

stand. The paper describes what grand unified theories have to offer and why cosmologists are so excited about them. I recommend it to anyone curious about the subject.

There is only one brief paper on galaxy formation, although particle physicists have been generous in providing candidates (massive neutrinos, axions, gravitinos, and so on) to act as the dark matter in galaxies and several surveys of galaxies have recently been completed.

The few graduate-level textbooks with a thorough discussion of the big bang are by now a decade old. Although the foundation of the big-bang model has not changed, the standard textbooks seem dated, given the observational and theoretical advances of the past five years. Although *The Big Bang and Element Creation* does not cover all recent developments in cosmology, it is an excellent book for someone who has read the standard textbooks and still wants more information about primordial nucleosynthesis and the microwave background radiation.

EDWARD KOLB

*Fermi National Accelerator
Laboratory, Batavia, Illinois 60510*

Books Received

Ab initio Molecular Orbital Calculations for Chemists. W. Graham Richards and David L. Cooper. Clarendon (Oxford University Press), New York, ed. 2, 1983. viii, 116 pp., Paper, \$16.95.

Absorption and Emission by Atmospheric Gases. The Physical Processes. Earl J. McCartney. Wiley, New York, 1983. xiv, 320 pp., illus. \$49.95. Wiley Series in Pure and Applied Optics.

Acid Rain in Europe and North America. National Responses to an International Problem. A Study for the German Marshall Fund of the United States. Gregory S. Wetstone and Armin Rosencranz assisted by Sarah A. Foster. Environmental Law Institute, Washington, D.C., 1983. xviii, 246 pp., Paper, \$16.50.

Adhesion Aspects of Polymeric Coatings. Proceedings of a symposium, Minneapolis, May 1981. K. L. Mittal, Ed. Plenum, New York, 1983. xii, 658 pp., illus. \$85.

Advances in Liquid Crystals. Vol. 5. Glenn H. Brown, Ed. Academic Press, New York, 1982. xvi, 240 pp., illus. \$42.

Botany. Peter M. Ray, Taylor A. Steeves, and Sara A. Fultz with the assistance of Mark Jacobs. Saunders, Philadelphia, 1983. xiv, 784 pp., illus. \$29.95.

Calcium and Cell Function. Vol. 3. Wai Yiu Cheung, Ed. Academic Press, New York, 1982. xx, 506 pp., illus. \$64. Molecular Biology.

Cell Membranes. Methods and Reviews. Vol. 1. Elliot Elson, William Frazier, and Luis Glaser, Eds. Plenum, New York, 1983. xiv, 198 pp., illus. \$29.50.

Cells. Michael W. Berns. Saunders, Philadelphia, ed. 2, 1983. xii, 256 pp., illus. Paper, \$15.95. Saunders Modern Biology Series.

Chemical Nomenclature Usage. Papers from a symposium, London, March 1981. R. Lees and A. F. Smith, Eds. Published for the Laboratory of the Government Chemist by Ellis Horwood, Chichester, England, 1983 (U.S. distributor, Wiley, New York). 172 pp., illus. \$49.95. Ellis Horwood Series in Chemical Science.

Comprehensive Planning. General Theory and Principles. Melville C. Branch. Illustrated by the author. Palisades Publishers, Pacific Palisades, Calif., 1983. x, 204 pp., Paper, \$12.95.

Computer-Mediated Communication Systems. Status and Evaluation. Elaine B. Kerr and Starr Roxanne Hiltz. Academic Press, New York, 1982. xii,

212 pp. \$26.50. Human Communication Research Series.

Les Critères de Vérité dans la Recherche Scientifique. Un Dialogue Multidisciplinaire. Papers from a meeting. M. Buscaglia, C. Lalive D'Espinay, B. Morel, H. Ruegg, and J. Vonèche, Eds. Maloine, Paris, 1983. 252 pp. Paper, 80 F. Recherches Interdisciplinaires.

Crystal Symmetry. Theory of Colour Crystallography. M. A. Jaswon and M. A. Rose. Horwood, Chichester, England, and Halsted (Wiley), New York, 1983. 190 pp., illus. \$44.95. Ellis Horwood Series in Mathematics and Its Applications.

The Denial of Stress. Papers from a conference, Haifa, June 1979. Shlomo Breznitz, Ed. International Universities Press, New York, 1983. xiv, 316 pp. \$25.

Detectors in Heavy-Ion Reactions. Proceedings of a symposium, Berlin, Oct. 1982. W. von Oertzen, Ed. Springer-Verlag, New York, 1983. viii, 258 pp., illus. Paper, \$15.50. Lecture Notes in Physics, vol. 178.

The Development of Dictyostelium discoideum. William F. Loomis, Ed. Academic Press, New York, 1982. xviii, 552 pp., illus. \$74.50.

Direct Nuclear Reactions. G. R. Satchler. Clarendon (Oxford University Press), New York, 1983. xxii, 834 pp., illus. \$110. The International Series of Monographs on Physics, 68.

Distributed Computer Control Systems 1982. Proceedings of a workshop, Tallinn, U.S.S.R., May 1982. R. W. Gellie and R.-R. Tavast, Eds. Published for the International Federation of Automatic Control by Pergamon, New York, 1983. xviii, 218 pp., illus. \$60. IFAC Proceedings Series.

Electroimmunochemical Analysis of Membrane Proteins. Ole J. Bjerrum, Ed. Elsevier, New York, 1983. xiv, 476 pp., illus. \$106.50.

Electronic Structure and Properties of Hydrogen in Metals. Proceedings of a symposium, Richmond, Va., Mar. 1982. P. Jena and C. B. Satterthwaite, Eds. Plenum, New York, 1983. xvi, 698 pp., illus. \$89.50. NATO Conference Series VI, vol. 6.

Experimental Biology at Sea. Papers from a meeting, Aberdeen, Scotland, 1980. A. G. Macdonald and I. G. Priede, Eds. Academic Press, New York, 1983. x, 414 pp., illus. \$55.

Experiments in Microbiology. Marie Gilstrap, John G. Kleyn, and Eugene Nester. Saunders, Philadelphia, ed. 2, 1983. viii, 458 pp., illus. Paper, \$16.95.

The Exploration of Outer Space with Cameras. A History of the NASA Unmanned Spacecraft Missions. Michael M. Mirabito. McFarland, Jefferson, N.C., 1983. vi, 170 pp. + plates. \$19.95.

Finite Element Primer. Bruce Irons and Nigel Shirve. Horwood, Chichester, England, and Halsted (Wiley), New York, 1983. 158 pp., illus. Cloth, \$39.95; paper, \$19.95. Ellis Horwood Series in Engineering Science.

Forest Measurements. Thomas Eugene Avery and Harold E. Burkhardt. McGraw-Hill, New York, ed. 2, 1983. xx, 332 pp., illus. \$29.95.

From Rift to Drift. Iowa's Story in Stone. Jack Clayton Troeger. Iowa State University Press, Ames, 1983. x, 152 pp., illus. \$14.95.

Genetics of Populations. Philip W. Hedrick. Science Books International, Boston, and Van Nostrand Reinhold, New York, 1983. xvi, 630 pp., illus. \$29.50.

The Grammar of Discourse. Robert E. Longacre. Plenum, New York, 1983. xxii, 424 pp. \$45. Topics in Language and Linguistics.

GRC and Buildings. A Design Guide for the Architect and Engineer for the Use of Glassfibre Reinforced Cement in Construction. M. W. Fordyce and R. G. Wodehouse, in association with Building Design Partnership. Butterworths, Boston, 1983. xiv, 226 pp., illus. \$39.95.

The Great Lakes Forest. An Environmental and Social History. Proceedings of a symposium, Madison, Wisc., June 1979. Susan L. Flader, Ed. Published by University of Minnesota Press, Minneapolis, Minn., in association with the Forest History Society, Santa Cruz, Calif., 1983. xxxii, 338 pp., illus. \$29.50.

Handbook of Neurochemistry. Vol. 3, Metabolism in the Nervous System. Abel Lajtha, Ed. Plenum, New York, ed. 2, 1983. xxvi, 698 pp., illus. \$89.50.

Lectures on Topics in Stochastic Differential Equations. Daniel W. Stroock. Notes by Satyajit Karmaker. Published for the Tata Institute of Fundamental Research by Springer-Verlag, New York, 1982. viii, 98 pp., Paper, \$6.90.

Linnology. Robert G. Wetzel. Saunders, Philadelphia, ed. 2, 1983. xii, 768 pp., illus. + appendixes. \$32.95.

Manifolds, Tensor Analysis, and Applications. Ralph Abraham, Jerrold E. Marsden, and Tudor Ratiu. Addison-Wesley Advanced Book Program, Reading, Mass., 1983. xxii, 582 pp., illus. \$34.95.

Mapping the Mind. Hunter B. Shirley. Nelson-Hall, Chicago, 1983. xiv, 362 pp., illus. \$29.95.

Matrix Analyses of Structures. V. James Meyers.

Harper and Row, New York, 1983. xiv, 498 pp., illus. \$36.50.

Nukespeak. Stephen Hilgartner, Richard C. Bell, and Rory O'Connor. Penguin, New York, 1983. xiv, 282 pp., illus. Paper, \$6.95. Reprint of the 1982 edition.

Numbers. Their History and Meaning. Graham Flegg. Schocken, New York, 1983. x, 296 pp. \$14.95.

Ozonation in Organic Chemistry. Vol. 2, Nonolefinic Compounds. Philip S. Bailey. Academic Press, New York, 1982. xx, 500 pp., illus. \$69.50.

Parallel Computations. Garry Rodrigue, Ed. Academic Press, New York, 1982. xii, 404 pp., illus. \$59. Computational Techniques, vol. 1.

Pathology of Oxygen Toxicity. J. Douglas Balentine. Academic Press, New York, 1982. xvi, 360 pp., illus. \$45.

Quine and Analytic Philosophy. George D. Romanos. MIT Press, Cambridge, Mass., 1983. xx, 228 pp. Cloth, \$17; paper, \$7.50. A Bradford Book.

Residue Reviews. Residues of Pesticides and Other Contaminants in the Total Environment. Vol. 88. Francis A. Gunther and Jane Davies Gunther, Eds. Springer-Verlag, New York, 1983. x, 164 pp., illus. \$22.80.

Riegel's Handbook of Industrial Chemistry. James A. Kent, Ed. Van Nostrand Reinhold, New York, ed. 8, 1983. xii, 980 pp., illus. \$59.50.

Robot Technology. Philippe Coiffet. Translated from the French edition (1981). Kogan Page, London, and Prentice-Hall, Englewood Cliffs, N.J., 1983. Vol. 1, Modelling and Control. 160 pp., illus. \$44. Vol. 2, Interaction with the Environment. 240 pp., illus. \$44.

Samson Wright's Applied Physiology. Cyril A. Keele, Eric Neill, and Norman Joels. Oxford University Press, New York, ed. 13, 1982. x, 614 pp., illus. Cloth, \$65; paper, \$35.

Second-Order Phase Transitions and the Irreducible Representation of Space Groups. H. F. Franzen. Springer-Verlag, New York, 1982. vi, 98 pp., illus. Paper, \$11.20. Lecture Notes in Chemistry, vol. 32.

Sex, Evolution, and Behavior. Martin Daly and Margo Wilson. Willard Grant Press, Boston, ed. 2, 1983. xiv, 402 pp., illus. Paper, \$17.

Silicon Reagents for Organic Synthesis. William P. Weber. Springer-Verlag, New York, 1983. xviii, 430 pp., illus. \$100. Reactivity and Structure Concepts in Organic Chemistry, vol. 14.

Skeletal Research. An Experimental Approach. Vol. 2. Arthur S. Kunin and David J. Simmons, Eds. Academic Press, New York, 1983. xvi, 356 pp., illus. \$37.

Smithells Metals Reference Book. Eric A. Brandes, Ed. Butterworths, Boston, ed. 6, 1983. Various pages, illus. \$199.95.

Snake Venom Poisoning. Findlay E. Russell. Scholium, Great Neck, N.Y., ed. 2, 1983. xiv, 562 pp., illus. \$57.50.

Specialty Steels and Hard Materials. Proceedings of a conference, Pretoria, South Africa, Nov. 1982. N. R. Comins and J. B. Clark, Eds. Pergamon, New York, 1983. xviii, 466 pp., illus. \$100.

Splicing Life. A Report on the Social and Ethical Issues of Genetic Engineering with Human Beings. President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, Washington, D.C., 1982 (available from the Superintendent of Documents, Washington, D.C.). x, 116 pp., illus. Paper, \$5.

Statistical Communication Theory and Its Applications. B. R. Levin, Ed. Translated from the Russian edition (Moscow, 1979) by M. Edelev and A. Repyev. Mir, Moscow, 1982 (U.S. distributor, Imported Publications, Chicago). 320 pp., illus. \$9.95.

Theory of Viscoelasticity. An Introduction. R. M. Christensen. Academic Press, New York, ed. 2, 1982. xiv, 364 pp., illus. \$48.

Therapeutic Apheresis and Plasma Perfusion. Proceedings of a conference, Dallas, May 1982. Richard S. A. Tindall, Ed. Liss, New York, 1982. xxii, 470 pp., illus. \$48. Progress in Clinical and Biological Research, vol. 106.

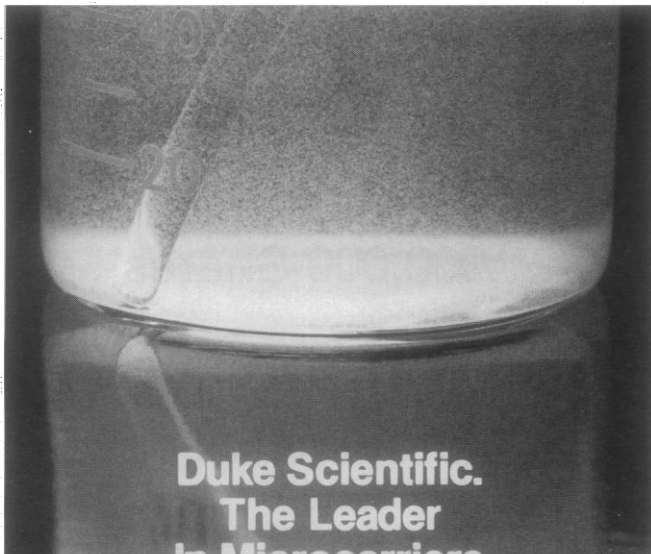
Thermal Analysis and Control of Electronic Equipment. Allan D. Kraus and Avram Bar-Cohen. Hemisphere, Washington, D.C., and McGraw-Hill, New York, 1983. xvi, 620 pp., illus. \$49.95.

Thinking, Problem Solving, Cognition. Richard E. Mayer. Freeman, New York, 1983. xiv, 426 pp., illus. Cloth, \$25; paper, \$15. A Series of Books in Psychology.

A Thin Wing in a Compressible Flow. E. A. Krasilshchikova. Translated from the Russian edition (Moscow, 1978) by G. Leib. Mir, Moscow, and Plenum, New York, 1982. 248 pp., illus. \$45.


Understanding Industry. J. M. Baddeley. Butterworths, Boston, ed. 2, 1983. x, 134 pp., illus. Paper, \$9.95.

The Universe Within. A New Science Explores the Human Mind. Morton Hunt. Touchstone (Simon and Schuster), New York, 1983. 416 pp., illus. Paper, \$9.95. Reprint of the 1982 edition.



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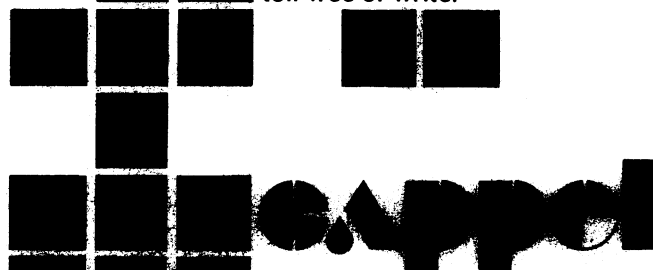
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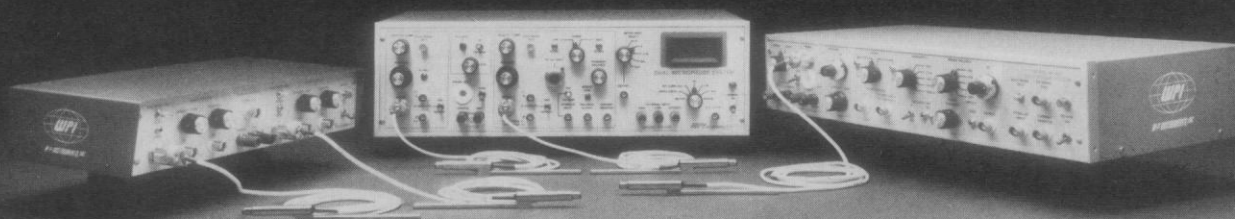
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Flow Cytometry/Immunology, Ph.D. 1967. Director, Cellular Immunology and Flow Cytometry Laboratories in a large hospital, with sign-out responsibilities. Seeks FC laboratory position with research and collaborative opportunities, and/or opportunity to establish a new FC/Cell-Sorter Laboratory. Box 331, SCIENCE. X

Immunotoxicologist, Ph.D. Seeking position after completion of training in May 1984. Two years of previous work experience in contract toxicology laboratories supervising acute and chronic animal studies, including report preparation and implementation of GLP's. Graduate training has included participation in the NTP's immunotoxicology validation studies. Box 332, SCIENCE. X

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Laser/Optical Physicist, Ph.D. 1972, seeks career change to a senior technical position developing laser/optical medical instruments. Box 333, SCIENCE. 12/9, 16

Neurophysiologist/Cell Biologist, Ph.D. (1979). Post-doctoral training, leading university, 2 years; nine publications; grants; national awards. Broad range of technical skills (molecular biology protocols inclusive). Teaching experience, 2 years. Desires position in government/academia/industry. Box 334, SCIENCE. X

Social Kineticist seeks consulting position with persons or institution interested in finding effective solutions to urgent social problems. Box 309, SCIENCE. X

Zoologist (Ph.D.). Former college/university teacher of undergraduate/graduate biology courses desires to return to teaching after 9 years of high-tech and government experience. Wants to teach the subject matter of vertebrate biology using lectures, laboratories, and microcomputers. Box 335, SCIENCE. 12/9, 16

POSITIONS OPEN

ANATOMIC PATHOLOGIST. The Dartmouth-Hitchcock Medical Center has a position at the assistant professor level in anatomic pathology. Candidates must demonstrate a high potential for developing a strong, independent, funded research program. Individuals sought must also have an active interest in undergraduate and graduate teaching. Applicants should be Board-eligible/certified. Please send curriculum vitae and names of three references and salary requirements by 1 January 1984 to: Martha E. Stauffer, M.D., Chairman, Search Committee, Department of Pathology, Dartmouth-Hitchcock Medical Center, Hanover, N.H. 03756. Equal Opportunity/Affirmative Action Employer.

ANATOMY/HISTOLOGY; ASSISTANT PROFESSOR and ONE LECTURER OPENING

The Department of Biology at the University of Michigan-Flint invites applications for the following positions to begin the fall of 1984:

1) Full-time tenure-track position at assistant professor level with primary teaching responsibilities in human gross anatomy, histology, and neuroanatomy/physiology. Requirements: Ph.D., demonstrated teaching ability, active research record, and broad training in biology.

2) One full-time lecturer with primary responsibilities for laboratory instruction in the areas of human gross anatomy and histology. Requirements: master's or equivalent, demonstrated teaching ability and broad training in biology essential. Ph.D.'s will not be considered for lecturer position. This position is contingent on funding.

Send résumé including teaching areas, copies of representative recent publications, and a list of at least three references by 1 February 1984 to: Dr. Eugene H. Studier, Chairman, Professor of Biology, Department of Biology, University of Michigan-Flint, Flint, Michigan 48502-2186.

The University of Michigan-Flint, established in 1956, is an urban regional unit of the University of Michigan, located on a new campus which is being built in the city. Enrollment is approximately 5700 students in the College of Arts and Sciences, School of Management, and Program in Nursing, another 1000 in extension or graduate classes.

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APPLIED BIOSTATISTICIAN, Ph.D. Direct unit in VA Research Service aiding 50 biomedical investigators in basic and clinical research design, data analysis, computer applications to individual projects. Substantial budget; eligible to compete for VA research funds. Must possess administrative and communications skills, familiarity with use of statistical packages and minicomputer applications. GS 11-12 (\$24,508 to \$29,374), depending upon experience. Dr. J. Crabbe, Research Service (151P), VA Medical Center, Box 1034, Portland, Ore. 97219. Telephone: 503-222-9221, extension 2448.

POSITIONS OPEN

AQUATIC ECOLOGIST/ZOOLOGIST to develop/implement state aquatic ecosystem classification and data base, conduct field inventories, develop protection strategies, continue zoological inventory. Need: advanced degree in aquatic ecology, faunal background, conservation commitment, computer skills, networking ability, field experience; self-starter, organized, outgoing; \$17,000 to \$19,000. The Nature Conservancy. Résumé/cover letter: Colorado Natural Heritage Inventory, 1550 Lincoln Street, Room 110, Denver, Colo. 80203, by 23 December.

ASSISTANT PROFESSOR. Division of Cancer Pharmacology. We are seeking to fill a position at the assistant professor level at the Dana-Farber Cancer Institute with concomitant appointment at the Harvard Medical School. Candidates should have a doctorate (M.D. and/or Ph.D.). Candidates for the position should be prepared to develop an independent research program in an area of pharmacology relevant to cancer. Areas of interest include mechanisms of action of oncogenic proteins, growth factors, regulation of gene expression in mammalian cells, cell cycle studies, clinical pharmacology, and eukaryotic DNA enzymology. Applicants should send curriculum vitae and bibliography, including names of three references, to: Dr. William A. Haseltine, DANA-FARBER CANCER INSTITUTE, 44 Binney Street, Boston, Mass. 02115. An Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR. A tenure-track position is open for a person to teach general zoology and aquatic biology beginning 1 September 1984. The successful candidate must have a Ph.D. and an interest and background in computer applications to biology. Salary is competitive. Respond by 27 January 1984 with résumé, two reprints, transcripts, and two letters of reference to: E. P. Hill, Chair, Department of Biology, Macalester College, St. Paul, Minn. 55105. An Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR. M.D. or Ph.D. with 4 years of research experience in immunology and immunohematology. Expertise in human cellular immunology, with particular emphasis on in vitro allogeneic reactions natural killer cells and antibody-dependent cell-mediated cytotoxicity, humoral factors affecting cellular immunity, interferon, leukocyte surface receptors, separation of lymphocyte subpopulations, differentiation of hematopoietic cells (lymphocytes, myelo-monocytic and megakaryocytic lineage), and preparation of monoclonal antibodies to cell surface antigens and soluble antigens. Salary range: \$25,000 to \$27,000. Forward résumé to:

Susan Sczechowicz
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RUTGERS UNIVERSITY, DEPARTMENT OF BIOLOGICAL SCIENCES, invites applications for four tenure-track assistant professorships with research interests in the areas of cellular immunology, invertebrate developmental biology, cell biology (regulation), or synaptic physiology. Teaching responsibilities include undergraduate/graduate courses. The development of an active research program with extramural funding is expected. Postdoctoral experience required. Salary competitive. Submit curriculum vitae and a brief statement of research interests, and have three letters of recommendation sent to: Dr. John W. C. Bird, Chair, Department of Biological Sciences, Rutgers University, P.O. Box 1059, Piscataway, N.J. 08854. An Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR—INFECTIOUS DISEASES. The Department of Veterinary Science at the University of Wisconsin-Madison invites applications for a tenure-track/tenure faculty position as an assistant/associate professor. The candidate is expected to develop an independent research program, direct graduate student training, and teach a graduate course in his/her area of specialization. Candidates must possess a Ph.D. Research interests should focus on infectious diseases from one or more of the following disciplines: immunology, parasitology, bacteriology, virology, or pathology.

Submit curriculum vitae, copies of recent publications, description of research goals, and names of four references to: Dr. R. F. Marsh, Professor, Department of Veterinary Science, 1655 Linden Drive, Madison Wis. 53706.

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Applications are invited for a tenure-track pharmaceutical position at the University of Colorado School of Pharmacy. The position will be available in August 1984. Applicants must possess a Ph.D. with expertise in the physical chemistry of pharmaceutical systems. An undergraduate degree in pharmacy is required and pharmacy licensure is preferred. Primary responsibilities include teaching undergraduate basic pharmaceuticals and physical pharmacy. Graduate teaching in the applicant's area of expertise is expected. The successful applicant will be expected to develop a strong extramurally funded research program in his/her area of interest. Salary commensurate with experience; salary will be determined between \$20,000 and \$24,000.

Submit curriculum vitae and three letters of recommendation by 31 March 1984 to:

Dr. Duane C. Bloedow
School of Pharmacy
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University of Colorado
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ASSISTANT PROFESSORS OAKLAND UNIVERSITY

The Department of Biological Sciences invites applications for two tenure-track appointments: one in **anatomy** and the other in **microbiology** to begin fall 1984.

Applicants for **anatomy** must have a Ph.D., postdoctoral research experience, and training in anatomy. The responsibilities will include establishing and maintaining an active research program, teaching a human anatomy course with an accompanying laboratory for nursing students for one semester, and teaching a course in neuroanatomy in the second semester.

Applicants for **microbiology** must have a Ph.D. and postdoctoral experience. Preference will be given to applicants with expertise in medical microbiology who also have expertise in either immunology, mycology, or parasitology. The appointee is expected to establish an active research program and to offer microbiology courses in our medical technology and nursing programs. Opportunities to participate in M.S. and Ph.D. programs are available.

Submit curriculum vitae and have sent three letters of recommendation and a brief description of research goals to: **Dr. N. J. Unakar, Chairman, Department of Biological Sciences, Oakland University, Rochester, Michigan 48063.** Deadline: 1 February 1984.

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ASSISTANT PROFESSOR, Physiological Psychology, fall 1984. The Department of Psychology at the State University of New York (SUNY) at Stony Brook has available a tenure-track position. Candidates must be qualified to teach undergraduate and graduate courses in physiological psychology. Preference will be given to individuals with research interests in the neurophysiological basis of sensory or cognitive processes in animal models. *SUNY, Stony Brook, is an Equal Opportunity Employer. Women and minority candidates are encouraged to apply.* Send curriculum vitae and three letters of recommendation to: **Dr. John Stamm, Chair, Department of Psychology, SUNY at Stony Brook, Stony Brook, N.Y. 11794.** *SUNY, Stony Brook, is an Equal Opportunity/Affirmative Action Employer.* AK 763.

ASSISTANT SPECIALIST, 90 PERCENT TIME

Cell biologist to assist in experiments on the bioenergetics of N_2 fixation, H_2 metabolism, ion currents, and photosynthesis in cyanobacteria. Experience in gas chromatography, spectroscopic methods, cell fractionation, and handling of cultures essential; familiarity with gel electrophoresis and electron microscopic techniques desirable. Applicants should have graduate education in cell biology and photosynthesis, knowledge of pertinent literature, and a demonstrated ability to work independently in this research area. The starting salary is approximately \$17,690. Applicants should send, by 2 January 1984, a résumé, transcripts, and three names of references to: **Dr. Lester Packer, Department of Physiology-Anatomy, Life Sciences Building, Room 2544, University of California, Berkeley, Calif. 94720.** *The University of California is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOLOGY. Tenure-track position is available for September 1984 for a broadly trained Ph.D. biologist to teach transmission electron microscopy, cell biology, and botanical courses. Send curriculum vitae to: **Dr. Alberta M. Albrecht, Department of Biology, Manhattanville College, Purchase, New York 10577.**

ASSISTANT PROFESSOR OF BIOLOGY

Tenure-track position available September 1984. Microbial ecologist/microbial physiologist with postdoctoral experience to teach a course in microbial ecology and/or physiology, to participate in an introductory biology sequence, and to conduct an active research program involving undergraduates and master's candidates.

Please send letter of application, curriculum vitae, and names of three references before 4 January 1984 to:

Dr. Daniel Burke, Chairman
Biology Department
Seton Hall University
South Orange, N.J. 07079

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR OF BIOPHYSICS AND PLANT PATHOLOGY. The University of Wisconsin invites applications for an assistant professorship to be held jointly between the Biophysics Laboratory and the Department of Plant Pathology. Candidates should have a strong background of training in areas related to biophysics and the plant sciences and have outstanding capability for research and for training undergraduate and graduate students in those areas. Candidates who have demonstrated outstanding ability to conduct research in the specific areas of plant virology and plant genetic engineering will be favored.

Application forms may be obtained by writing or calling: **Professor Roland Rueckert, Biophysics Laboratory, University of Wisconsin, 1525 Linden Drive, Madison, Wis. 53706; telephone: 608-262-9880.** Deadline for applications: 15 January 1984.

ASSISTANT PROFESSOR MOLECULAR PLANT SYSTEMATICS CORNELL UNIVERSITY

The L. H. Bailey Hortorium, a unit of the Division of Biological Sciences, Cornell University, seeks applicants for a tenure-track position in systematic botany, available 1 July 1984. We are primarily interested in applicants whose research program incorporates the application of techniques utilizing macromolecules to problems in vascular plant systematics. The appointee must have a Ph.D. and will be expected to develop an independent research program, as well as participate in the special research programs of the Hortorium by initiating molecular systematic studies of economically important plant taxa. Teaching will include developing an advanced course in molecular plant systematics and participation in other aspects of the Hortorium's undergraduate and graduate programs. Applicants should send their curriculum vitae, three letters of recommendation, and a detailed statement of future teaching and research interests to: **Dr. David A. Young, Search Committee Chairman, L. H. Bailey Hortorium, 467 Mann Library Building, Cornell University, Ithaca, New York 14853.** Screening of applications will begin on 15 January 1984 and will continue until a suitable candidate is chosen. *Cornell University is an Equal Opportunity/Affirmative Action Educator and Employer.*

ASSISTANT SPECIALIST Salary \$19,848

The **SPACE SCIENCES LABORATORY** of the **UNIVERSITY OF CALIFORNIA** at Berkeley has an opening for an assistant specialist beginning 1 January 1984 for a period of 2 years with a possible extension depending upon NASA funding. The primary responsibility of the position will be to design spectrometers for applications in extreme ultraviolet and soft x-ray astronomy. Candidates must have a B.S. in physics or astronomy and a thorough and practical knowledge of grazing incidence optics, substantial knowledge of raytracing techniques and experience with designing spectrometers or similar optical assemblies such as collimators or gratings. Send résumé and three letters of recommendation by 1 January 1984 to:

Professor C. Stuart Bowyer
Space Sciences Laboratory
University of California
Berkeley, Calif. 94720

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

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR: BIOCHEMISTRY

Tenure-track position is available for fall 1984. Candidates should have Ph.D. in chemistry or biochemistry and commitment to excellence in teaching and research. Preference will be given to candidates with postdoctoral experience and research interests in nucleic acid biochemistry. Send curriculum vitae, names of four references, and short summary of research goals to: **Professor Ron MacQuarrie, Chairman, Search Committee, Department of Chemistry, University of Missouri-Kansas City, Kansas City, Mo. 64110.**

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

ASSISTANT PROFESSOR OF MICROBIOLOGY AND MOLECULAR GENETICS

Candidates are sought for a tenure-track position in the Department of Microbiology and Molecular Genetics, Harvard Medical School, Boston, Massachusetts.

The candidates' research interests should be in the broad area of animal virology and may include such specific topics as tumor virology, pathogenesis, genetics, and regulation.

The appointee will be expected to conduct an active research program and participate in the teaching of departmental courses.

Please send a résumé and the names and addresses of three references to: **Dr. Bernard N. Fields, Chairman, Department of Microbiology and Molecular Genetics, Harvard Medical School, 25 Shattuck Street, Boston, Massachusetts 02115.**

Harvard Medical School is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF MICROBIOLOGY AND MOLECULAR GENETICS

Applications are invited for a tenure-track position in the Department of Microbiology and Molecular Genetics at Harvard Medical School, Boston, Massachusetts. The department is interested in individuals planning an active research program in the genetics, molecular biology, physiology, or structure of bacteria, or their viruses. The appointee will have responsibilities in teaching graduate and medical students.

Please send a résumé and the names and addresses of three references to: **Dr. Bernard N. Fields, Chairman, Department of Microbiology and Molecular Genetics, Harvard Medical School, 25 Shattuck Street, Boston, Mass. 02115.**

Harvard Medical School is an Equal Opportunity/Affirmative Action Employer.

BEHAVIOR AND NEUROBIOLOGY CORNELL UNIVERSITY

The Section of Neurobiology and Behavior, consisting of 19 faculty with interests ranging from molecular neurobiology to social behavior, seeks two new tenure-track faculty members, preferably at the rank of assistant professor. Appointment can begin September 1984. We will search broadly within neurobiology and behavior, with emphasis on candidates having research interests in one or more of the following areas: molecular biophysics, neurodevelopment, integrative functions of the CNS, neurogenetics, neuroethology, and physiological bases of behavior. Applicants should have a doctorate and an outstanding record of achievement. They should send their curriculum vitae, a statement of research and teaching interests, and selected reprints, and have three letters of recommendation sent to: **Search Committee, Section of Neurobiology and Behavior, Cornell University, Seeley G. Mudd Hall, Ithaca, New York 14853.** Screening will begin 15 January 1984 and continue until suitable candidates are found. *Cornell is an Affirmative Action/Equal Opportunity Employer.*

BIOCHEMIST, IMMUNOLOGIST AND POPULATION BIOLOGIST

Tenure-track positions will be filled in August 1984. Duties will include teaching an introductory course in the specialty area, participation in other undergraduate and graduate courses, and establishment of a vigorous, extramurally funded research program. Applicants should send curriculum vitae, brief statement of research plans, and three letters of recommendation to: **Biological Sciences Search Committee, Florida International University (FIU), Miami, Fla. 33199,** before 12 January 1984. *FIU is a member of the State University System and an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSOCIATE RADIOBIOLOGIST, ASSOCIATE PROFESSOR OF RADIOBIOLOGY

A tenure-track position at the associate professor level is available in the Department of Experimental Radiotherapy, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston. The candidate's expertise must be primarily in tumor radiobiology, with a strong background and research interest in tumor biology, in general, and in tumor metastasis. For more information, contact: **Dr. Luka Milas, Chairman, Department of Experimental Radiotherapy, Mail Box 66, M. D. Anderson Hospital and Tumor Institute, 6723 Bertner Avenue, Houston, Texas 77030.**

BIOLOGY LIBRARIAN—University of Wisconsin-Madison, General Library System, to administer and direct collection development of 35,000-volume interdepartmental research library contiguous with Botany and Zoology Departments. An ALA-accredited M.L.S., an advanced degree or equivalent experience in a biological science, and at least 2 years of academic or research library experience are required. Salary minimum: \$20,000. For further information write or telephone: **Sandra Pfahler, Memorial Library, 728 State Street, Madison, Wis. 53706. Telephone: 608-262-3521.** Application deadline: 31 January 1984. *Equal Opportunity/Affirmative Action Employer.*

To strengthen our **CELL BIOLOGY** research and graduate training group, we will appoint a tenure-track assistant professor to begin August 1984. We seek an individual with postdoctoral experience and interests in the regulation of the cell cycle and cell reproduction or the organization of cytoplasmic structure, but no outstanding cell biologist is excluded from consideration. The successful candidate will participate in cell biology instruction, and will be given ample support in establishing a research program. Applications, to include curriculum vitae, statement of research objectives, and names of at least three references, should be sent by 31 December to: **Search Committee, School of Biological Sciences, University of Kentucky, Lexington, Ky. 40506.** *Equal Opportunity/Affirmative Action University.*

CELLULAR/MOLECULAR IMMUNOLOGIST

Applications are invited for a senior, tenured faculty position in the Division of Research Immunology in the Department of Pathology and Laboratory Medicine. The individual we seek should already possess a record of outstanding research achievements in the area of cellular and/or molecular immunology. This person will be expected to interact with others on this campus having overlapping interests, to participate in the research training programs for Ph.D. and M.D. students, and to carry only a light formal teaching load. No clinical service responsibilities are involved.

Candidates are invited to submit résumés and three letters of recommendation before 15 January 1984 to: **Dr. Darcy B. Wilson (Chairman, Immunology Search Committee) Division of Research Immunology, Department of Pathology and Laboratory Medicine, Philadelphia, Pa. 19104.**

The University is an Affirmative Action/Equal Opportunity Employer.

INSTRUCTOR/RESEARCH ASSOCIATE

An instructor/research associate position is available in the Department of Experimental Radiotherapy, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston. The candidate must have a Ph.D. degree with postdoctoral experience in either cell or tumor biology with a solid background in biochemistry. Research activities will be directed toward angiogenesis. For further information, please contact: **Dr. Luka Milas, Chairman, Department of Experimental Radiotherapy, Mail Box 66, M. D. Anderson Hospital and Tumor Institute, 6723 Bertner Avenue, Houston, Texas 77030.**

An **INSTRUCTOR/RESEARCH ASSOCIATE** position is available in the Department of Experimental Radiotherapy, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston. The candidate must have a Ph.D. degree with postdoctoral experience in either cell or tumor biology with a solid background in biochemistry. Research activities will be directed toward predictive assays of tumor response to ionizing radiation. For further information, contact: **Dr. Luka Milas, Chairman, Department of Experimental Radiotherapy, Mail Box 66, M. D. Anderson Hospital and Tumor Institute, 6723 Bertner Avenue, Houston, Texas 77030.**

NEW FISHERIES-RELATED POSITIONS AT LOUISIANA STATE UNIVERSITY'S CENTER FOR WETLAND RESOURCES

—DEADLINE EXTENSION—

Under a newly established Fisheries Initiative Program, it is anticipated that the following positions will be created:

1. Assistant Professor (Fisheries science/advisory services)
2. Associate Professor/Professor (Fisheries development)
3. Associate Professor/Professor (Resource economics—fisheries)

The program will focus on research, management and development problems pertaining to Louisiana's established and underutilized marine fisheries. All openings require the Ph.D. and post-award experience. Preference will be given to candidates with knowledge and experience concerning species, fisheries or conditions in—or analogous to—the northern Gulf of Mexico.

Research associate positions will also be established to support the professorial positions. Candidates should have a M.S. degree in a fisheries related field. Familiarity with Gulf Coast fisheries problems, computer literacy and knowledge of applied statistics are desirable.

Send resume, names of three confidential references, salary requirements and indication of appointment availability to: **Dr. Jack R. Van Lopik, Dean, Center for Wetland Resources, Louisiana State University, Baton Rouge, LA 70803-7500. Phone: 504/388-1558 or 6710.** Materials should be received by 15 January 1984, but positions may remain open until qualified candidates are identified. Louisiana State University is an Equal Opportunity Employer.

POSTDOCTORAL RESEARCH AWARDS

Sponsored by the BALLISTIC RESEARCH LABORATORY in association with THE NATIONAL RESEARCH COUNCIL

The National Research Council will make awards in April, July and November of 1984 under the Resident Associateship Program, which provides awardees with opportunities to conduct experimental and theoretical research as visiting scientists and engineers in the fields of

Applied Computer Sciences
Applied Mathematics
Probability Theory and Stochastic Processes
Combustion Research
Fluid Mechanics
Continuum Mechanics
Materials Sciences
Nuclear and Radiation Physics
Physical Chemistry
Quantum Chemistry

in the Ballistic Research Laboratory complex located in the beautiful Chesapeake Bay country of Maryland, within easy driving distance of the metropolitan centers of Baltimore, Philadelphia, and Washington, D.C.

Some programs are open to senior investigators as well as recent doctorates. Most programs require U.S. citizenship.

Further details on research programs can be obtained from Dr. L. J. Puckett, (301) 278-6246, at the Ballistic Research Laboratory, Aberdeen Proving Ground, MD 21005.

For application materials and details on specific research opportunities, write promptly giving areas of interest to:

**Associateship Office (JH-610-E-15)
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, NW
Washington, DC 20418**

Postmark deadlines for application are January 15, April 15 and August 15, 1984, respectively.

Senior Research Scientist Cardiac Electrophysiology/ Antiarrhythmia Research

G.D. Searle Research & Development Division has an outstanding opportunity within its Biological Research Department for a senior level scientist with proven expertise in antiarrhythmia drug research, including cardiac electrophysiology, to design, develop and carry out studies for the discovery and evaluation of potential antiarrhythmic agents. The scientist sought will also

- have significant input into the formulation of the overall direction of our cardiac research.
- direct and coordinate the multidisciplinary Cardiac Research Sub-Committee to meet research goals.
- provide interdisciplinary leadership to both members of the cardiac research group and other Searle Scientists.
- supervise senior scientists and supporting staff.

The ideal candidate will have a Ph.D. in Pharmacology or Physiology and 5-10 years experience, including some supervisory experience.

Searle R&D offers excellent compensation, benefits, and a challenging work environment. To apply in strict confidence, please submit resume, including three references to:

Sheila Copeland
#73L-11

Searle Research and Development
Division of G.D. Searle & Co.
4901 Searle Parkway
Skokie, Illinois 60077

An Equal Opportunity Employer, Minorities/Females/Handicapped

SEARLE

POSITIONS OPEN

BIOCHEMISTRY/MOLECULAR BIOLOGY

Two tenure-track positions (assistant or associate professor) are available fall 1984 in the Department of Biochemistry, University of Kentucky. Areas of interest include physical biochemistry/biophysics, macromolecular structure and function, enzymology, membrane-related studies, or molecular biology. Send résumé, brief synopsis of current and proposed research, and names of three references by 16 January 1984 to:

Dr. Thomas C. Vanaman
Chairman, Department of Biochemistry
University of Kentucky College of Medicine
Lexington, Ky. 40536-0084
An Equal Opportunity Employer

BIOCHEMIST/PLANT SCIENTIST



The Northern Regional Research Center, U.S. Department of Agriculture (USDA), has a career position available for a Ph.D. (or equivalent) biochemist to conduct fundamental studies of plant cells with initial emphasis on cell walls. The successful applicant must have a demonstrated ability to carry out basic research and is expected to develop a vigorous research program. Recent graduate and/or training and a knowledge of plant biochemistry and enzymology are desired.

This Center employs about 150 scientists engaged in diverse programs of basic and applied research. Benefits include a stimulating professional environment and relocation expense assistance. Salary is based on qualifications and experience, GS-11/12, \$24,508 to \$29,374. U.S. citizenship required. Send curriculum vitae to: **Dr. F. R. Dintzis, Northern Regional Research Center, USDA, ARS, 1815 North University Street, Peoria, Ill. 61604.** The USDA is an Equal Opportunity/Affirmative Action Employer.

CELL/MOLECULAR BIOLOGIST. Assistant professor, tenure-track position will be available beginning September 1984 for a person with teaching and research experience in the area of cell physiology or molecular biology. Ph.D. required. The successful applicant will be expected to maintain a productive research program involving undergraduate and graduate students, teach upper-division courses in cell biology and advanced cell physiology, and participate in the introductory biology series for majors. Submit curriculum vitae, statement of research interests, and three letters of recommendation by 30 January 1984 to: **Dr. H. Rosen, Chair, Search Committee, Department of Biology, California State University-Los Angeles, Los Angeles, Calif. 90032.** An Equal Opportunity/Affirmative Action Employer.

DEAN SCHOOL OF DENTISTRY

Marquette University seeks an innovative individual with leadership and administrative experience and a proven background in clinical dentistry, teaching, and research. The dean directs a school with 80 full-time faculty and 200 part-time faculty, 500 predoctoral dental students, a dental hygiene program, and postdoctoral programs in several specialty areas. Position available 1 September 1984. Please reply by 15 January 1984. Marquette University is a private, Catholic, Jesuit institution. Send curriculum vitae and the names of four references to: **Dr. Harold Gerstein, Co-Chairman, Search Committee, Department of Endodontics, School of Dentistry, Marquette University, 604 North 16 Street, Milwaukee, Wis. 53233.** Marquette University is an Equal Opportunity/Affirmative Action Employer.

DEVELOPMENTAL BIOLOGIST. To teach undergraduate developmental biology and genetics, and to develop a research program and graduate courses in specialty. A strong molecular orientation is expected. Doctorate is required. Tenure-track position available August 1984. Send résumé and three letters of recommendation by 1 February 1984 to: **Dr. Kenneth E. Mantal, Chairman, Department of Biology, SUNY College at Fredonia, Fredonia, New York 14063.** The State University of New York is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

CELL AND DEVELOPMENTAL BIOLOGISTS UNIVERSITY OF GEORGIA

The Department of Zoology invites applications for two tenure-track positions at the assistant/associate professor levels to begin in fall 1984. Successful candidates will be expected to establish funded research programs in their areas of specialty and to teach appropriate undergraduate and graduate courses. Applicants should forward curriculum vitae and a letter of intent stating long-term research goals, and arrange to have three letters of reference sent to: **Dr. Gordhan L. Patel, Head, Department of Zoology, University of Georgia, Athens, Ga. 30602.** Applications postmarked after 1 February 1984 cannot be assured of consideration.

The University of Georgia is an Equal Opportunity/Affirmative Action Institution.

CHAIRMAN DEPARTMENT OF MICROBIOLOGY

Applications and nominations are invited for this reopened position at the University of Kansas School of Medicine in Kansas City. We are seeking candidates with first class records in research as judged by quality, productivity, and sustained and current research funding. Commitment to the teaching and training programs of the department is essential and administrative experience is desirable. Preference will be given to candidates working in contemporary problems in microbiology, especially in cellular and molecular aspects. Sufficient funds, space, and tenure-track positions are available to build an outstanding department. In applying, submit curriculum vitae and the names of three references by 20 January 1984 to:

Dr. Gilbert S. Greenwald
Microbiology Search Committee
Department of Physiology
University of Kansas School of Medicine
Kansas City, Kans. 66103

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

The Department of Psychiatry is seeking an academically oriented **CHILD PSYCHIATRIST** for a full-time, junior-level tenure-track position on a newly organized 18-bed intensive diagnostic and research unit with affiliated research suite for biological investigations. Responsibilities include leading multidisciplinary teams, teaching and supervising child fellows, general psychiatric residents, and medical students. Active participation and leadership role in research program is expected. Must have demonstrated interest and skills in programmatic research. Previous research and publications preferred. Applicant must be Board-certified or Board-eligible in child psychiatry. Salary commensurate with academic rank. Interested parties should send curriculum vitae and three references to: **Fady Hajar, M.D., Acting Associate Chief, Child Psychiatry Service, University of Michigan, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer.

The University of Michigan Medical School, Department of Anesthesiology, may have, from time to time, several positions available at the **INSTRUCTOR THROUGH PROFESSOR** level. Board-certified or -eligible anesthesiologist qualified to obtain Michigan licensure. Research, clinical, didactic experience necessary. Reply to: **Box 328, SCIENCE.** A nondiscriminatory, Affirmative Action/Equal Opportunity Employer.

University of Michigan, Department of Pediatrics, Section of Newborn Services, seeks a fifth **BC/BE NEONATOLOGIST** for July 1984. Assistant/associate professor position includes primary clinical responsibilities at the Level II Special Care nursery in addition to ample interaction with the Level III ICU. Individuals should have a major interest in research and teaching. Direct inquiries with curriculum vitae to: **D. W. Roloff, M.D., Director of Newborn Services, Box 007, L3023 Women's Hospital, Ann Arbor, Michigan 48109.** The University of Michigan is a nondiscriminatory, Affirmative Action Employer. Code 111.

OPHTHALMOLOGISTS. Six clinical full-time faculty positions available; assistant, associate, or full professor. Opportunity for clinical and laboratory research, resident and student teaching and clinical practice. Department of Ophthalmology, The University of Michigan and Affiliated Hospitals. Contact: **Paul R. Lichter, M.D., Chairman, W. K. Kellogg Eye Center, Box 004, University Hospitals, Ann Arbor, Mich. 48109.** The University of Michigan is a nondiscriminatory, Affirmative Action Employer.

POSITIONS OPEN

VETERANS ADMINISTRATION (VA), CHIEF OF STAFF/UNIVERSITY OF CALIFORNIA, Faculty/Associate Dean, University of California, San Diego, (UCSD) School of Medicine. Applications and nominations are invited to head medical staff in 550-bed VA medical center which serves as a primary teaching institution for UCSD School of Medicine. Responsible to the Medical Center director for programs of patient care and for the educational and research activities of the professional services. Interacts with dean and vice chancellor, School of Medicine, on all matters concerning VA-appointed university faculty, joint university/VA residency training programs, and VA-based UCSD medical students. Academic qualifications include demonstrated experience and accomplishment in teaching, research, clinical care, and administration. Applicants must qualify for senior academic rank within the University of California. Salary commensurate with rank and step of appointment within the established salary schedule of the UCSD School of Medicine faculty compensation plan. Please send letter and curriculum vitae to: **J. William Hollingsworth, M.D., Chief, Medical Service, VA Medical Center, 3350 La Jolla Village Drive, San Diego, California 92161.** VA Medical Center and University of California, San Diego, are Equal Opportunity Affirmative Action Employers. Applications received after 27 January 1984 will not be considered.

COMMUNITY OR ECOSYSTEM MARINE ECOLOGIST. Applications are invited for a tenure-track faculty position at the level of assistant or associate professor to start 20 August 1984. Duties include supervision of M.S. and Ph.D. students, active research, pursuit of extramural research funding, and participation in graduate and undergraduate teaching. Experience in applications of computer-assisted modeling desirable. Appointee will interact with statewide marine consortium (LUMCON) in studies of coastal resources and their management. Coastal laboratory and research vessels are currently under construction. Send letter of application, statement of research goals, curriculum vitae, reprints, and three letters of reference to: **Ecologist Search Committee, Department of Biology, University of Southwestern Louisiana, Lafayette, La. 70504,** by 1 February 1984. An Equal Opportunity/Affirmative Action Employer.

DEVELOPMENTAL/CELL BIOLOGIST

Applications are sought for a tenure-track position at the assistant or associate professor rank, starting in August 1984, in the field of developmental/cell biology. The successful candidate will be expected to develop an independently funded research program and integrate his research with that of the current faculty. Besides developing a graduate research program, teaching a survey course in developmental biology or cell biology is expected. Applicants should submit curriculum vitae, transcripts, selected reprints, and names and addresses of references to: **J. P. Woodring, Chairman, Search Committee, Department of Zoology and Physiology, Louisiana State University (LSU), Baton Rouge, Louisiana 70803,** by 23 January 1984. LSU is an Equal Opportunity/Affirmative Action Employer.

McGILL UNIVERSITY DEVELOPMENTAL BIOLOGIST ASSISTANT PROFESSOR TENURE-STREAM

Applications are invited from individuals having expertise in cellular and molecular approaches to development in plant or animal systems.

McGill is an English language university and has a strong commitment to excellent in both teaching and research. The Department of Biology has particular research strength in cell and molecular biology, human genetics, neurobiology, and ecology.

The appointment is effective 1 September 1984. Applications are invited from all. In accordance with Canadian immigration regulations, applications from Canadian citizens and landed immigrants will be considered first.

Forward curriculum vitae, statement of research interests and goals, and three letters of reference to: **Dr. W. C. Leggett, Chairman, Department of Biology, 1205 Avenue Docteur Penfield, Montreal, Quebec, Canada H3A 1B1.** Deadline: 15 February 1984.

POSITIONS OPEN

CHAIRPERSON—BIOCHEMISTRY. The Albert Einstein College of Medicine of Yeshiva University seeks a chairperson for the Department of Biochemistry. Individuals with a commitment to research and a strong research record are invited to apply. The selected chairperson will become a tenured professor and space and resources will be available to maintain and expand a high quality department. Interested candidates are requested to send curriculum vitae to: **E. R. Stanley, Ph.D., Associate Professor of Microbiology and Immunology, Chairman of Search Committee for Biochemistry, ALBERT EINSTEIN COLLEGE OF MEDICINE, 1300 Morris Park Avenue, Bronx, New York 10461. An Equal Opportunity Employer.**

CHEMISTRY ANTICIPATED POSITION

Assistant professor. The Department of Chemistry of Seton Hall University anticipates one tenure-track assistant professor position as of fall 1984. Applications are invited from experimental chemists with demonstrated research excellence and a commitment to teaching at the graduate and undergraduate levels. The individual should complement the research areas of our faculty and participate in our B.S., M.S., and Ph.D. programs. Send a résumé, a brief description of future research plans, and the names of three references before 10 January 1984 to:

**Faculty Search Committee
Department of Chemistry
Seton Hall University
South Orange, N.J. 07079**

An Equal Opportunity/Affirmative Action Employer

University of California, Irvine (UCI) TWO TENURE-TRACK POSITIONS IN ECOLOGY AND EVOLUTIONARY BIOLOGY

The Department of Ecology and Evolutionary Biology, University of California, Irvine, announces two tenure-track openings.

1) **Evolutionary Quantitative Geneticist (assistant or associate professor).** A plant or animal biologist concerned with the application of principals of quantitative genetics to research in evolutionary biology. We seek a person who is capable of making theoretical advances and testing theory in the field. An individual with an established reputation is desired, but more recent graduates of special promise will be considered.

2) **Evolutionary Ecologist (assistant professor).** An individual who approaches ecological problems from an evolutionary perspective. We desire an empiricist with strong theoretical interests. Postdoctoral experience required.

We expect to fill one of these two positions with a plant-oriented biologist. *UCI is an Affirmative Action Employer.*

Applications and inquiries should be directed to:

**Search Committee
Department of Ecology and Evolutionary Biology
University of California
Irvine, Calif. 92717**

before 1 January 1984.

FACULTY POSITIONS IN MICROBIOLOGY OKLAHOMA STATE UNIVERSITY

Two tenure-track assistant professorships in microbiology available for August 1984. The Ph.D. degree is required with postdoctoral experience favored. We seek outstanding individuals committed to excellence in research and teaching to conduct active research programs, supervise graduate student research, and teach undergraduate and graduate courses in one of the following areas:

MICROBIAL MOLECULAR GENETICS—Preference for those having experience in modern microbial genetics and techniques.

MICROBIAL PHYSIOLOGY—Preference for those having research experience in cell wall, cell membrane biology, or bacterial metabolism.

PATHOGENIC MICROBIOLOGY—Preference for those having research experience in molecular biology or ultrastructure and to those proposing to work in areas related to bacterial pathogens of medical or agricultural importance.

To assure full consideration send curriculum vitae, statement of research goals, transcripts, and names of three references by 1 February 1984 to: **Dr. Glenn W. Todd, Head, Department of Botany and Microbiology, Oklahoma State University, Stillwater, Oklahoma 74078. Oklahoma State University is an Equal Opportunity/Affirmative Action Employer.**

9 DECEMBER 1983

RESEARCH SCIENTISTS

The Biotechnology Division of Standard Oil Company (Indiana) is seeking PhD Scientists in the following fields of specialization:

- **Enzyme Technology**
- **Fermentation Technology**
- **Biochemical Engineering**
- **Industrial Microbiology**

Candidates should have recent PhD degrees. Two (2) years of post-doctoral or equivalent industrial experience is desirable.

Your benefits will come in the form of outstanding professional exposure and long-range growth potential. We are located in Naperville, Illinois, just 30 miles outside Chicago, and offer a choice of urban, suburban or rural living. Salary is commensurate with experience, and we offer a comprehensive benefits package. If you qualify for this position, please send resume with a detailed qualifying letter in confidence to:



Professional Recruiting Coordinator **AMOCO RESEARCH CENTER**

**P.O. Box 400
Naperville, IL 60566**

An Equal Opportunity Employer M/F/H

RN ASSOCIATE DIRECTOR MANAGEMENT SERVICES

A unique position offering potential for a unique individual.

- A doctoral prepared RN or eligible within six months with advanced study in Administration or Organizational science.
- An individual with the strength of commitment and the initiative to select areas for improvement and study and see them through to completion.
- A person with strong understanding and respect for the nursing profession as well as clear understanding of the administrative/management functions.

This position offers a unique opportunity to shape your position to enhance your own professional development along with the following responsibilities:

- Collaboration with Data Center in the timely analysis of support service data.
- Coordination of the development and implementation of reports used for management by the division of nursing.
- Involvement in development of graduate level management courses.
- Direct and continued interaction with the Director of Nursing Systems Management and the Associate Director of Management Sciences.

You may be acting as a QA Director or involved on an academic level in a large medical, educational center. Whatever your present professional involvement, this position could bring the attainment of your personal goals. This is a special position that will be structured around the strengths/interests of the individual. Please address your questions to us along with your letter of interest and background or resume to: **Jan Rohlf, Director of Employment Services.** All responses will receive a prompt reply.



Rush-Presbyterian-St. Luke's Medical Center

**729 South Paulina • Chicago, IL 60612
1-800-621-4626**

AN EQUAL OPPORTUNITY EMPLOYER M/F

1153

POSITIONS OPEN

EXECUTIVE DIRECTOR AMERICAN SOCIETY FOR MICROBIOLOGY

The position of Executive Director will become available on 1 July 1984. The appointee will be ultimately responsible for directing the Society's Washington headquarters, for insuring that the policies developed by the elected officers and the council policy committee of the Society are implemented, and for advancing the interests of the Society and its members.

The Society has over 30,000 members and a staff of approximately 70 reporting to directors who represent each of the major functions of the Society, and in turn, report directly to the executive director.

Applicants should have extensive administrative experience in an organization concerned with the sciences. A doctorate in the biological sciences is desirable. Salary will be competitive and determined according to experience and qualifications. Applications with curriculum vitae and names of three references should be submitted by 5 February 1984 to: **Dr. J. Mehlen Joseph, Secretary, American Society for Microbiology, Laboratories Administration, Maryland State Department of Health and Mental Hygiene, P.O. Box 2355, Baltimore, Maryland 21203.**

The American Society for Microbiology is an Equal Opportunity/Affirmative Action Employer.

EXPERIMENTAL PSYCHOLOGIST (associate or full professor). Begin fall 1984. Applicants with strong research backgrounds in areas of cognitive psychology, experimental child, or applications of experimental psychology to health related fields considered. Prior external funding for research desirable. Submit curriculum vitae and names of three references by 15 January 1984 to: **D. H. Kausler, 210 McAlester Hall, University of Missouri, Columbia, Mo. 65211.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN MOLECULAR GENETICS, Department of Microbiology, University of Medicine and Dentistry of New Jersey (UMDNJ)—New Jersey Medical School.

Applications are invited for a tenure-track position in molecular genetics, at the level of assistant professor. Applicants should have demonstrated research capabilities in molecular genetics and a serious commitment toward establishing an independent research program. Application deadline: 31 December 1983.

Please send curriculum vitae, including the names of three references and a statement of research interests and goals, to:

David B. Kaback, Ph.D.
Chairman of the Search Committee
Department of Microbiology
UMDNJ—New Jersey Medical School
100 Bergen Street
Newark, New Jersey 07103

The New Jersey Medical School is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION, VIROLOGY. Ph.D. with several years of postdoctoral experience in areas of immunology, pathogenesis, or diagnosis to join virology research unit. Current research interests in division include immunobiology of gastroenteritis viruses, cell mediated responses to viral infections, and mechanisms of viral pathogenesis. Position will be at the associate or assistant professor level. Send résumé and names of three references to: **Dr. Neil R. Blacklow, Division of Infectious Diseases, University of Massachusetts Medical School, Worcester, Mass. 01605.** *An Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION IN MEDICAL BIOCHEMISTRY

Applications at any level, especially including the associate or full professor level, are solicited. Applicants in all areas of biochemistry will be fully considered. Current departmental research interests include DNA sequencing, electron microscopy of nucleic acids, transposons, control of bacterial cell lysis, liposomes and membranes, and cellular export of complex carbohydrates. Senior candidates will be expected to have a funded research grant. The department has recently occupied space in a new medical sciences building. Sunbelt climate in College Station, Texas, located near Houston and Austin. Send curriculum vitae and names of references to: **Dr. Garret M. Ihler, M.D., Ph.D., Head, Department of Medical Biochemistry, College of Medicine, Texas A & M University, College Station, Texas 77843.** *Equal Opportunity through Affirmative Action.*

POSITIONS OPEN

FACULTY POSITION IN ORGANIC CHEMISTRY. Applications or nominations are invited for an opening in the Department of Chemistry at Massachusetts Institute of Technology (MIT). Applicants should have demonstrated ability to do outstanding independent research in chemistry and show promise of excellence in teaching. Appointment will probably be at the assistant professor level, but applications and nominations for other levels will be considered. Candidates should submit curriculum vitae, a publications list, and a description of research interests, and have three letters of recommendation sent not later than 15 February 1984 to: **Professor C. T. Walsh, Room 18-390, MIT, Cambridge, Mass. 02139.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS. Applications are invited for positions as assistant or associate professor of oncology at the McArdle Laboratory of the University of Wisconsin. Persons trained in some field of cancer research or in the field of biochemistry, developmental and cell biology, genetics, molecular biology, toxicology, and virology are especially invited to apply. Applicants should be prepared to develop a strong, independent research program complementary to the research of other investigators at the McArdle Laboratory (generally, in one of the general areas of chemical carcinogenesis, genetics, and developmental biology in relation to carcinogenesis, tumor virology, or regulatory mechanisms in tumor biology), and to contribute to the interactive research environment of the laboratory.

Each applicant should submit curriculum vitae, list of publications, and a two- to three-page statement of future research plans. Each applicant should also ask at least three persons qualified to evaluate the candidate's research to send letters of recommendation.

We are committed to a program of Affirmative Action at both the department and university levels. Please send applications and letters of recommendation to: Dr. Henry C. Pitot, Department of Oncology, McArdle Laboratory for Cancer Research, University of Wisconsin, Madison, Wis. 53706.

FACULTY POSITION

A tenure-track faculty position will be available 1 July 1984 for an individual who is skilled in the use of molecular genetics for the study of microbial pathogenicity. Rank will depend on qualifications, but should include postdoctoral training and an excellent publication record. Candidates will be expected to develop a strong, independent research program. Other responsibilities will include instruction of medical, dental, and graduate students. Send curriculum vitae, a statement of research interests, and the names of three references to: **J. R. Sokatch, Chairman of Search Committee, Department of Microbiology and Immunology, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, Oklahoma 73190.** *The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer.*

FACULTY OR POSTDOCTORAL POSITION available to Ph.D. to study regulatory mechanisms of collagen synthesis and fibril formation during wound healing and certain fibrotic disorders. Experience in protein chemistry, preferably collagen, is desirable. Send curriculum vitae to: **Dr. Raul Fleischmajer, Department of Dermatology, THE MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, N.Y. 10029.** *An Equal Opportunity Employer.*

IMMUNOLOGIST

The Division of Biology at Kansas State University has a tenure-earning position available at the assistant professor level effective 1 September 1984. Applications are invited from individuals in all areas of the immunological sciences. The division has a strong program in biological research, excellent facilities, a training grant in virology and tumor biology, and a distinguished faculty with several million dollars in extramural research grants. The successful candidate will be expected to establish a vigorous research program and to contribute to our graduate and undergraduate instruction in immunology. Candidates should apply by 17 January 1984. Submit curriculum vitae, three letters of reference, and a brief description of future research plans to:

Dr. Terry C. Johnson, Director
Division of Biology
Kansas State University
Manhattan, Kans. 66506

Kansas State University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

FISHERIES/AQUACULTURE. The Department of Fisheries and Wildlife and the Minnesota Sea Grant Program offer an assistant professorship (tenure-track) in aquaculture. Ph.D. in fisheries or related field required. Specialization in genetics or physiology desired. Individual will develop research program, teach course in aquaculture and, through Sea Grant Extension, provide expertise to professional and lay audiences. Salary competitive. Send curriculum vitae, transcripts, research interests, and three letters of recommendation to: **Dr. Ira S. Adelman, Department of Fisheries and Wildlife, 200 Hodson Hall, 1980 Folwell Avenue, St. Paul, Minn. 55108,** by 30 January 1984. Position available 1 July 1984.

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

GRANTS ADMINISTRATOR. Under the direction of the association dean for research, administers all grants awarded to University of Medicine and Dentistry of New Jersey (UMDNJ)—Rutgers Medical School. Keeps faculty informed of the availability of grant programs. Develops policies and procedures regarding the administration/processing of grant applications. Ensures that federal, state, and university policies are adhered to concerning the administration of grant funds. A master's degree plus 3 years of progressively more responsible experience in the administration of grants/research programs. Proficiency in data analysis and scientific writing a plus. Applicants who do not possess a master's degree are required to have an additional year of related experience. Excellent salary and fringe benefits. Please send résumé to: **Roger Hanos, Personnel Manager, UMDNJ-Rutgers Medical School, P.O. Box 101, Piscataway, New Jersey 08854.** *An Equal Opportunity/Affirmative Action Employer.*

DEPARTMENT HEAD. Applications and nominations are invited for the position of head of the Department of Agricultural Chemistry, Oregon State University. The department has 16 faculty who undertake research primarily in the disciplines of biochemistry, chemistry, and molecular biology relating to agriculture. The head will be expected to carry on a vigorous research program consistent with the interests of the department and will provide leadership in initiating instructional and research programs consonant with the changing needs of agriculture. Applicants should have a doctorate in one of the above disciplines, a distinguished research program, and promise of administrative skills to provide leadership and coordination of a group of diverse faculty. Please submit, by 31 December 1983, curriculum vitae (which should include statements of research interests, administrative philosophy, and career goals) to: **Dr. Roy Morris, Chairman, Search Committee, Department of Agricultural Chemistry, Oregon State University, Corvallis, Ore. 97331.** Telephone: 503-754-3791. *An Affirmative Action/Equal Opportunity Employer complying with Section 504 of the Rehabilitation Act of 1974. Applications from women and minority individuals are particularly welcome.*

IMMUNOLOGIST/BIOCHEMIST. Challenging opportunity for an immunologist/biochemist to participate in a research project in the Department of Ophthalmology. Laboratory experience in ELISA, tests for cell-mediated immunity and immunochemical techniques required. Faculty position in the Department of Ophthalmology at Mount Sinai School of Medicine if credentials warrant. Excellent salary and benefits. Send résumé to: **Personnel Department, BETH ISRAEL MEDICAL CENTER, 421 East 14 Street, New York, N.Y. 10009.** *An Equal Opportunity Employer.*

INSTRUCTOR

Cornell University seeks a **VERTEBRATE BIOLOGIST** with a background in morphology to coordinate the laboratory portion of a large vertebrate biology course in the spring semester each year. Participation in graduate seminar courses is expected in the fall semesters. This is primarily a teaching position, but individual or collaborative research is encouraged. Appointment is for 2 years starting in fall 1984 as a non-tenure-track instructor; renewal for a third year is possible. Applications, including curriculum vitae, statements of teaching experience and research interests, copies of representative publications, and names and addresses of three references, should be sent to: **Dr. F. Harvey Pough, Ecology and Systematics, Cornell University, E211 Corson Hall, Ithaca, N.Y. 14853-0239.** Deadline for applications is 31 January 1984. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*



an MBL
Short Course

Analytical & Quantitative Light Microscopy

Shinya Inoué, Course Director
March 9–15, 1984

An intensive course dealing with quantitative polarization, interference and fluorescence microscopy, and the application of digital and analog video to microscopy. Image formation and fidelity, the interaction of light and matter, contrast generation, and the use of video recording and processing are discussed and illustrated by effective demonstrations. Students gain over 40 hours of laboratory experience with state-of-the-art instruments. An experienced staff, including technical representatives from major microscope and video equipment companies, direct these exercises.

Deadline: January 25, 1984

For additional information and application materials, contact:
Admissions, Marine Biological
Laboratory, Woods Hole, MA 02543
(617) 548-3705

FACULTY APPOINTMENTS IN MOLECULAR BIOLOGY

The E. A. Doisy Department of Biochemistry at St. Louis University School of Medicine intends to develop a center of excellence in Molecular Biology with at least six tenure-track faculty appointments in this area over the next three years. At least one appointment will be at the Associate or Full Professor level. This represents a major expansion of the interdisciplinary, multidisciplinary Cell and Molecular Biology program at St. Louis University School of Medicine. Applicants should be capable of developing a strong, independent research program employing molecular biological, genetic, and/or biophysical approaches to address fundamental biological questions, and/or studies of the molecular bases of human disease. Excellent start-up funds and salary are available. Send curriculum vitae, description of research plans, and names of three references to:

Dr. William S. Sly
Chairman
Department of Biochemistry
St. Louis University School of
Medicine
St. Louis, Missouri 63104

MARINE GEOCHEMIST

The Chemistry Department at The Woods Hole Oceanographic Institution invites applications from researchers in the field of marine geochemistry. Applicants should have a PhD, and, preferably, post-doctoral experience with a demonstrated excellence in research in the area of organic geochemistry with particular interest and expertise in ancient sediment organic geochemistry or petroleum geochemistry. Experience with techniques in trace organic analysis such as gas chromatography/mass spectrometry/computer systems would be particularly valuable. Appointments will be made at the Assistant, Associate or Senior Scientist level depending on the candidate's qualifications. Interested candidates should send resume, transcript, reprints and names of potential referees to **Personnel Manager**

Box 54P



**WOODS HOLE
OCEANOGRAPHIC
INSTITUTION**

Woods Hole, MA 02543

An equal opportunity employer

FERMENTATION RESEARCH

ADM is a major agri-processor. We have a large commercial enzyme plant at Clinton, Iowa, that produces enzymes or the manufacture of ethanol and high fructose corn syrup.

We have a position for a top Ph.D. in Microbiology with 0–10 years experience. This individual should be highly skilled in fermentation and have a working knowledge of genetic techniques used to develop and improve organisms.

The position involves research to improve microbial productivity in the plant, to improve product purity and to apply these enzymes on an industrial scale. It is necessary to work daily with production people as well as scientists. The opportunity exists for a managerial position. For more information phone (319) 244-5245.

Please send resumé and salary history to:

Archer Daniels Midland Company
Research Laboratories
P.O. Box 340
Clinton, Iowa 52732

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We offer unique opportunities in our R&D efforts in the human health care field.

Virologist

The successful candidate will participate in an immunotherapy program. Position requires familiarity with current techniques for biochemical characterization of macro molecules, nucleic acid assays and tissue culture. Candidates will have a PhD or equivalent in Virology or a related field.

Immunologist

The successful candidate who joins our monoclonal research team will possess at least 2 years post-doctoral experience with genetic and cellular control of immune responses. Specific experience with human lymphocyte fractionation essential.

Salaries and benefits at Cutter are excellent. Join us and enjoy the convenience of our modern research facilities, directly across the Bay from San Francisco. Please submit your resume with salary history to Heidi Lawton, Cutter Group, PO Box 1986, Berkeley, California 94701.

Equal opportunity/affirmative action employer.

Cutter

CUTTER Group
Miles Laboratories

POSITIONS OPEN

GENETICIST TENURE-TRACK APPOINTMENT UNIVERSITY OF WISCONSIN—MADISON

We seek an innovative researcher who wishes to extend his/her research to nonhuman primates in order to take advantage of a unique opportunity. The appointment will be made jointly between the Wisconsin Regional Primate Research Center and the Department of Genetics. Any field of basic or applied genetics utilizing approaches of modern genetics will be considered, and additional animal models may be used. The individual will also be expected to teach at least one advanced course in genetics. Postdoctoral experience is required. Current strong areas of research at the Primate Center include behavior, embryogenesis, endocrinology, cell biology, neuroscience, and pathology. No previous experience with nonhuman primates is required. Review begins 1 February 1984, and will continue until a suitable candidate is selected. Applications should include transcripts, curriculum vitae, bibliography, reprints or preprints of three significant publications, statement of research goals, and three letters of recommendation. Send these to: **Genetics Search Committee, Wisconsin Regional Primate Research Center, 1223 Capitol Court, Madison, Wis. 53715-1299.**

The University of Wisconsin—Madison is an Affirmative Action/Equal Opportunity Employer.

HEAD, DEPARTMENT OF MICROBIOLOGY. The Department of Microbiology, University of Massachusetts, Amherst, is seeking highly qualified candidates for the position of department head. It is hoped that this position can be filled in the academic year 1984–1985. The department has active programs in both undergraduate and graduate training and participates with other life sciences departments in a recently established graduate program in molecular and cellular biology. To be considered, curriculum vitae and references should be received by 17 February 1984. Forward to: **T. G. Lessie, Department of Microbiology, University of Massachusetts, Amherst, Mass. 01003. Telephone: 413-545-0169.** *The University of Massachusetts is an Affirmative Action/Equal Opportunity Employer.*

DEPARTMENT OF PATHOLOGY MEMBRANE BIOCHEMISTRY/ MOLECULAR BIOLOGIST

The Department of Pathology at East Carolina University School of Medicine has an opening for a tenure-track position for an individual to conduct fundamental research on cell membrane biochemistry. Experience with isolation procedures and protein characterization is preferred.

Applicants should have the M.D. or Ph.D. degree and demonstrated record of research potential and support. Candidates are expected to participate in department teaching programs. Salary and rank depend on qualifications. Send curriculum vitae to: **Seymour Bakerman, M.D., Ph.D., Professor and Chairman, Department of Pathology, East Carolina University School of Medicine, Greenville, N.C. 27834.** *An Equal Opportunity/Affirmative Action Employer.*

LUDWIG INSTITUTE FOR CANCER RESEARCH SYDNEY, AUSTRALIA MEMBRANE BIOCHEMIST

A senior scientist with expertise in membrane biochemistry is required to join the Sydney branch of this Institute. The successful applicant, who will be responsible for the membrane biochemistry group, is required to function as part of an interdisciplinary team of senior scientists whose disciplines include molecular biology, biophysics, cell kinetics, and clinical oncology. The aim of this group is to understand the genetic and membrane changes which accompany drug resistance and metastatic potential. A salary consistent with the applicant's experience will be awarded and include travel and removal expenses for the appointees dependent family. The appointment will initially be for 3 years with potential for renewal. The Institute is independently funded in five yearly cycles.

Applications should be made in writing to:

**The Director
Professor M. H. N. Tattersall
Ludwig Institute for Cancer Research
Blackburn Building
University of Sydney
Sydney, N.S.W. 2006, Australia**

Closing date for applications is 21 January 1984.

POSITIONS OPEN

MASS SPECTROMETRIST

The Washington University, Mass Spectrometry Resource, is seeking a person to develop and direct a program in high resolution tandem mass spectrometry. Applicants must have demonstrated expertise in these areas as well as familiarity with particle desorption and CID techniques. A faculty appointment will be offered, at the Medical School or Liberal Arts campus, in the department that is most closely allied with the applicant's academic qualifications. It is essential that the applicant both have a sufficient degree of research productivity, and clearly formulated investigational goals, to satisfy the search committee that this individual will ultimately achieve tenure and research grant support through his or her own merits.

Applicants should send curriculum vitae and a brief description of current research interests to:

**William R. Sherman, Ph.D.
Washington University School of Medicine
4940 Audubon Avenue
St. Louis, Missouri 63110**

Washington University is an Equal Opportunity/Affirmative Action Employer.

MEDICAL DIRECTOR, LABORATORY OF CYTOGENETICS. This is a tenure-accruing position at a rank and salary commensurate with experience, in the Department of Pathology, College of Medicine, University of Florida, to begin 1 April 1984. The candidate must hold an M.D. degree and be licensed or be eligible to apply for a license in the state of Florida. The candidate will be responsible for the medical direction of the Laboratory of Cytogenetics in the Department of Pathology. This will involve hospital service activities as well as development of independent research and teaching programs. Preference will be given to a candidate with interest in molecular genetics or related areas. Interested candidates should forward applications by deadline of 1 March 1984 to: **Raul C. Braylan, M.D., Professor, Department of Pathology, Box J-275, College of Medicine, University of Florida, Gainesville, Florida 32610.** *An Equal Opportunity/Affirmative Action Employer.*

MICROBIOLOGIST. The Department of Epidemiology, University of Michigan School of Public Health, invites qualified scientists to submit applications for a tenure-track position at the **assistant professor** level. Candidates with demonstrated research expertise in molecular approaches to bacterial pathogenesis or bacterial immunity or microbial ecology will be considered. Candidates must have an earned doctoral degree and training in medical microbiology and will be required to teach graduate courses in medical/public health bacteriology including laboratory. Collaborative research programs with other faculty members in epidemiology and other departments of the University are encouraged.

Applicants should submit, prior to 1 March 1984, curriculum vitae, statement of research interests, and names of three references to: **Dr. Gene I. Higashi, Chairman, Search Committee, Department of Epidemiology, University of Michigan School of Public Health, 109 Observatory Street, Ann Arbor, Michigan 48109.** *We encourage applications from women and minority candidates. The University of Michigan is a nondiscriminatory, Affirmative Action Employer.*

MICROBIOLOGIST/IMMUNOLOGIST, ASSISTANT PROFESSOR, tenure-track position in biological sciences. Ph.D. in microbiology or immunology. Duties include teaching immunology and virology as well as assisting in the general microbiology course. The candidate is expected to develop a research program and to participate in a master's level graduate program. Send curriculum vitae and three letters of recommendation by 1 February 1984 to: **Dr. D. Wartok, Chair, Department of Biological Sciences, Indiana University—Purdue University at Fort Wayne, Fort Wayne, Ind. 46805.** *An Affirmative Action/Equal Opportunity Employer.*

TOXICOLOGIST, ASSISTANT PROFESSOR, tenure-track position in biological sciences. Ph.D. in toxicology and training in molecular biology and/or pharmacology are desired. Teaching at graduate/undergraduate levels and research are required. Duties include teaching a graduate course in toxicology and participation in a master's level graduate program. Send curriculum vitae and three letters of recommendation by 1 February 1984 to: **Dr. D. Wartok, Chair, Department of Biological Sciences, Indiana University—Purdue University at Fort Wayne, Fort Wayne, Ind. 46805.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

The Department of Experimental Medicine and Cancer Research of the **HEBREW UNIVERSITY—HADASSAH MEDICAL SCHOOL, JERUSALEM, ISRAEL**, is seeking a **junior scientist** (Ph.D. or M.D.) to fill a tenure-track position of lecturer/senior lecturer, beginning with the 1984–1985 academic year. Our interests are in cancer research and in experimental medicine, including cell and developmental biology, aging, atherosclerosis, thyroid-pituitary hormones, surface membrane and matrix biology, lymphoid cell differentiation, analysis of growth, and division in bacteria. Send curriculum vitae and list of publications to: **Departmental Secretary, P.O. Box 1172, Jerusalem 91010, Israel**, by 31 January 1984, enclosing addresses of three references and a short description of proposed research during the next few years.

QUEEN'S UNIVERSITY KINGSTON, ONTARIO, CANADA

The Department of Biology invites applications for a tenure-track position in limnology preferably with research interests in aquatic invertebrates. The successful candidate should be prepared to develop a vigorous research program and to teach in the undergraduate and graduate programs and supervise graduate students. Qualifications include a Ph.D. degree and published evidence of excellent research ability. Candidates of either sex are equally encouraged to apply. The appointment will be effective 1 September 1984 and is expected to be at the rank of assistant professor with salary commensurate with qualifications (floor: \$24,250). *Preference will be given to Canadian citizens or landed immigrants.* Application deadline is 1 March 1984 or until a suitable candidate is selected. Send applications, which should include curriculum vitae, statement of future research interests, and names and addresses of three referees to: **Professor D. T. Canvin, Head, Biology Department, Queen's University, Kingston, Ontario, Canada K7L 3N6.**

MOLECULAR BIOLOGY AND VIROLOGY

THE SALK INSTITUTE invites applications for faculty positions at the assistant professor level in molecular biology and virology.

Candidates should have postdoctoral research experience and should be prepared to initiate independent research programs. Areas of interest include viral cellular gene organization and expression, mechanisms of growth control, and molecular aspects of development.

Candidates should submit curriculum vitae, summary of previous and proposed research, and names of three references to:

**Search Committee
Molecular Biology, Virology
SALK INSTITUTE
P.O. Box 85800, San Diego, Calif. 92138
We are an Equal Opportunity Employer**

ORGANIC CHEMIST. Bench scientist experienced in organic synthesis. New company offers excellent salary and significant equity opportunity. Contact:

**Arden A. Kelton, Ph.D.
President, Environmental Diagnostics Inc.
17935 Skypark Circle—Suite D
Irvine, Calif. 92714
Telephone: 714-261-7267**

Immediate opening for a **POSTDOCTORAL BIOPHYSICIST** or **ASSISTANT RESEARCH BIOPHYSICIST** (salary range approximately \$17,500 to \$25,000, depending on experience). Position is for a biophysicist to work on applications of electron paramagnetic spectroscopy to muscle fibers and muscle proteins. Applicant should have a strong background in the physical sciences. Apply to: **Dr. Roger Cooke, 841-HSW, University of California, San Francisco, Calif. 94143.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW BIOCHEMIST

Position available immediately for Ph.D. experienced in membranology or protein biochemistry with interest in studies on epidermal growth factor and transforming growth factor receptors. Send curriculum vitae with the names of three references to:

**Dr. J. A. Fernandez-Pol
Nuclear Medicine Service (115JC)
VA Medical Center
St. Louis, Missouri 63125
Equal Opportunity Employer**

The Erna and Victor Hasselblad Foundation

will in 1984 award grants to Swedish as well as foreign researchers of special merits to further scientific education and research within the fields of natural sciences and photography.

The funds, available for annual distribution, presently total SEK 2.000.000 (US\$ 250.000), are intended to be concentrated on large projects, essential to the continued development within the fields mentioned. In principle, the medical discipline shall be ineligible.

Granted funds will be disbursed before the end of 1984.

Applications—in duplicate and preferably in accordance with forms, available at the Foundation—ought to be submitted to and available to the Foundation before March 31, 1984.

Gothenburg in November 1983

Erna and Victor Hasselblad Foundation
S-405 04 GOTHENBURG
Sweden

ANALYTICAL CHEMISTRY Deputy Group Leader

The Analytical Chemistry Group of the Los Alamos National Laboratory is seeking an effective leader and manager to assume responsibilities of Deputy Group Leader. The position involves providing significant technical and administrative leadership as well as direction of the group's diverse support and research activities.

The group, consisting of approximately one hundred scientists, technicians, and support personnel, provides analytical chemical services and expertise to the scientific/engineering programs at the Laboratory. The group also conducts basic and applied research. Support activities are in the area of inorganic materials characterization with emphasis on analytical spectroscopy, radioanalysis, mass spectrometry, classical wet chemical methods, surface science, separations, and combustion techniques. Particular capabilities exist for analysis of actinides and other radioactive substances. Addressing problems associated with the Laboratory's wide-ranging programs, new analytical chemistry techniques and the development of analytical technology are being explored vigorously.

Qualifications:

Ph.D. with demonstrated excellence and professional achievement in field of analytical chemistry. Effective written and oral communication skills are a prerequisite. U.S. citizenship required.

The Laboratory, one of the nation's leading multifaceted research and development organizations, is operated by the University of California for the Department of Energy. Our location in the mountains of northern New Mexico offers a pleasant life style, clean environment with ample recreational activities.

To apply, send resume and three letters of reference to:

Madeline Lucas
Personnel Administration Division—DIV-84-C
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

University of California

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

An Affirmative Action/Equal Opportunity Employer: Women, minorities, veterans and handicapped are urged to apply.
U.S. citizenship or permanent resident Visa required.

STAFF FELLOWS

The National Institute of Allergy and Infectious Diseases, National Institutes of Health, Public Health Service, is actively recruiting applications for the Medical Staff Fellowship Program to train in its intramural facilities at the Rocky Mountain Laboratories (RML) in Hamilton, Montana. This recruitment is specifically for junior level Staff Fellows, those with initially less than 3 years of professional level research experience. Candidates for the Staff Fellowship must be U.S. Citizens or resident aliens who would be eligible for citizenship within 4 years. They must either have been awarded their doctoral degrees in a biomedical science or have been certified by a university as meeting *all* the requirements leading to such a doctorate. The starting salary for Staff Fellows is in the range of \$17,000 to \$23,000 depending on research experience.

At the present time we are recruiting for training in three laboratories at RML.

The Laboratory of Persistent Viral Diseases is studying several models of chronic or persistent virus infections including retroviruses (Friend leukemia virus), rabies virus, Aleutian disease virus of mink, scrapie and the slow virus agents responsible for kuru and Jakob-Creutzfeldt disease, to understand the mechanisms of host immunity and to clarify the mechanisms of virus persistence.

The Laboratory of Microbial Structure and Function is concerned

with structure, function and genetics of pathogenic bacteria with regard to the virulence, pathogenicity and immunochemical properties of agents such as gonococci, chlamydiae, spirochetes causing relapsing fever and Lyme disease and spotted fever rickettsiae.

The Laboratory of Molecular Pathobiology addresses the application of molecular biology, molecular genetics and immunochemistry to investigation of the pathogenesis of and immunity to disease-producing microorganisms.

The research programs are supported by excellent facilities for large and small animals. Isolation facilities are available for work with hazardous or unknown pathogens. A well equipped and staffed electron microscope section is also available.

The Rocky Mountain Laboratories are in Hamilton, Montana, a small community serving 9,000 people, 45 miles from Missoula, home of the University of Montana. The climate is pleasant, moderate in comparison to cities such as Chicago.

For further information on research programs and application forms, please contact Dr. Kenneth Sell, Scientific Director, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland 20205, who will arrange contact with the Chiefs of the respective laboratories and research programs.

NIH is an Equal Opportunity Employer.

POSITIONS OPEN

MOLECULAR GENETICIST

The Biology Department of Kenyon College invites applications for a tenure-track position in molecular genetics. Available September 1984. Ph.D. required and postdoctoral experience desired. We seek applicants with demonstrated interest in undergraduate teaching, an active research program, and broad experience in techniques of molecular biology and genetics. Nine-month teaching responsibilities include a course in genetics, participation in introductory biology, and advanced courses to be determined. Applications should be received by 15 February 1984. *An Equal Opportunity Employer.* Send curriculum vitae and three letters of reference to: **Search Committee, Department of Biology, Kenyon College, Gambier, Ohio 43022.**

THE UNIVERSITY OF TEXAS HEALTH CENTER AT TYLER IS SEEKING A BOARD-CERTIFIED/ELIGIBLE ONCOLOGIST

This position requires strong clinical skills in oncology as well as a commitment to clinical research and teaching. The Health Center is a young, state-funded institution and part of The University of Texas System mandated by the legislature to care for patients from throughout the state who have chest diseases. However, because of our location (100 miles east of Dallas, Texas), referral pattern, and University affiliation, the oncology-hematology section provides care for patients with a wide variety of malignancies. If you are looking for a rewarding professional challenge, a salary commensurate with the responsibilities, and excellent fringe benefits, send your curriculum vitae to:

Allen B. Cohen, M.D., Ph.D.
The University of Texas Health Center at Tyler
P.O. Box 2003
Tyler, Texas 75710
Telephone: 214-877-3451, extension 2118
Affirmative Action/Equal Opportunity Employer

PATHOLOGIST for Veterinary Diagnostic Laboratory. Must have training and/or experience in avian pathology. D.V.M. with M.S. in pathology preferred. Salary commensurate with education and experience. Send curriculum vitae to: **Mississippi Board of Animal Health, P.O. Box 4389, Jackson, Miss. 39216.**

The Department of Biology at Rensselaer Polytechnic Institute is seeking a **PLANT MOLECULAR BIOLOGIST**. Postdoctoral experience is desirable and preference will be given to persons working with nuclear genes or plant-bacterial interactions. Development and maintenance of a strong research program is expected. The applicant will teach Ph.D. students and participate in the education of undergraduates in his/her area of expertise. The Biology Department currently has established plant research programs in chloroplast biogenesis development and photosynthesis. Affiliation with RPI's Biochemistry Program and the Capital District's Plant Science Group is possible. It is anticipated that this tenure-track appointment will be made in September 1984 at the assistant or associate professor level depending on experience. Send curriculum vitae, statement of research interests and goals, and a list of three possible references to: **Professor Carl M. McDaniel, Department of Biology, Rensselaer Polytechnic Institute, Troy, N.Y. 12181. RPI is an Equal Opportunity/Affirmative Action Employer.**

Closing date: 1 February 1984.

POSTDOCTORAL NEUROPHYSIOLOGICAL POSITION available immediately to study central and peripheral neural control of gastrointestinal smooth muscle. Experience with computers, intracellular and extracellular recording techniques, neuroanatomical tracing techniques, and electronics is highly desirable. Interested candidate should send curriculum vitae and have three letters of reference sent to: **Dr. J. Krier, Department of Physiology, Michigan State University, East Lansing, Mich. 48824. Michigan State University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available for an individual with experience in molecular biology to conduct studies on gene expression and post-translational processing of enzymes involved in the degradation of opioid peptides. Position open 1 January 1984. Tax-free fellowship available. Send résumé and references to: **Dr. Louis Hersh, Department of Biochemistry, University of Texas Health Science Center, 5323 Harry Hines Boulevard, Dallas, Texas 75235. An Equal Opportunity University.**

POSITIONS OPEN

Ph.D. OR EQUIVALENT with postgraduate experience and expertise in biochemical or immunological aspects of host-parasite relationships is being sought for tenure-track position involving independent research and teaching. Must have grant support or evidence of potential. Experience in oral research preferred. Strong background in other areas considered. Rank and salary negotiable. Send résumé to: **Search Committee, Department of Basic Dental Sciences, University of Florida College of Dentistry, Box J-424, Gainesville, Fla. 32610, by 28 February 1984. Equal Opportunity/Affirmative Action Employer.**

PLANT PHYSIOLOGIST/PLANT MOLECULAR BIOLOGIST

The Department of Biology at Northeastern University is seeking a **PLANT PHYSIOLOGIST OR PLANT MOLECULAR BIOLOGIST** to interface with the existing plant science program. The appointment is at the assistant professor level and is a tenure-track position to begin September 1984. Candidates must have a Ph.D. degree in the area of plant physiology/plant molecular biology or a related plant science and postdoctoral experience in one of the above areas. We seek an individual with a demonstrated potential for developing an externally funded research program in plant physiology and/or plant molecular biology. The successful candidate will be expected to contribute to undergraduate and graduate student research. Applicants should submit curriculum vitae, statement of research plans and objectives, and three letters of reference by 31 January 1984 to: **Dr. Daniel C. Scheirer, Chairman Plant Physiology/Plant Molecular Biology Search Committee, Department of Biology, Northeastern University, 360 Huntington Avenue, Boston, Mass. 02115. Northeastern is an Equal Opportunity/Affirmative Action Title IX University.**

PLANT TISSUE CULTURE/ GENETIC ENGINEERING

Tenure-track appointment available 1 July 1984 at the assistant or associate professor level to conduct research aimed at developing strategies to bridge cellular and molecular approaches to plant improvement using tissue/cell culture, protoplast fusion, haploid culture, and/or genetic engineering techniques. Program development is expected to follow interests of the successful candidate, and basic as well as applied investigations will be encouraged. Teaching a graduate-level course and advising graduate students will be encouraged. Applicants must have a Ph.D. with emphasis in plant physiology and biochemistry. Deadline for receipt of application is 15 February 1984 or until a suitable candidate is located. Interested persons should send curriculum vitae and transcripts, and have three letters of reference forwarded to: **William J. Blackmon, Chairman of The Search Committee/Tissue Culture, Department of Plant Pathology and Crop Physiology, Louisiana State University, 302 Life Sciences Building, Baton Rouge, La. 70803. Louisiana State University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION, HUMAN CYTOGENETICS, available immediately, to investigate clinical applications of premature chromosome condensation and to participate in the operation of a high-volume clinical laboratory. Experience in mammalian cytogenetics and tissue culture required. One-year appointment, with possible extension. Send curriculum vitae and the names of three references to:

Dr. Kathleen E. Richkind
Vivigen, Inc.
550 St. Michaels Drive
Santa Fe, New Mexico 87501
Telephone: 505-988-9744
800-521-3249 (if calling from outside New Mexico)

POSTDOCTORAL POSITION in Cardiovascular Training Program. Position available immediately in a multidisciplinary program of research training in the biochemistry and physiology relating to CNS regulation of the cardiovascular system and salt and water balance. Strong emphasis is placed on the mechanisms of action of neuroendocrine peptides. The successful applicant will employ biochemical techniques to these problems within a physiological framework. The stipend is \$17,600 and U.S. citizenship or immigration visa is not required. Applicants holding either the Ph.D. or M.D. degree should submit curriculum vitae, bibliography, and three letters of reference to: **Robert R. Smeby, Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, Ohio 44106.**

POSITIONS OPEN

POSTDOCTORAL FELLOW. Position available immediately for recent Ph.D. in active research laboratory studying mechanism of dietary control in hepatic lipogenesis. Areas of work experience should include primary cell culture and measurement of enzyme activities and amounts. Knowledge of enzyme kinetics and experience with enzyme isolation and antibody production will be useful. Salary: \$18,820 per year. Send résumé to: **CHILDREN'S HOSPITAL MEDICAL CENTER, Personnel Department, 51st and Grove Streets, Oakland, Calif. 94609. Equal Opportunity Employer, M/F.**

POSTDOCTORAL POSITION is available commencing 1 February 1984 to study various aspects of calmodulin and Ca^{2+} -dependent regulatory systems. Candidates with training in biochemistry, particularly protein chemistry or enzymology, are preferred. Send résumé and three letters of recommendation to:

Dr. Thomas C. Vanaman
Chairman, Department of Biochemistry
University of Kentucky College of Medicine
Lexington, Ky. 40536-0084
An Equal Opportunity Employer

POSTDOCTORAL POSITIONS. Regulation of surfactant phospholipid synthesis and secretion in neonatal lung and cultured pneumocytes. Topics include regulatory enzymes in phosphatidylcholine synthesis, influence of hormones on fetal lung maturation, stimulation of surfactant production by labor, and mechanism and control of surfactant secretion. Experience in lipid biochemistry, enzyme purification, or tissue culture desirable. Apply with curriculum vitae and names of references to: **Seamus A. Rooney, Ph.D., Department of Pediatrics, Yale University, P.O. Box 3333, New Haven, Conn. 06510.**

POSTDOCTORAL POSITION

Available 1 February 1984 or later to study the enzymology and hormonal regulation of glycoprotein biosynthesis. A Ph.D. degree in biochemistry or related discipline, preferably with some experience in enzymology. Salary upward of \$17,500 per year, plus fringe benefits. Renewable after 1 year for up to 3 years. Send curriculum vitae and names of three references to: **Dr. Inder K. Vijay, Department of Animal Sciences, University of Maryland, College Park, Maryland 20742. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION. The Dana-Farber Cancer Institute is seeking to fill one **RESEARCH POSITION** at the postdoctoral level to study membrane and cytoskeletal proteins of cancer cells. Experience with two-dimensional gel electrophoresis, immunoblot, immunoprecipitation, isolation and purification of proteins, and messenger RNA isolation techniques necessary. Joint appointment will be held in an appropriate department of Harvard Medical School. Send curriculum vitae and names of three references to: **Dr. Samuel D. Bernal, DANA-FARBER CANCER INSTITUTE, 44 Binney Street, Boston, Mass. 02115. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately to study the structural organization of the transforming DNA sequences of human herpesviruses. Previous experience with molecular genetics/recombinant DNA techniques preferred. Send curriculum vitae to: **Dr. R. J. Jariwalla, Laboratory of Molecular Carcinogenesis, Linus Pauling Institute of Science and Medicine, 440 Page Mill Road, Palo Alto, Calif. 94306. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available March 1984, to study the genesis of transcellular ion currents and their role in fungal growth and morphogenesis. Experience in electrophysiology, bioenergetics, or developmental biology helpful, but ingenuity and an interest in exploratory research more important. Send curriculum vitae and names of three references to: **Dr. Franklin Harold, Department of Molecular and Cellular Biology, National Jewish Hospital, 3800 East Colfax Avenue, Denver, Colo. 80206.**

POSTDOCTORAL POSITION available immediately for recent Ph.D. for study of nucleic acid abnormalities in autoimmune disease using recombinant DNA techniques. Background in biochemistry and/or immunology desirable. Please submit statement of research interests and curriculum vitae to: **Dr. Charles Steinman, Director, Division of Rheumatology, State University of New York (SUNY)-Downstate Medical Center, 450 Clarkson Avenue, Box 42, Brooklyn, N.Y. 11203. Equal Opportunity/Affirmative Action Employer, M/F.**

**National Institutes of Health
Clinical Center
Nuclear Medicine Department
Biochemist (Ph.D.)
GS-1320-12 (\$29,374)**

Biochemist with experience in radiochemistry to join expanding group focused on development of new imaging agents. Incumbent will identify and also develop biochemical moieties for use as tracers of specific metabolic processes. Additionally, will develop and validate in-vitro testing of new radiopharmaceuticals.

Department is involved in extensive research programs in collaboration with the Institutes, including nuclear cardiology, utilization of monoclonal antibodies in diagnosis and therapy, positron emission tomography, and single photon emission tomography. Further collaborations are anticipated.

U.S. Citizenship required.

Position information and qualification requirements may be obtained by contacting:

Dr. William Eckelman
Head, Radiopharmaceutical Chemistry Section
Nuclear Medicine Department, NIH
Building 10, Room 1C-401, ACRF
(301) 496-5675
Bethesda, Maryland 20205

NIH is an equal opportunity employer.

RESEARCH TRIANGLE UNIVERSITIES

PLANT MOLECULAR BIOLOGY

Graduate and Postdoctoral Fellowships

Duke University, North Carolina State University at Raleigh, and the University of North Carolina at Chapel Hill together with the North Carolina Biotechnology Center have formed a Consortium to advance studies in plant molecular biology. With support from CIBA-GEIGY, R. J. Reynolds Industries, and the Biotechnology Center, the Consortium will provide graduate and postdoctoral fellowships in 1984 for study and research in plant molecular biology at the three Triangle universities. Each fellow will be based at one of the institutions, but will participate in activities involving faculty and students at all three institutions. The goal of the Consortium is to enhance the community of plant molecular biologists among the three institutions and participating companies.

The graduate student stipend is \$8,000 plus tuition, with an allowance for supplies and travel. The award is renewable for up to three years. The postdoctoral stipend is \$21,500 with an allowance for supplies and travel, renewable for up to two years.

Candidates should apply directly to the departments of their choice for admission and postdoctoral positions. Applications for a fellowship or inquiries about the program should be sent to the Biotechnology Center. Applications are due by February 15, 1984 and should include curriculum vitae, a summary of research interests, and the departments (graduate students) or faculty members (post-doctoral fellows) to whom you have applied. Applicants also should have three letters of reference and undergraduate and graduate transcripts sent to the Center.



NORTH CAROLINA BIOTECHNOLOGY CENTER
BOX 12235 · RESEARCH TRIANGLE PARK, NC · 27709

**SUPERVISORY
MICROBIOLOGIST/BIOLOGIST**
**National Institutes of Health
National Cancer Institute**

The National Cancer Institute has an opening for Chief of the Biological Carcinogenesis Branch of the Carcinogenesis Extramural Program.

Duties include planning, developing, directing and managing a national extramural program of basic and applied research concerned with the role of biological agents, genetic sequences, viral genes, and combinations of viral and cellular genes in carcinogenesis.

The position requires extensive knowledge of the scientific basis of biological carcinogenesis research; experience in planning, administration and evaluation of research carried out under the grant, contract and cooperative agreement mechanisms, experience with effective personnel management and supervision as well as experience in dealing with interrelationships between governmental, educational, industrial, and private research concerns.

In addition to three years of appropriate experience, minimum educational requirements include a 4 year course of study in an accredited college or university leading to a bachelor's degree with major study in microbiology, biology,

or chemistry. A doctorate or equivalent training in molecular biology or biochemistry is desirable.

This is a Civil Service Career-Conditional Appointment under the Merit Pay System at the GM-15 level with a salary range of \$48,553 to \$63,115 depending upon the qualifications of the applicant selected. Benefits include Civil Service Retirement, life and health insurance. This is a supervisory position and may require the incumbent to serve a one year probationary period.

Submit application (SF-171, Personal Qualifications Statement), current performance appraisal and names of 3 references to:

Ms. Rados
Cancer Personnel Office
Bldg. 31, Rm. 3A-35, 9000 Rockville Pike
Bethesda, MD 20205 Tel: 301/496-3337
Applications must be received or postmarked by
January 6, 1984.

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POSITIONS OPEN

POSTDOCTORAL POSITION IN HEAVY METAL CHEMISTRY

A postdoctoral research position in trace chemistry is available at the University of Georgia's Savannah River Ecology Laboratory beginning in 1984. Annual salary is \$20,000. Training in the biogeochemical cycling of trace metals is required and strong support courses in physical chemistry and/or chemical kinetics would be desirable. The individual will interact with a team of scientists developing a transfer model of heavy metals in aquatic systems as influenced by substrate-metal-ligand interactions and environmental factors. This also involves kinetic modeling of trace element speciation. Candidates must be U.S. citizens and must have completed Ph.D. degree. Deadline for application is 25 December 1983. Applicants should submit curriculum vitae, reprints of publication, and the names, addresses and telephone number of four references to:

Dr. Domy C. Adriano
Savannah River Ecology Laboratory
Drawer E
Aiken, S.C. 29801

Equal Opportunity/Affirmative Action Institution

POSTDOCTORAL POSITION available. Ongoing projects include: (i) temporal dissections of a pathway of cellular development using small molecule initiators and reversible blockers; (ii) molecular characterizations of recognition sites for above effectors, especially using cyclic nucleotide photoaffinity labels; (iii) protein phosphorylation-dephosphorylation and phospholipid analyses of pathway block points; (iv) structure-function analyses of a naturally produced, thiol-containing cyclic nucleotide blocker; and (v) analyses of two key enzymes governing "off-on" regulation of de novo cell wall formation. Projects involving developmental alterations in cytoskeletal elements are contemplated. Send inquiries and curriculum vitae to: **Dr. D. R. Sonneborn**, Zoology Research Building, 1117 West Johnson Street, Madison, Wis. 53706. *An Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately to study mRNA splicing in vitro and in vivo. Background in recombinant DNA technology, chemical synthesis of oligonucleotides and/or enzyme purification preferred. Send curriculum vitae and letters of reference to: **Dr. Ryszard Kole**, University of North Carolina at Chapel Hill, Department of Pharmacology and Cancer Research Center, 1030 FLOB 231H, Chapel Hill, N.C. 27514. *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION in experimental pathology to study the mechanisms of carcinogenesis in human epithelial stem cells and murine proadipocyte stem cells. Experiments will focus on the role of cellular immortalization and the development of defects in the integrated control of cell proliferation and differentiation in neoplastic transformation. [For reference see *PNAS* 79, 845 (1982); *J. Cell Biol.* 94, 400 (1982); *Cancer Res.* 45, 5139 (1983).] Applicants should have experience in cell culture, cell cycle analysis and molecular biology and biochemical techniques. Send curriculum vitae and three letters of recommendation to: **Dr. Robert E. Scott**, Section of Experimental Pathology, Mayo Clinic, Rochester, Minnesota 55905. *An Affirmative Action/Equal Opportunity Institution.*

POSTDOCTORAL RESEARCH ASSOCIATE. For recent Ph.D. for NIH-supported study of ventilatory muscle function and exercise physiology in the elderly. Salary: \$17,000 to \$20,000. Apply to: **Michael J. Belman, M.D.**, Respiratory Diseases Department, City of Hope Medical Center, 1500 East Duarte Road, Duarte, Calif. 91010.

POSTDOCTORAL/RESEARCH ASSOCIATE position available immediately. Ph.D. or M.D. with strong background in protein chemistry and/or immunochemistry to join established group studying RNA virus-related proteins in human breast cancer. Investigations involve the production of hybridomas and characterization of monoclonal antibodies to human virus-related proteins isolated from a breast carcinoma cell line. Candidate will also participate in ongoing preclinical and anticipated clinical studies with these monoclonal antibodies. Please send résumé and have three letters of recommendation sent to: **Ricardo Mesa-Tejada, M.D.**, Associate Professor of Pathology, Institute of Cancer Research, Columbia University, College of Physicians and Surgeons, 701 West 168 Street, New York, N.Y. 10032. *An Equal Opportunity/Affirmative Action Employer*

POSITIONS OPEN

POSTDOCTORAL AND PREDOCTORAL RESEARCH ASSOCIATE REPRODUCTIVE PHYSIOLOGY

The Roman L. Hruska Meat Animal Research Center, Clay Center, Nebraska, and Animal Science Department, University of Nebraska-Lincoln, seek postdoctoral and predoctoral associate to participate in research programs in reproductive physiology involving the study of folliculogenesis in the female bovine. Studies of relationship of thymic function to reproduction will also be initiated. Apply by 15 January with a detailed résumé of education, including college transcripts, experience, qualifications, and list of three references, to: **Dr. James E. Kinder**, Animal Science Department, University of Nebraska-Lincoln, Lincoln, Nebraska 68583-0908.

Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL RESEARCH ASSOCIATE. A position is available immediately for an individual interested in employing recombinant DNA technology to study oncogene expression and DNA sequence changes during experimental hepatic neoplasia. Candidates should have a recent Ph.D. in the area of mammalian cell biology or biochemistry and have experience with cell culture. Experience with use of recombinant DNA technology is desirable. Send curriculum vitae and the names of three references to: **James Yager, Ph.D.**, Department of Anatomy, Dartmouth Medical School, Hanover, N.H. 03756. *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION AVAILABLE PROFESSOR OF MATERIALS SCIENCE AND ENGINEERING

The Materials Science and Engineering Department of The Johns Hopkins University invites applications for a tenured faculty position at the rank of full professor.

Candidates should have a doctoral degree in either materials science and engineering or in a closely related discipline. Special preference will be given to candidates who are proficient in polymers and composite materials. The applicant selected will be expected to assist in expanding the undergraduate program as well as to conduct and supervise graduate research. A genuine commitment to excellence in teaching as well as research is required. The Materials Science and Engineering Department at Johns Hopkins is in a growth phase and the successful applicant will be encouraged to develop her or his particular area of expertise. *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

Candidates should send professional résumé containing teaching and research accomplishments and names of three referees by 1 February 1984 to:

Professor C. L. Chien
Department of Physics
The Johns Hopkins University
Baltimore, Md. 21218

An opening is available starting 1 February 1984 for an individual to assume responsibility for **OPERATING A PROTEIN SEQUENCING LABORATORY**, containing a Beckman 890 liquid-phase sequencer, an amino acid analyzer, and HPLC systems. Qualified candidates should have an M.S. or Ph.D. with experience in protein chemistry and a demonstrated aptitude for operating and maintaining complex laboratory equipment. Salary is commensurate with qualifications and experience. Applications containing full curriculum vitae and the names and addresses of three references should be sent to:

Dr. Carole J. Coffee, Associate Professor
Department of Biochemistry
University of Pittsburgh School of Medicine
Pittsburgh, Pa. 15261

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

RESEARCH ASSOCIATE—Will perform mathematically rigorous research on quantum gauge theories, including renormalization group theory and constructive quantum gauge theory on a lattice. Requirements include Ph.D. in mathematics or physics and 3 years of postdoctoral experience in the above areas. Must have proven ability to do extensive original research on ultraviolet problems in these areas, as evidenced through publications in leading scientific journals such as "Communications in Mathematical Physics." Salary: \$23,000. per annum. Send curriculum vitae and bibliography to: **Division of Employment Security, Hurley Building, Government Center, Boston, Mass. 02114**, and refer to: **Job Reference Number 4049.**

POSITIONS OPEN

PUBLICATIONS POSITION AVAILABLE

Publications manager/editor for a Washington-based national center for the life sciences. As chief staff editor for a 12,000-plus monthly scientific magazine, requires strong business and financial management skills, facility in use of editorial boards, effectiveness in advertising promotion and subscription development, and ability to direct staff writers and editors. Also involves support of overall communications and public relations activities. Postgraduate academic background in the life sciences with successful current responsibility in general readership periodicals important. Salary commensurate with competitive fringe benefits. Send complete résumé with present compensation to: **Box 327, SCIENCE.**

RESEARCH ASSISTANT PROFESSOR, BIO-CHEMISTRY. Qualifications: Ph.D. in biochemistry or chemistry, with 3 years of research experience in computerized mass spectrometry, including hands-on operation, maintenance, equipment modification, computer programming, and data interpretation. Salary negotiable. Contact: **R. A. Laine**, Department of Biochemistry, Louisiana State University, Baton Rouge, La. 70803. Closing date: 23 December 1983. *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE OR POSTDOCTORAL FELLOW

Position available for Ph.D. to work on molecular organization and behavior of protozoan genetic systems. Knowledge of protozoa essential, and experience with biochemical and microscopic techniques desirable. Salary competitive. Send curriculum vitae and three letters of reference to: **Walter Plaut**, Department of Zoology, University of Wisconsin, Madison, Wis. 53706.

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

RESEARCH ASSOCIATE. Position available for a person with at least one year of postdoctoral experience or extensive graduate training in molecular biology and/or protein and nucleic acid biochemistry to work on an immunologic project involving the characterization of intracytoplasmic proteins regulating nuclear DNA replication and the genes coding for these. Salary: \$15,000 to \$20,000, depending on qualifications. Send copy of curriculum vitae, bibliography, and three letters of reference to: **Dr. Stanley Cohen**, Professor of Pathology, University of Connecticut Health Center, Farmington, Conn. 06032. *An Affirmative Action/Equal Opportunity Employer, M/W/H.*

RESEARCH TECHNICIAN \$17,950 to \$19,600

Manhattan-East Side location. Assist in experiments involving isolation, purification, and cloning of nucleic acids; growing bacteria cells and screening for DNA recombinants. B.S. degree in biology, microbiology, or related fields. Experience in: bacterial culture and plasmid DNA isolation; tissue culture, gel electrophoresis background in mathematics and chemistry. Send résumé to: **R. N., P.O. Box 435, Lenox Hill Station, New York, N.Y. 10021.** *An Equal Opportunity Employer.*

SEDIMENTARY BIOGEOCHEMIST. The Department of Oceanography and Hawaii Institute of Geophysics, University of Hawaii, are searching for a creative marine scientist for a tenure-track position at the assistant or associate professor level, with interest in seawater-mineral interactions. Applicants should have talents for investigation of problems involving both organic and inorganic phases. The department and institute have a wide range of facilities available including research vessels and fully-equipped environmental chemistry, low-temperature geochemistry, and sedimentologic laboratories, as well as XRD, XRF, SEM, STEM, GC, LC, IR, Raman, microprobe, mass spectrometry, and radiochemical instrumentation. The scientist selected will be expected to develop a research and teaching program and to guide and support graduate students. Applications and names of three referees should be sent to: **Dr. Keith E. Chave**, Department of Oceanography, 1000 Pope Road, University of Hawaii, Honolulu, Hawaii 96822. Closing date: 1 January 1984 for starting date: 1 August 1984. *The University of Hawaii is an Equal Opportunity/Affirmative Action Employer.*

Molecular Geneticist

A challenging career opportunity currently exists in the expanding Biotechnology Section of the Celanese Research Company for a Ph.D. with proven expertise in the genetic manipulation of microorganisms.

The successful candidate will join our professional team of dedicated scientists engaged in developing microorganisms and processes for the production of a variety of chemicals. The primary responsibility of this R&D position will be to apply state-of-the-art genetic and recombinant DNA technology to industrially important microorganisms at various stages of development.

In addition to a Ph.D. in Bacterial Genetics or Molecular Biology, applicants must possess proven experience in the manipulation of bacteria (preferably gram-negatives) using classical genetic technology in addition to expertise in the manipulation of microorganisms using recombinant DNA technology. Good communication skills and the ability to relate to people at all levels is essential.

Located at our Corporate Research Center in Summit, N.J. this position offers a salary commensurate with credentials, and a comprehensive benefits package in addition to a professionally stimulating and rewarding environment.

To be considered for this exceptional opportunity please forward a resume with salary history in confidence to: **Employee Relations, Dept. SB2, Celanese Research Company, 86 Morris Ave., Summit, New Jersey 07901.**



ELANESE

We are an equal opportunity employer M/F/H/V

Summit Technical Center

Tumor Biologist

The Upjohn Company, a leader in the worldwide research, marketing, and production of pharmaceuticals, chemicals, and agricultural products, has an opening in its Cancer Research program for a Tumor Biologist. The principal duties of this scientist will be to study neoplasia with emphasis on such areas as metastasis, resistance, and heterogeneity in order to define new targets for chemotherapeutic intervention; to introduce and evaluate new animal models for the discovery and development of antitumor agents; and to supervise an *in vivo* screening program. The scientist will be responsible for developing a collaborative research program with biochemists and cell biologists and for publishing research results.

Candidates should have a Ph.D. in Pharmacology, Biochemistry, or related field with experience in tumor biology and the use of animal models for cancer. A demonstrated ability to conduct independent and collaborative laboratory research and to communicate results effectively is required. U.S. Citizenship, or a visa entitling the applicant to work in the U.S., is also required.

Upjohn offers a stimulating research environment, career potential, competitive salary (commensurate with experience), and an outstanding benefits package. Kalamazoo is a medium-sized southwest Michigan community with immediate access to a mix of excellent cultural, educational and recreational pursuits.

For confidential consideration, please call toll free Upjohn's Corporate Employment office at **1-800-253-8600** and ask for extension **3-6767**. In Michigan, call collect **616/323-6767**. Please refer to ad number 15548 when calling.

Upjohn

A Century of Caring

An Equal Opportunity Employer M/F

SPECIAL EXPERT NATIONAL INSTITUTES OF HEALTH PUBLIC HEALTH SERVICE

The National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) invites applications for the position of Special Expert in its Office of Planning and Analysis. This is a non-tenured position, lasting two (2) years, and is located in Bethesda, Maryland. The incumbent will assume a major role in the review, update and generation of research goals for the neurological and communicative sciences.

Applicants must possess an extensive background of professional training and successful research activity in neurological and/or communicative sciences; must show extensive ability to compile, write and edit scientific reports; and must possess the interpersonal skills necessary to plan, organize and conduct scientific meetings. An individual must have the same level of qualifications as required for the GS-13 grade level in the Federal government. Salary will be commensurate with the appointee's qualifications and expertise, but may not exceed Level V of the Executive Schedule (\$63,800/per annum).

Please submit a Standard Form 171 (Personal Qualifications Statement), curriculum vitae, and bibliography to: Mr. Clifford Schein, NINCDS Personnel Office, Building 31, Room 8A-23, 9000 Rockville Pike, Bethesda, Maryland 20205 (Telephone (301) 496-6334). All applications must be post marked no later than January 30, 1984.

The National Institute of Neurological and Communicative Disorders and Stroke is an Equal Opportunity Employer.



CENTOCOR

Centocor, Inc. is a rapidly growing company devoted to creating new and unique products by utilizing emerging biotechnologies. Current research programs are focused on applying hybridoma and recombinant DNA methodologies to the development of diagnostic and therapeutic reagents for use in the areas of cancer, immunoregulation and infectious disease. Positions are available for well-qualified individuals at the staff scientist and technical levels in the following categories:

MOLECULAR BIOLOGY—gene cloning and expression, eukaryotic gene expression, DNA chemistry, tumor virology and oncogene research.

BIOCHEMISTRY—determination of glycoprotein and polysaccharide structure, carbohydrate chemistry, standard lipid and protein techniques.

MICROBIOLOGY—pathogenic bacteriology, gram-negative bacterial outer-membrane structure, lipopolysaccharide chemistry.

SENIOR PRODUCT DEVELOPMENT SCIENTIST—scientist with Ph.D. in biochemistry; preferably with experience in immunoassay development, antigen/antibody purification, characterization and immunochemical techniques for the development of novel immunoassays.

Centocor offers attractive salaries and benefits, exceptional working conditions and a pleasant location in suburban Philadelphia.

Send curriculum vitae complete with references, indicating position desired to:

Vincent R. Zurawski, Jr., Ph.D.
Executive Vice President & Technical Director
Centocor, Inc.
244 Great Valley Parkway
Malvern, PA 19355

POSITIONS OPEN

RESEARCH ASSOCIATE to investigate the response of murine lymphocytes to mycoplasma mitogens. Ph.D. or equivalent and postdoctoral experience in microbiology required with background in cellular immunology, including experience in separation of lymphoid cells and the use of mitogenesis and plaque assays. At least one year of postdoctoral experience in mycoplasma isolation and culture, and the preparation of mycoplasma membrane components is also required. Salary: \$13,370 to \$22,000 commensurate with experience; 40 hours per week. Send curriculum vitae and three references to: **Dr. Gail H. Cassell, Microbiology Department, University of Alabama in Birmingham, Birmingham, Alabama 35294. Equal Opportunity/Affirmative Action Employer.**

RESEARCH SCIENTIST DRUG METABOLISM

The Gillette Research Institute, a division of The Gillette Company, has an opportunity for a research scientist.

Responsibilities for this newly created position will include investigating the absorption, distribution, metabolism, and excretion of various chemical substances and their metabolites. Position requirements: Ph.D. plus 1 to 2 years of experience in biochemistry or medicinal chemistry; or M.S. plus 5 to 6 years of similar experience. Bioanalytical methodology experience essential; working knowledge of current HPLC instrumentation desirable.

The Gillette Company is a leading worldwide manufacturer of consumer products. In addition to an exceptional opportunity for recognition and growth, we offer a comprehensive benefit/compensation package.

Candidates are requested to submit a comprehensive résumé, including publications, to:

A. J. Gass, Personnel Supervisor
Gillette Research Institute
1413 Research Boulevard
Rockville, Maryland 20850
Equal Opportunity Employer

STANFORD SYNCHROTRON RADIATION LABORATORY SENIOR RESEARCH ASSOCIATE

Two senior research associate positions in the x-ray division of the Stanford Synchrotron Radiation Laboratory (SSRL) will be available starting 1 March 1984.

The research associates will initiate programs in x-ray research at SSRL, such as x-ray scattering, x-ray absorption spectroscopy, Mossbauer spectroscopy, and x-ray interferometry. The research associates will also initiate instrumentation development for the PEP undulator beam line and the SPEAR x-ray scattering beam line, as well as for the existing experimental stations. The research associates will also consult with members of the user community to optimize usage of the x-ray facilities of SSRL.

Candidates should have at least three years of demonstrated research experience in x-ray research and/or x-ray instrumentation development, as well as experience in experimental data acquisition and control.

Interested candidates should submit curriculum vitae and the names of three references to: **Professor George Brown, Stanford Synchrotron Radiation Laboratory, SLAC Bin 69, P.O. Box 4349, Stanford, California 94305.**

The closing date for applications will be 1 February 1984. *Stanford University is an Affirmative Action/Equal Opportunity Employer.*

TROPICAL BOTANY

The Marie Selby Botanical Gardens invites applications for the position of **DIRECTOR OF RESEARCH**. Strong qualifications in tropical botany are expected, including a doctoral degree, research publications, and tropical field experience. The appointee is expected to establish and direct a research program in the area of systematics and/or ecology of epiphytic vascular plants, and to direct postdoctoral fellows and other scientific staff. Applicants should send curriculum vitae, a summary of future research interests, and references to: **George G. Loving, Executive Director, Marie Selby Botanical Gardens, 811 South Palm Avenue, Sarasota, Fla. 33577.**

POSITIONS OPEN

PARASITOLOGIST Department of Zoology University of Hawaii at Manoa

Assistant professor of zoology, tenure track, in animal parasitology, available August 1984. Applicants must have strong commitment to teaching and research. Competency in modern parasitology, emphasis in host-parasite interactions, specificity, physiology, development, or functional morphology desired. Teaching includes courses in parasitology and participation in cellular and general biology (Biology Program). Ph.D. required. Send curriculum vitae, statement of teaching philosophy, outline of previous and proposed research, representative publications, names of three references to: **Dr. F. I. Kamemoto, Chairman, Department of Zoology, University of Hawaii at Manoa, 2538 The Mall, Honolulu, Hawaii 96822, by 15 January 1984. The University of Hawaii is an Equal Opportunity/Affirmative Action Employer.**

TOXICOLOGIST. The College of Veterinary Medicine, University of Florida, seeks applications for a tenure-track position at the level of associate or full professor. Applicants should possess a Ph.D. in toxicology, pharmacology or related discipline, demonstrated excellence in research, and an active interest in teaching at the health professional and graduate levels. The D.V.M. degree or equivalent and Board-certification (ABVT) are desirable. The successful candidate will be expected to develop an independent research program. This appointment will take effect 1 July 1984.

Applicants should send detailed curriculum vitae, a statement of professional goals, and the names of three references to: **Chairman, Toxicology Search Committee, Box J136, JHMHC, University of Florida, Gainesville, Florida 32610.** Applications must be received by 30 January 1984.

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VASCULAR PLANT PHYSIOLOGIST

Montana State University (MSU) seeks a physiologist relating molecular processes to whole plant performance. Half time is allowed for development of a strong research program. Teaching responsibilities include an annual introductory plant physiology course and an alternate-year three-quarter graduate survey of plant biochemistry, control mechanisms, transport, and nutrition. This tenure-track, 10-month, assistant professor position begins 1 September 1984. It requires a Ph.D., teaching potential, and demonstrated research capability. Write for a more detailed description. Applications must be received by 1 March 1984. Please submit a statement of research interest, a résumé, transcripts, and three letters of recommendation to: **Plant Physiology Search Committee, Biology Department, Montana State University, Bozeman, Montana 59717. MSU is an Equal Opportunity/Affirmative Action Employer.**

VETERINARY PHYSIOLOGIST, assistant professor (fixed term appointment), 1 July 1984, to teach veterinary physiology and participate in ongoing research programs. Applicants must possess D.V.M. and/or Ph.D. and physiology teaching experience. Submit letter of application, résumé, and names of at least three references to: **Dr. Norman E. Hutton, College of Veterinary Medicine, Oregon State University (OSU), Corvallis, Oregon 97331-4802, by 15 February 1984. OSU is an Equal Opportunity/Affirmative Action Employer and complies with Section 504, Rehabilitation Act of 1973.**

VICE PROVOST

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Virginia Tech is a land-grant university with 22,500 students (4500 graduate students). Research and sponsored programs total about \$50 million annually.

This position has both on- and off-campus duties. Applicants should be eligible for senior faculty rank. Applications or nominations to: **201 Burruss Hall, Virginia Tech, Blacksburg, Va. 24061.** Applications must include a résumé and three recommendations and be received by 16 January 1984 or until the position has been filled.

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POSITIONS OPEN

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We offer a competitive salary commensurate with education and experience and excellent fringe benefits. Please send résumé in complete confidence to: **Supervisor, Staffing and Development, Department 5855, Research and Development Division, Revlon Health Care Group, 1 Scarsdale Road, Tuckahoe, New York 10707.**

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PROGRAMS

GRADUATE PROGRAM MARINE BIOLOGY IN CHARLESTON, SOUTH CAROLINA

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POSTDOCTORAL TRAINING PROGRAM IN CLINICAL PATHOLOGY. The Department of Pathology and Laboratory Medicine at the University of Texas Medical School at Houston is offering 2-year fellowships to qualified individuals beginning immediately. Separate programs are available in clinical chemistry, microbiology, immunology, hematology, and blood banking. Emphasis will be on both clinical service and research in the above areas. Candidates should have a Ph.D., M.D., or equivalent doctoral degree and should submit their curriculum vitae, three letters of recommendation, and a letter of career objectives to: **Stewart Sell, M.D., Chairman, Department of Pathology and Laboratory Medicine, University of Texas Health Science Center at Houston, P.O. Box 20708, Houston, Texas 77025. An Equal Opportunity Employer. Women And Minorities Are Encouraged To Apply.**

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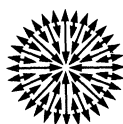
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THE MOUNT DESERT ISLAND (MDI) BIOLOGICAL LABORATORY announces 31 January 1984 as the deadline for applications for research space during the summer season, 1 June to 30 September 1984. Facilities for 30 research groups available. Applications for research space during other months may be submitted at any time. For further information, write or telephone: **Dr. David L. Wynes, Assistant Director, MDI Biological Laboratory, Salsbury Cove, Maine 04672. Telephone: 207-288-3605.**

CONVOCATION

THE ERNEST WITEBSKY CENTER FOR IMMUNOLOGY will present the **9TH INTERNATIONAL CONVOCATION ON IMMUNOLOGY** at the Buffalo, New York, Marriott Inn, 25 to 28 June 1984, on the theme **ANTIBODIES: PROTECTIVE, DESTRUCTIVE AND REGULATORY ROLE**. Sessions will focus on: production and function of antibodies; protective role of antibodies; antibodies to foreign cells; antibodies to neoplastic cells; regulatory mechanisms; autoantibodies; allergy; immune complexes; and administration of antibodies for prevention and therapy. Contact: **James F. Mohn, M.D., 210 Sherman Hall, State University of New York at Buffalo, New York 14214; telephone: 716-831-2848.**

SYMPOSIUM

FIRST WORLD CONGRESS ON THE ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)

16 to 17 FEBRUARY 1984, NEW YORK, N.Y.

This international symposium will address the subject of AIDS in detail bringing together leading clinical and laboratory investigators to discuss AIDS clinical features, epidemiology, laboratory markers, infections, Kaposi's sarcoma, and current therapy. Preregistration is required and the number of participants is limited to 500. Call or write:

**Drug Development Institute of America, Inc.
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Telephone: 201-431-3801**

REQUEST FOR PROPOSALS

The State of Maine Department of Marine Resources requests proposals for the design of a research program to evaluate the impact of mussel (*Mytilus edulis*) dragging and scallop (*Placopecten magellanicus*) dragging on the long-term productivity of the marine substrate and habitat of those Maine coastal waters in which such fishing takes place. The request for proposals may be obtained from: **Penn Estabrook, Department of Marine Resources, State House Station 21, Augusta, Maine 04333, or telephone: Jeanette Underwood at 207-289-2291.**

Proposals will be accepted until 11 January 1984 at 10 a.m.

FELLOWSHIPS

Herbert H. Jasper Postdoctoral Research Fellowship in Neuroscience available. Position provides first year's salary and use of the exceptional facilities of the Center for Research in Neurological Sciences. Recipient works closely with investigator of choice, within a large group currently studying a wide range of topics in the vertebrate nervous system. Further information and application forms available from: **Fellowship Committee, Centre de recherche en sciences neurologiques, Faculté de médecine, Université de Montréal, C.P. 6128, Succ. A, Montréal, Québec, Canada H3C 3J7. Deadline: 28 February 1984.**

FELLOWSHIPS

DOCTOR OF ARTS IN BIOLOGY: FELLOWSHIPS are available for qualified persons interested in the D.A. degree in biology. The program stresses preparation for undergraduate teaching at colleges and universities. Applicants should hold a master's degree in some area of biology. Deadline for receipt of application is 1 March 1984. For more information, contact: **Chairman, D.A. Committee, Department of Biology, Idaho State University, Pocatello, Idaho 83209. An Equal Opportunity Employer.**

GRADUATE PROGRAM PHYSIOLOGY AND BIOPHYSICS

Predocutorial fellowships are available in highly active research and training programs of neurobiology, cell and membrane biology, and integrative physiology. Highly competitive stipends include full payment of tuition. Thirty pre- and postdoctoral students are currently enrolled in these programs. Participating faculty are: **K. H. Berecek** (cardiovascular physiology), **R. J. Bradley** (biophysics and neurobiology), **S. M. Cain** (respiratory physiology), **S. T. Christian** (brain chemistry), **D. R. DiBona** (structure and function of epithelia), **F. F. Feagin** (calcium metabolism), **M. J. Friedlander** (vision neurobiology), **R. A. Frizzell** (ion transport), **M. C. Goodall** (membrane biophysics), **A. L. Goodman** (reproductive biology), **G. R. Hageman** (neural control of the heart), **J. H. Halsey, Jr.** (cerebral vascular physiology), **L. L. Hefner** (cardiovascular physiology), **L. G. Navar** (renal physiology), **J. D. Neill** (neuroendocrinology), **S. Oparil** (cardiovascular physiology), **H. W. Overbeck** (hemodynamics), **C. S. Pace** (cell endocrinology), **G. V. Pegrum** (neurobiology of sleep), **J. A. Schafer** (membrane transport), **C. S. Schneyer** (salivary glands), **G. M. Schoepfle** (neurophysiology), **R. L. Shoemaker** (membrane transport), **D. L. Sparks** (vision neurophysiology), **D. W. Urry** (membrane biophysics), and **W. T. Woods** (cardiac electrophysiology). Contact: **Professor J. D. Neill, Department of Physiology and Biophysics, University of Alabama in Birmingham, Birmingham, Ala. 35294; telephone: 205-934-4186. Equal Opportunity/Affirmative Action Institution.**

POSTDOCTORAL FELLOWSHIPS are available for training in a program of infectious diseases and basic microbiology. Major areas of emphasis include genetics of host-parasite interactions, genetics of bacterial pathogens, cellular immunology, prokaryotic and eukaryotic molecular biology, and virology. The fellowships are part of a NIAID training grant and therefore only U.S. citizens or permanent residents can be considered. Interested individuals with a Ph.D. or M.D. degree should send curriculum vitae, reprints, names and addresses of three references, and a brief description of research experiences to: **Dr. Gayle Knapp, Department of Microbiology, University of Alabama in Birmingham, Birmingham, Alabama 35294. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOWSHIPS available for persons completing graduate studies to train in Epstein-Barr virus molecular biology. Areas include: virus-epithelial cell interactions; in vitro mutagenesis of EBV DNA fragments and expression in recipient cells, relation of EBV infection and oncogene expression. Established training program. Excellent colleagues, environment, and facilities. Please send curriculum vitae and three letters of recommendation to: **Joseph S. Pagano, Cancer Research Center, Box 3, Swing Building 217H, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27514. An Affirmative Action/Equal Opportunity Employer.**

LUDWIG INSTITUTE FOR CANCER RESEARCH (Cambridge Branch) Postdoctoral Fellowship

Applications are invited from individuals having a background in biochemistry/molecular biology to participate in studies on the genetics and cell biology of human cytoskeletal tropomyosins. The Institute, which is adjacent to the Laboratory of Molecular Biology, offers an opportunity to join a group working in a stimulating academic environment. The position is available from 1 February 1984, for 2 years with a possibility of further renewal. Salary is within the scale £7,190 to £10,710.

Applications, including curriculum vitae and two letters of reference, should be sent to: **Dr. A. R. MacLeod, Ludwig Institute for Cancer Research, MRC Centre, Hills Road, Cambridge, England CB2 2QH.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP available 1 July 1984. Studies include insulin and glucocorticoid action in the liver in normal and altered metabolic states and insulin receptor regulation and function. Send résumés to: **John M. Amatruda, M.D., University of Rochester, School of Medicine and Dentistry, 601 Elmwood Avenue, Rochester, New York 14642. American citizens or permanent visa status.**

POSTDOCTORAL RESEARCH FELLOWSHIP available on NIH training grant in respiratory physiology beginning July 1984. Send résumé plus the names of two references to:

**Dr. S. M. Tenney
Department of Physiology
Dartmouth Medical School
Hanover, N.H. 03756**

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ENDOCRINOLOGY-METABOLISM FELLOWSHIP with major emphasis on diabetes mellitus. Research oriented with clinical exposure. M.D. required. Contact: **Robert V. Farese, M.D., University of South Florida Diabetes Center, 12901 North 30 Street, Box 45, Tampa, Florida 33612. The University of South Florida is an Equal Opportunity Employer.**

The American Museum of Natural History announces a limited number of resident **RESEARCH FELLOWSHIPS AND CURATORIAL FELLOWSHIPS** available to postdoctoral researchers and established scholars starting in summer and fall 1984. Research areas include vertebrate and invertebrate zoology, paleozoology, anthropology, mineral sciences and the field of museum education as it relates to natural history museums or planetariums. Deadline for most applications is 15 March; deadline for Frank M. Chapman and Elsie Binger Naumburg Fellowships is 15 January. Request information booklet and application from: **Office of Grants and Fellowships, American Museum of Natural History, 79 Street and Central Park West, New York, New York 10024.**

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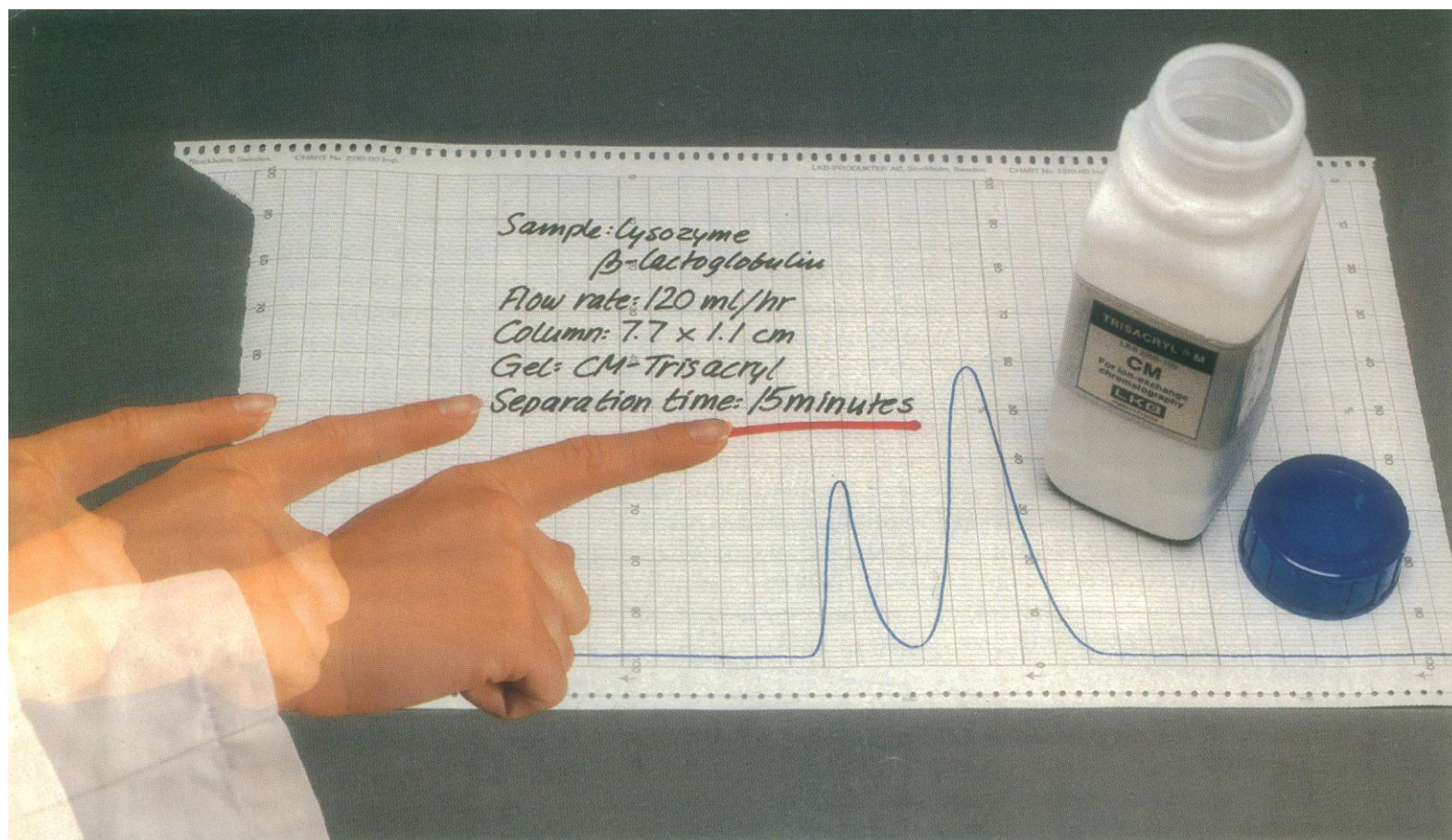
POSTDOCTORAL FELLOWSHIP. Department of Microbiology and Immunology; Emory University, Atlanta, Georgia. Successful applicants will participate in studies on the lymphoid and phagocytic cells of the inflammatory response in experimentally induced rat arthritis. Experience in immunological identification of cell surface markers is desirable but not mandatory. Applicants should submit curriculum vitae to: **Dr. John K. Spitznagel, Department of Microbiology and Immunology, Emory University, 502 WMB, Atlanta, Ga. 30322. Emory University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH FELLOWSHIP. To study the transformation-associated protein p53. The appointment will involve work with existing recombinant DNA systems that direct the expression of p53 protein in eukaryotic cells. Appropriate technologies including oligonucleotide synthesis are available on site. There is considerable scope for independent research. Suitable experience might include SV40/adenovirus biology, DNA-mediated gene transfer, and so forth. The appointment is for a period of 3 years and salary in the range £7,190 to £14,125 per annum. Applications, full curriculum vitae, and the names of two referees to: **Dr. J. R. Jenkins, Marie Curie Research Institute, The Chart, Oxted, Surrey, United Kingdom.**

GRADUATE STUDY

GRADUATE STUDY IN VETERINARY MICROBIOLOGY

Murray State University, Murray, Kentucky, is seeking applicants for a position as graduate research assistant in microbiology. The Department of Biological Sciences and the University Veterinary Diagnostic Center are offering a joint appointment leading to an M.S. degree in biology. Applicants must have earned a bachelor of science degree and should have completed 15 hours in microbiology/immunology. Applications from persons with research experience in veterinary microbiology will be preferred. The stipend will be \$500 per month for a 24-month award beginning in fall 1984. Send applications to: **Dr. James Stuart, Department of Biological Sciences, Murray State University, Murray, Kentucky 42071.**



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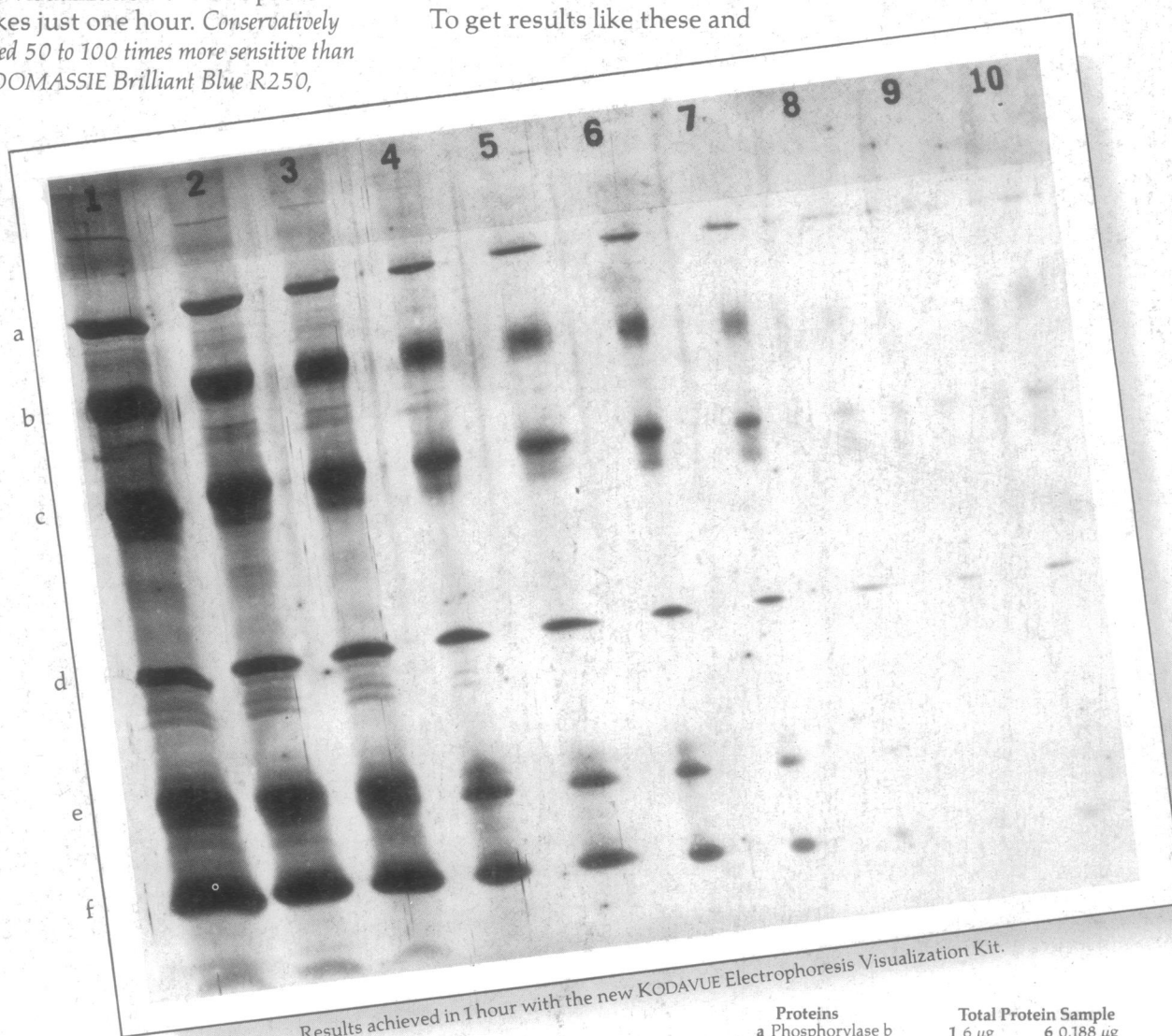
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