas Jefferson University, Philadelphia, PA 19107.** *Thomas Jefferson University is an Equal Opportunity/Affirmative Action Employer.*

Scripps Institute, Department of Molecular Biology, POSTDOCTORAL POSITION is available for an individual with substantial expertise in gene cloning and site directed mutagenesis. The goal of the project is the redesign of transcription-dependent proteins in order to modulate gene expression and probe the chemical basis of protein-DNA interactions. An applicant is sought who has a demonstrated capacity for independent problem solving and who desires to work in a laboratory that emphasizes protein/peptide chemistry and spectroscopic approaches to structural problems. Send curriculum vitae and references to: **Dr. L. Walters, Research Institute of Scripps Clinic, MB-215, 10666 North Torrey Pines Road, La Jolla, CA 92037.**

POSTDOCTORAL POSITION, fall 1988. Isolation and biochemical, immunological and functional characterization of the phagocytic cell surface receptor for the complement component C3. Curriculum vitae and three references to: **Andrea J. Tenner, Ph.D., Biochemistry Laboratory, American Red Cross Biomedical Research and Development, 15601 Crabbs Branch Way, Rockville, MD 20855.** *Equal Employment Opportunity/Affirmative Action Employer, M/F/H/V.*

POSTDOCTORAL POSITION available immediately for research in covalent binding of chemical carcinogens to DNA. Experience in DNA adduct research desirable. A recent Ph.D. in biochemistry, toxicology, or related field required. Minimum stipend \$24,000 annually. Send inquiries and curriculum vitae to: **Employment Office, Chemical Industry Institute of Toxicology, P.O. Box 12137, Research Triangle Park, NC 27709.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION CELL BIOLOGY

To study the molecular and biochemical basis for protein transport between ER and Golgi compartments in mammalian cells and in yeast using novel cell-free assays [see Beckers *et al.*, *Cell* 50, 523 (1987)]. Send curriculum vitae and three letters of reference to: **Dr. William E. Balch, Department of Molecular Biology, Research Institute of the Scripps Clinic, 10666 North Torrey Pines Road, La Jolla, CA 92037.**

POSTDOCTORAL POSITIONS in neuroimmunology/neuro-oncology in the Division of Neurology, Harvard Medical School. A multidisciplinary approach is used to understand and manipulate the immune response to neural antigens. Focus is on neural tumors and autoimmune disorders. Send résumé with reprints and names of references to: **Dr. Lois Lampson, Center for Neurologic Diseases, Biosciences Research Building, Brigham and Women's Hospital, Boston, MA 02115.** *An Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS IN MOLECULAR BIOLOGY/BIOCHEMISTRY: To study neurotropic viral gene regulation. Projects include mutational analysis, purification of transcription factors and cloning of genes for glial transactivating proteins. Modern facilities and commensurate salaries. Send curriculum vitae and three letters of reference to: **Dr. Gyanendra Kumar, Associate Professor, Department of Molecular Biology and Genetics, Scott Hall, Wayne State University School of Medicine, Detroit, MI 48201.**

POSITIONS OPEN

POSTDOCTORAL POSITION available September 1988. M.D./Ph.D. to study insulin action. Focus on insulin receptors, tyrosine kinase regulation, cell signaling and mechanisms of insulin resistance. Opportunity to collaborate with molecular biology group to study regulation of gene expression. Salary per MRC Canada scale. Send curriculum vitae and names of three references to: **Dr. I. G. Fantus, Room 2-11, Polypeptide Hormone Laboratory, Strathcona Building, McGill University, 3640 University Street, Montreal, Quebec, H3A 2B2.**

**POSTDOCTORAL POSITION
MOLECULAR BIOLOGY OF
HUMAN LEUKOCYTES
ISRAEL HOSPITAL,
HARVARD MEDICAL SCHOOL**

Grant funded position available immediately for a new Ph.D. or more senior research associate, preferably with experience in gene cloning and sequencing, to work on the cloning, regulation of expression, structure, and function of major proteins of human eosinophilic and basophilic leukocytes. Research technician position also available. Send curriculum vitae and three letters of reference to: **Dr. Daniel G. Tenen or Dr. Steven J. Ackerman, Department of Medicine, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215.**

POSTDOCTORAL POSITION available for neuropharmacologist/physiologist to study neuroimmunoregulation of gastrointestinal motility and transport in a productive research laboratory at USUHS School of Medicine, Bethesda, and Walter Reed Army Institute of Research, Washington D.C. Experience with in vivo techniques or in vitro muscle strips desirable. Salary is \$24,000 to \$28,000 commensurate with qualifications. Position available September 1988. Initial appointment is for 1 year and is renewable subject to availability of funding. Send curriculum vitae and names of three references to: **USUHS School of Medicine, Civilian Personnel, Attention: Dr. Robert Sjogren, 4301 Jones Bridge Road, Bethesda, MD 20814.**

POSTDOCTORAL POSITIONS—To study the structure, function, and regulation of deoxyribonucleotide metabolizing enzymes in prokaryotic and eukaryotic organisms. Experience in molecular biology and recombinant DNA techniques, including DNA sequencing, isolation of eukaryote genes, and their expression in plasmid vectors, site-directed mutagenesis and transfection is preferred but not essential. Starting salary \$17,720 and up depending on experience. The appointment can be for 2 years or more. Send résumé and at least two letters of recommendation to: **Dr. Frank Maley, Wadsworth Center for Laboratories and Research, Box 509, Albany, NY 12201. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS available to study cellular repair mechanisms at the DNA and the chromosome level. The candidates should have a Ph.D. in biology, radiation biology, or related field, and experience in tissue culture work and in work at the DNA and/or the chromosome level. Experience with recombinant DNA techniques desirable but not required. Send curriculum vitae and letters of recommendation to: **George Iliakis, Ph.D., Thomas Jefferson University, Department of Radiation Oncology and Nuclear Medicine, Philadelphia, PA 19107. Equal Opportunity Employer.**

TWO POSTDOCTORAL POSITIONS are available to study network properties of the hippocampus. Functional characteristics of intact and reduced portions of hippocampal circuitry are investigated through parallel experimental manipulations of in vivo and in vitro preparations. Network properties are determined using nonlinear systems analytic methods in combination with a computer simulation (Cray supercomputer and an array of parallel processors). Opportunities exist to learn extra cellular recording, iontophoresis, intracellular current- and voltage-clamp methods, use of voltage-sensitive dyes, and nonlinear systems theory. Salary is negotiable. Send curriculum vitae to either: **Dr. Theodore W. Berger or Dr. German Barrionuevo, Crawford Hall, Department of Behavioral Neuroscience, University of Pittsburgh, Pittsburgh, PA 15260. We are an Equal Opportunity Employer.**

16 SEPTEMBER 1988

RESEARCH SCIENTISTS/ ASSOCIATES PROTEIN FORMULATION AND DELIVERY

Amgen has immediate opportunities for BS/MS/Ph.D. scientists to join an innovative group developing new dosage forms and delivery systems for bioactive proteins and peptides.

RESEARCH SCIENTIST PROTEIN FORMULATION

Responsibilities for this position include physical and chemical characterization of bioactive proteins/peptides in solution, investigation of protein stability and mechanisms of degradation, studies of protein compatibility with excipient admixtures, bioanalytical method development and design and evaluation of new controlled release formulations (liquid, solid, semi-solid, injectable) for enhancing protein bioavailability. A Ph.D. in Biochemistry, Pharmaceutical Chemistry, Biophysics or related fields and a thorough knowledge of the fundamentals and techniques of protein chemistry and modification are required. Experience in drug delivery formulations is also desirable. **Dept. #344**

RESEARCH SCIENTIST PROTEIN DELIVERY

We are looking for a scientist to conduct basic research studies of protein and peptide transport across biological barriers and evaluation of physiological and pharmaceutical factors influencing regiospecific drug absorption from the nasal mucosa, gastrointestinal tract and/or skin. Additional responsibilities include developing new concepts for enhanced delivery of proteins and peptides and the design of pharmaceutical formulations to improve sustained release and drug bioavailability. The successful candidate will have a Ph.D. in Physiology, Biophysics, Pharmaceuticals or related fields and extensive experience in the IN VIVO evaluation of pharmaceutical formulations. **Dept. #343**

RESEARCH ASSOCIATE ANALYTICAL BIOCHEMISTRY

Responsibilities for this position will include the characterization of physical and chemical properties of proteins as well as the evaluation of protein stability, solubility, compatibility with sustained release formulations and the mechanisms of protein degradation.

Qualified applicants for this position must have a BS or MS in Biochemistry, Chemistry or a related field and research experience in protein purification and analysis including electrophoresis, column chromatography, immunoassays, and/or HPLC. **Dept. #340.**

Amgen is a dynamic and growing organization providing an exciting and innovative research environment as well as an attractive location northwest of Los Angeles. **Amgen** also offers an excellent compensation and benefits package.

Qualified candidates should send a c.v. or resume, including references, in confidence to:

Recruitment (Specify Dept. #)

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1900 Oak Terrace Lane
Thousand Oaks
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AMGEN

RESEARCH SCIENTISTS

IMMUNOBIOLOGY IMMUNOPHARMACOLOGY

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To Scientific
Excellence

Sterling Research Group, the worldwide pharmaceutical research and development organization of Sterling Drug, announces immediate openings for experienced Research Scientists in the Immunobiology and Immunopharmacology departments at our new Great Valley research facility, near Philadelphia.

We seek candidates with proven skills in the laboratory to be productive, innovative, and increasingly independent members of our drug discovery team. A BS or MS degree in one of the life sciences is required, along with a minimum of two years research experience.

IMMUNOBIOLOGY

The Immunobiology department seeks qualified candidates with experience in one or more of the following areas:

- Hybridoma development and screening
- Polyclonal antibody development and screening
- In vitro cellular immunology techniques
- Immunoassay and ELISA development
- Cell and tissue culture techniques

IMMUNOPHARMACOLOGY

The ideal candidate for the Immunopharmacology department will have practical experience and working knowledge in both molecular biology and immunology. Initial laboratory work will be directed toward accessing cytokine and cytokine receptor gene activation. Familiarity with Northern blots, Southern blots, gene cloning and mammalian cell culture are required.

We offer competitive salaries, a comprehensive benefits package, and the opportunity for professional growth in our expanding organization. For confidential consideration, qualified candidates should send their resume with salary history and requirements to:

Employee Relations
Department DERS



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DEPARTMENT OF THE ARMY SENIOR EXECUTIVE SERVICE VACANCY DIRECTOR, ARMY RESEARCH OFFICE

U.S. Army Laboratory Command, U.S. Army Research Office
Research Triangle Park, North Carolina



Applications are being accepted for the position of Director, Army Research Office. This is a Civil Service position in the Senior Executive Service (SES) with a salary range of \$65,994 to \$77,500 per annum.

The incumbent will direct the Department of the Army extramural research program in physical, engineering, atmospheric, terrestrial, and biological sciences and mathematics through contracts and grants with educational institutions, research institutes, and Government and industrial laboratories, utilizing a budget of approximately \$78 million and a scientific and support staff of approximately 125. The incumbent will maintain liaison with Army laboratories; Research, Development and Engineering Centers; and external development agencies to insure that the Army Research Office is fully aware of Army scientific needs and that Army agencies are aware of the latest scientific advances and potential applications of new discoveries. The incumbent will attend national and international conferences, conventions and meetings serving as technical authority for the Army concerning basic research and maintain liaison with learned societies and institutions, colleges and universities, to advise on, stimulate and promote the Army's basic research interests.

Applicants must clearly show that they have had experience of the scope and quality sufficient to carry out the assignments of the position. Best qualified candidates must have demonstrated possession of the following managerial and technical qualifications: **MANAGERIAL** — (1) Ability to see that key national and agency-wide goals, priorities, values and other issues are taken into account in carrying out the responsibilities of the immediate work unit; (2) Ability to establish and maintain relationships with key individuals and groups outside the immediate work unit and to serve as spokesperson for the unit or organization; (3) Ability to establish goals and the structure and processes necessary to carry them out; (4) Knowledge of procedures and activities related to obtaining and allocating the resources necessary to support program or policy implementation; (5) Ability to see that people are appropriately employed and dealt with fairly and equitably; and (6) Ability to see that plans are being implemented and/or adjusted as necessary and that appropriate results are being achieved. **TECHNICAL** — (1) Knowledge of current technological deficiencies and relevant research requirements in the physical and engineering sciences and mathematics; (2) Ability to evaluate the quality of research programs; (3) Ability to communicate verbally with top level scientists in fields related to the physical and engineering sciences and mathematics; and (4) Bachelor's degree in the physical or engineering sciences or mathematics. An advanced degree in the physical or engineering sciences or mathematics is desired.

Applicants must submit a completed SF 171, Application for Federal Employment (available at Federal Job Information Centers and Federal Personnel Offices) to the U.S. Army Materiel Command, ATTN: AMCPE-CS, 5001 Eisenhower Ave., Alexandria, VA 22333-0001. Supplemental forms will be provided to all applicants by this office. Additional information may be obtained by calling (202) 274-9415/6.

Applications must be received or postmarked by October 7, 1988.

THE DEPARTMENT OF THE ARMY IS AN EQUAL OPPORTUNITY EMPLOYER

Research Scientists / Associates

Triton Biosciences Inc., a subsidiary of Shell Oil Company, is a fully integrated pharmaceutical and diagnostics company focused on product development opportunities in the area of cancer and other life-threatening diseases.

Staff Scientist/Cell Biology

Candidates must have 8-10 years of experience in the areas of peptide growth factors, their receptors and related oncogenes. Responsibilities will include building a research group in the above field, as well as managing other researchers in the Cell Biology group. Refer to Box JJM.

Research Scientists/Cell Biology

Applicants must have 2-5 years of experience in either the peptide growth factor/receptor area, or working with animal model systems to explore the potential of therapeutic drugs (preferably biological) for cancer chemotherapy or wound healing. Refer to Box CB.

Research Associates/rDNA

Should be experienced in designing, constructing and testing host/vector systems for expressing heterologous proteins in bacteria. BS/MS degree in Microbiology/Molecular Biology with emphasis on bacterial genetics, physiology or biochemistry. Refer to Box SAR.

Second position requires experience in gene expression in mammalian cells and strong background in mammalian tissue culture. Optimization of cloned product expression in roller bottles, suspension culture, and/or bioreactors highly desirable. BS/MS required. Refer to Box DL.

Triton is located in the San Francisco Bay Area. We offer competitive salaries and benefits, including a full relocation package. For consideration, please send C.V. and names of three references to: Triton Biosciences, 1501 Harbor Bay Parkway, Alameda, CA 94501. Triton is an equal opportunity employer.



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CELL BIOLOGISTS VIROLOGISTS BIOCHEMISTS

MICROBIOLOGICAL ASSOCIATES has immediate openings in its Biotechnology Services Division. The division works with industrial leaders in biotechnology worldwide to characterize genetically engineered cell lines which will ultimately be used by our clients to produce pharmaceuticals. Microbiological Associates is both the originator and the world's leader in such services.

CELL BIOLOGISTS and VIROLOGISTS are needed to direct a variety of cell culture tests and virological tests on the candidate cell lines. BIOCHEMISTS are needed to direct enzymatic and molecular biology based tests used to characterize the cell substrates.

We would prefer candidates with experience in private industry, and as a minimum, those with a Ph.D. and at least two years' experience after completion of a postdoctoral program.

Microbiological Associates offers a unique environment for scientists. The company's multidisciplinary programs involve bacteriology, molecular virology, genetic toxicology, serology and general toxicology. The possibility for collaboration creates an atmosphere for professional growth and research opportunities.

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Life Sciences Center
9900 Blackwell Road
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POSITIONS OPEN

POSTDOCTORAL RESEARCH: Two positions are available. Molecular Biology of hypertension: Studies are conducted on the structure and function of genes regulating blood pressure in genetically hypertensive rats utilizing the major techniques of molecular biology/genetics including RFLP analysis and transgenic animals. Cardiovascular physiology of atrial natriuretic factor (ANF) in hypertension: studies are conducted on the release of ANF in genetically hypertensive rats utilizing whole animal and in vitro techniques. Candidates must have a Ph.D., M.D., D.V.M. or equivalent degrees and be permanent residents or citizens of the U.S. Send curriculum vitae to: **Dr. John Rapp, Department of Medicine, Medical College of Ohio, C.S. 10008, Toledo, OH 43699.** An Equal Opportunity Employer.

POSTDOCTORAL/RESEARCH ASSOCIATE POSITION IN NEUROBIOLOGY to study cell surface and extracellular matrix molecules that influence synapse formation [see *J. Cell Biol.* 102, 420 and 731 (1986); *J. Cell Biol.* 105, 2479 (1987); *J. Neurosci.* 8, 932 (1988)]. Background in biochemistry or molecular biology helpful. Apply to: **Joshua R. Sanes, Department of Anatomy and Neurobiology, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, MO 63110.**



Agricultural Research Service
United States Department of Agriculture

**POSTDOCTORAL RESEARCH ASSOCIATE
RESEARCH CHEMIST/BIOCHEMIST
(GS-1320-11)**
Cooperative Agricultural Research Center
Prairie View A&M University
Prairie View, TX 77446

ARS is seeking a postdoctoral research associate in biochemistry to conduct biochemical and physical chemical research on goat's milk caseins to elucidate the fundamental relationships between protein structure and function.

Candidate must have expertise in biochemistry or food science and familiarity with techniques of protein purification and characterization. The person selected will be located at Prairie View A&M but organizationally attached to ARS, Eastern Regional Research Center.

Appointment is for up to 2 years. A recent Ph.D. is required. Salary is GS-11 at \$27,000. For information on the research program and/or position, contact: **Dr. Harry Farrell at 215-233-6462.**

Applications must be received by 15 October 1988. Mailing address for applications:

**Dr. H. M. Farrell, Jr.
USDA, ARS, Eastern Regional Research Center
Macromolecular and Cell Structure
600 East Mermaid Lane
Philadelphia, PA 19118**

An Equal Opportunity Employer.

Women and minorities are encouraged to apply.

TWO POSTDOCTORATE POSITIONS are available at Bay Area non-profit research Institute. **MOLECULAR BIOLOGIST:** This position requires a person experienced in cDNA cloning and related techniques to participate in study of the molecular biology of antigenic variation in breast cancer related to immunotherapy. **IMMUNOBIOLOGIST:** To conduct research in breast cancer antigens and immunotherapy with monoclonal antibodies. Applicant with experience in serum immunology, pharmacology, and/or radiobiology is being sought. Available September 1988. Salary ranges from \$25,000 to \$32,000, based on experience. To apply, forward résumé and references to: **Roberto L. Ceriani, M.D., Ph.D./Jerry A. Peterson, Ph.D., John Muir Cancer & Aging Research Institute, 2055 North Broadway, Walnut Creek, CA 94596.** Telephone: 415-943-1167.

RESEARCH ASSOCIATE. Studies on the molecular mechanism of a transmembrane proton pump. Ph.D. in biochemistry or related area. Experience with HPLC, peptide synthesis and ¹³C NMR desirable. Send curriculum vitae and names of three references to: **Dr. Robert Renthal, Chemistry, University of Texas at San Antonio, San Antonio, TX 78285.** Telephone: 512-691-4250. UTSA is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE: A position is available to work on molecular evolutionary aspects of transposable elements in *Drosophila*. Candidates should have a strong background in either molecular biology or evolutionary biology or both. Send curriculum vitae, names, and telephone numbers of three referees to: **Dr. Margaret Kidwell, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ 85721.** Applications received by 1 October 1988 will be considered first. If a suitable candidate is not found, then late applicants will be reviewed. An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

POSTDOCTORAL OR STAFF SCIENTIST position immediately available for an **IMMUNOLOGIST/TOXICOLOGIST** to study the regulation of the immune response to small molecular weight toxins and to develop anti-idiotypic based vaccines. Approaches include development of new toxin-protein conjugates, hybridoma technology and anti-idiotypic antibodies. Experience in idiotype anti-idiotypic regulation preferred but not required. Work will be coordinated by **Dr. Tran C. Chanh**, associate scientist in our Department of Virology and Immunology. Please mail curriculum vitae with names and telephone numbers of three references to: **Personnel Director (876), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284.** Equal Opportunity Employer, M/F.

POSTDOCTORAL TRAINING in clinical chemistry. Positions are available 1 July 1989 for basic scientists or physicians interested in careers as laboratory directors in academic laboratory medicine. Our 2-year program provides practical experience in clinical chemistry laboratories and extends relevant basic scientific knowledge. Deadline: 1 November 1988. Write: **Margaret Kenny, Ph.D. Program Director, Department of Laboratory Medicine SB-10, University of Washington, Seattle, WA 98195.** An Equal Opportunity/Affirmative Action Employer.

REGULATORY TOXICOLOGIST. The Massachusetts Department of Environmental Quality Engineering (DEQE) seeks qualified applicants for challenging high level positions in toxics program development and integrated risk assessment. Experience in environmental toxicology, quantitative health risk assessment, and regulatory policy development required, Ph.D. and supervisory experience preferred. The successful candidate should have excellent communication skills and be motivated to contribute effectively to a multidisciplinary team of creative professionals. Please contact: **Director, Office of Research and Standards, DEQE, One Winter Street, Boston, MA 02108, telephone: 617-292-5570** by 30 September 1988. The Massachusetts DEQE is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE—DEVELOPMENTAL PHARMACOLOGY: Available immediately for preclinical studies of long term effects of prenatal exposure to psychotropic drugs. Requires familiarity either with biochemical methods for study of monoamine neurotransmission or with operant behavior. Send curriculum vitae, description of research experience and names of three references by 1 November 1988 to: **Brian A. McMillen, Ph.D., Department of Pharmacology, School of Medicine, East Carolina University, Greenville, NC 27858.** Federal law requires proper documentation of identity and employability at the time of employment. It is requested this documentation be included with your application. An Affirmative Action/Equal Employment Opportunity Employer.

The Morehouse School of Medicine seeks a well-qualified individual to establish and operate a service laboratory for monoclonal antibody preparation, cell culture and associated procedures. New facilities and equipment exist for this laboratory. Extensive relevant experience is required. A Ph.D. degree is desired; however, all qualified applicants will be considered. Appointment will be at the level of **RESEARCH ASSOCIATE** or possibly **RESEARCH ASSISTANT PROFESSOR.** Salary will be commensurate with experience and qualifications. Please send curriculum vitae including summary of technological expertise and three references to: **Dr. Gordon B. Bailey, Morehouse School of Medicine, Atlanta, GA 30310.** Women and minorities are encouraged to apply.

POSITIONS OPEN

**FACULTY POSITION IN
MOLECULAR GENETICS
DIRECTOR MOLECULAR DIAGNOSIS
RESEARCH LABORATORY
UNIVERSITY OF WASHINGTON**

The University of Washington School of Medicine seeks applications for a **RESEARCH ASSISTANT PROFESSOR** position in the Division of Medical Genetics and the Center for Inherited Diseases. We are particularly interested in identifying molecular biologists who wish to pursue research initiatives in human genetics in collaboration with an active group of medical geneticists. The successful applicant will direct a molecular diagnosis research facility, and will also be expected to develop an independent research program addressing some aspect of mammalian molecular genetics. Candidates should forward curriculum vitae, three letters of reference, and a statement of research interests to: **Dr. George Stamatoyannopoulos, Division of Medical Genetics, RG-25, University of Washington, Seattle, WA 98195,** by 15 November 1988. The University of Washington is an Equal Opportunity Employer.

RESEARCH ASSOCIATE

Two-year research associate position available with the International Association for Ecology (INTECOL) at the University of Georgia. Responsibilities include managing U.S. secretariat, editing INTECOL Newsletter, and developing cooperative programs. Opportunities for research and international travel. Ph.D., knowledge of ecology, and proven writing skills required. Send résumé, brief description of qualifications, and three references by 28 October 1988 to: **Dr. Frank B. Golley, Institute of Ecology, University of Georgia, Athens, GA 30602.** An Equal Employment Opportunity/Affirmative Action Institution.

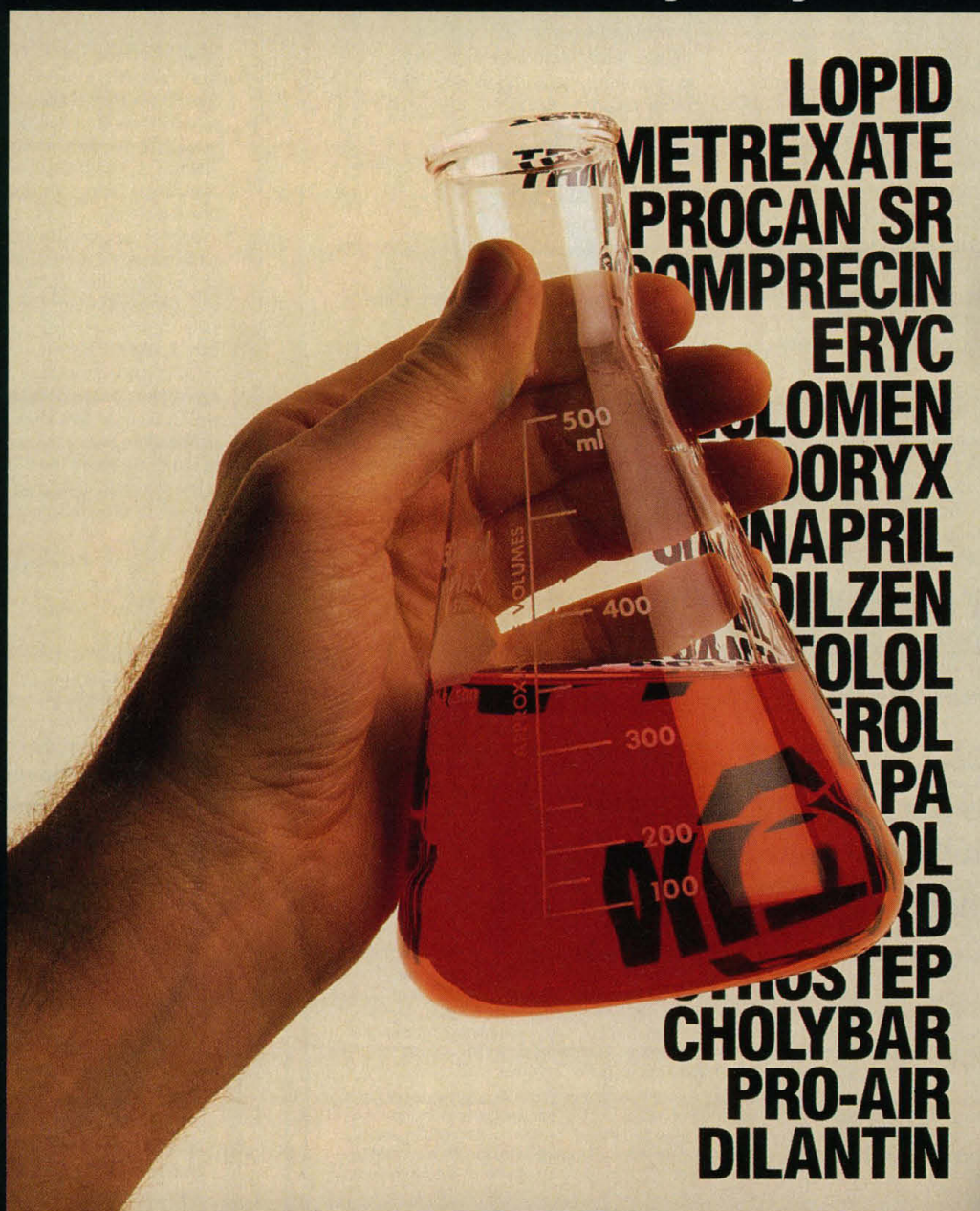
RESEARCH MICROBIOLOGIST to work with interdisciplinary teams at the Robert S. Kerr Environmental Research Laboratory, Ada, Oklahoma, conducting research to elucidate microbial processes occurring in the terrestrial subsurface and to develop effective methods for bioreclamation of polluted soils and ground waters based on such processes. Ph.D. or equivalent experience required, with emphasis in microbial ecology, physiology, biochemistry, or related area. Full-time Federal Government position at GS-12 level (\$33,218 to \$43,181). U.S. citizenship required. To request application forms and further information, contact: **Carolyn Taylor, U.S. EPA, RSKERL, P.O. Box 1198, Ada, OK 74820. Telephone 405-332-8800** by 1 October 1988. U.S. EPA is an Equal Opportunity Employer.

**DEPARTMENT OF AGRICULTURE (USDA)
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(ARS)**

RESEARCH PHYSIOLOGIST (POULTRY)/RESEARCH POULTRY SCIENTIST, GS12/13/14, Avian Physiology Laboratory, Beltsville, Maryland. Incumbent will conduct research on endocrine mechanisms controlling body growth and partitioning of nutrients into muscle in turkeys. Must have knowledge of growth physiology and endocrinology of poultry, and skill in radioassay techniques. Experience using in vitro tissue culture techniques is desirable. Must be U.S. citizen. Salary is commensurate with experience; \$33,218 to \$46,679 per annum. For further information on position: **Dr. Helene C. Cecil on 301-344-2545.** For application procedures: **James K. Lynch on 301-344-3950.** Send applications (SF171) and transcripts to: **James K. Lynch, USDA, ARS, Personnel Operations Branch, Building 003, Room 123, BARC-W, Beltsville, MD 20705.** Applications in response to this advertisement should be marked 8E018 and received by 15 October 1988. ARS is an Equal Opportunity Employer.

SCIENTIST (Research Assistant Professor equivalent). The focus of the laboratory is the regulation of genes coding for heme oxygenase isozymes. Research areas include cDNA and gene cloning, cDNA expression, transcription regulation during development. Applicants should have expertise in basic molecular biology techniques as applies to eukaryotic cells. Send curriculum vitae and letters of reference to: **Dr. Maines, Department of Biophysics, University of Rochester School of Medicine, Box EHSC, Rochester, NY 14642.** The University of Rochester is an Equal Opportunity/Affirmative Action Employer.

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Eligibility:

- At or near the beginning of graduate study.
- No citizenship requirements. U.S. citizens may study abroad; others must study in the United States.
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Fellowship Awards:

- Three-year awards, with option to extend to five years.
- \$12,300 annual stipend.
- \$10,700 annual cost-of-education allowance to the fellowship institution.

Deadlines:

- November 14, 1988, application deadline.
- Awards announced by early April 1989.
- Fellowship tenure must begin by January 1990, at the latest.

Potential applicants should be aware of the intense competition for awards. In the 1988 competition, more than 1,000 applications were reviewed to select 60 fellows.

For information:
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The Howard Hughes Medical Institute welcomes all qualified applicants and encourages women and members of minority groups to apply.

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SYSTEMS ECOLOGIST: EPA Environmental Research Laboratory Corvallis Oregon. Person selected will be a member of a multidisciplinary research team determining the ecological effects of stratospheric ozone depletion, climate change, and regional air pollution on aquatic and terrestrial ecosystems. Incumbent is expected to develop a strong research program with a national focus. This is a full-time GS-13 position (\$39,501 to \$51,354) and requires a Ph.D. in systems ecology or a closely allied field, and a record of research and publication in the peer reviewed literature. *Position only open to U.S. citizens.* For technical information on this position, contact: **Dr. Robert T. Lackey at the Corvallis Laboratory: 503-757-4634/4600.** To obtain a complete vacancy announcement, application package, and instructions, write: **EPA Personnel Office, P.O. Box 98516, Las Vegas, NV 89193** no later than 30 October 1988. EPA is an Equal Opportunity Employer.

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The Centers for Disease Control (CDC) is developing a new program in vector-borne bacterial zoonoses at the Division of Vector-Borne Diseases in Ft. Collins, Colorado. Positions are open for **Chief, Bacterial Zoonoses Branch, Chief, Lyme Disease Section, and Research Microbiologist, Molecular Biology Section.** Applications are invited from persons holding medical, veterinary or other doctorate level degrees with experience and demonstrated expertise in epidemiology, clinical microbiology, molecular bacteriology, medical entomology or ecology. The Branch is responsible for surveillance of Lyme disease and related borrelioses, plague and tularemia and will develop research programs in the areas of ecology, control measures, clinical microbiology and molecular biology. The Lyme Disease Section is responsible for surveillance of Lyme and related borreliad diseases, and for implementing research programs toward prevention and control of these diseases. The Molecular Biology Section is responsible for design and implementation of research on the antigenic structure, genetics, replication, virulence factors, and pathogenesis of *Borrelia* and on development of improved diagnostic methods. The Branch Chief position is available at a GM 14/15 level (salary range \$46,679 to \$72,500, with an additional comparability allowance for physicians). The Lyme Disease Section Chief is available at a GM 13/14 level (salary range \$39,501 to \$67,642, depending on training and experience; with an additional comparability allowance for physicians). Both positions may be filled at equivalent levels under commissions in the U.S. Public Health Service. The research microbiologist position is available at a GS 12/13 level (salary range \$33,218 to \$51,354). Curriculum vitae and copies of publications should accompany applications to be sent to: **The Director, DVBD, CDC, P.O. Box 2087, Ft. Collins, CO 80522.** Deadline for receipt of completed applications is 14 October 1988. CDC is an Equal Employment Opportunity/Affirmative Action Employer.

PROGRAM

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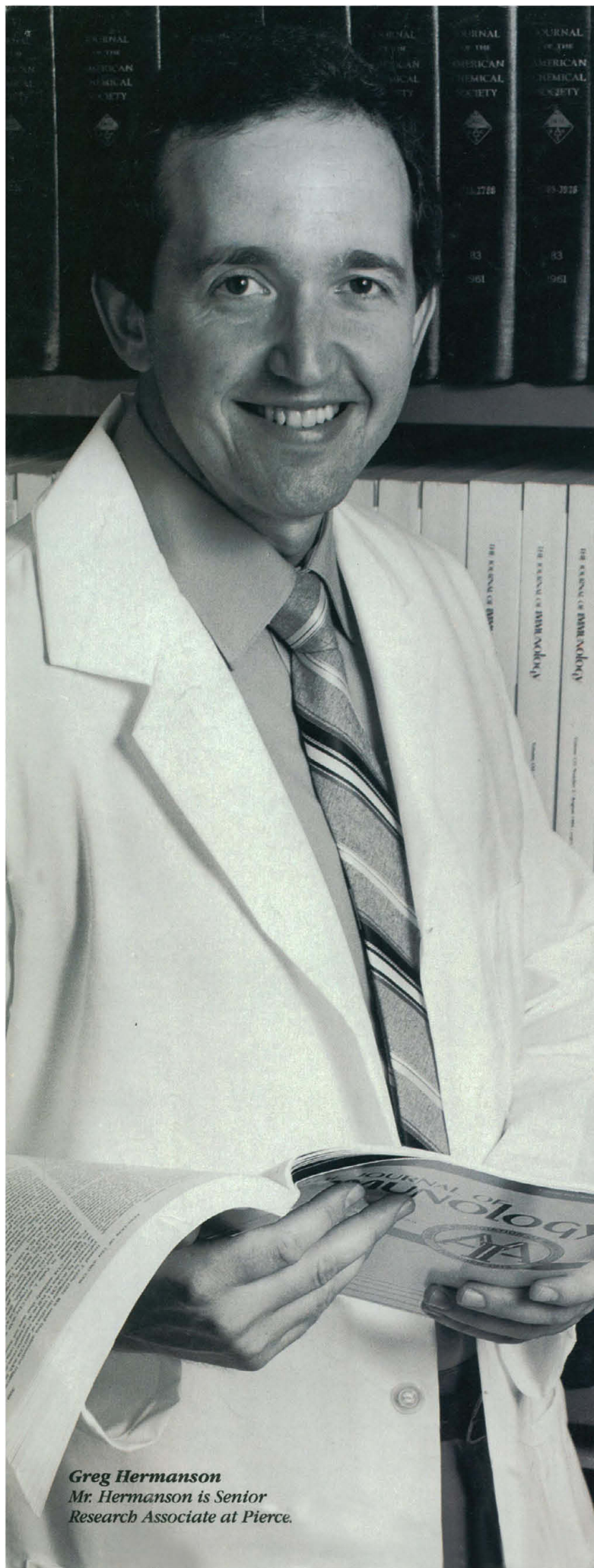
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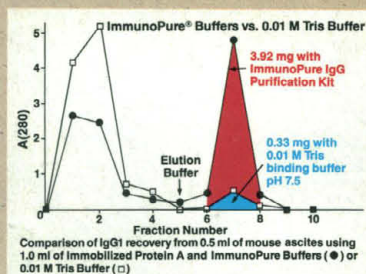
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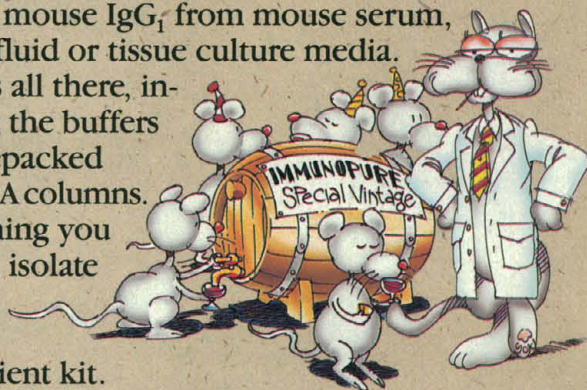
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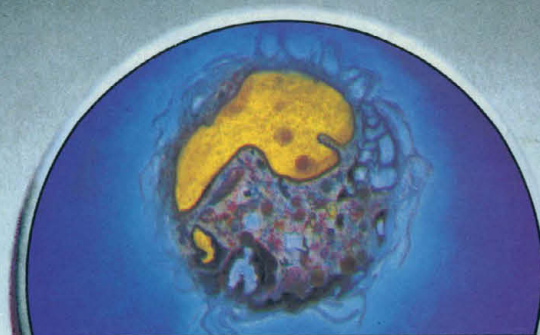
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