

behavior. The reviews, valuable for their extensive lists of references, commonly emphasize what has not been done. Mares's introductory chapter lists almost 300 references, and several of the other authors give approximately 200. Thus the book is a good entrée into the literature of South American mammalogy. Some reviews provide significant new data and new interpretations. Most notable are the fine review by Wetzel of the systematics and general biology of the 29 species of edentates and Franklin's discussion of the ecology of the four species of camelids—llama, alpaca, guanaco, and vicuna. Mayer and Brandt provide a wealth of natural history data on the peccaries, including their own observations on the ecology of the recently discovered Chacoan peccary, *Catagonus*. Woods provides a well-reasoned review of the systematics of the New World rodents commonly known as the caviomorphs. He would have us call them the South American hystricognath rodents, in order to avoid the ambiguities associated with the name Caviomorpha. He provides an analysis of blood protein similarities of 16 genera and presents a classification of the whole group, together with a discussion of many anatomical features and the probable evolutionary history of several families.

Ecology is well represented in the volume. Much is straight descriptive ecology, but there are interesting comparisons and some intriguing observations. Eisenberg and Redford compare mammalian faunas of southern South America and an equivalent area of North America. They conclude that the two faunas are remarkably similar in body size and niche occupancy. In a study of adaptive zones, however, Glanz notes a paucity of arboreal mammals in the temperate forests of South America. Frugivory is important in tropical South America, but frugivorous mammals are surprisingly rare in the temperate forests. Several authors note that the cricetid rodents are remarkably insectivorous in South America, perhaps because of the near absence of Insectivora from the continent. Pearson and Pearson report high density and diversity of small mammals, feeding heavily on fungi, in the southern beech forests (*Nothofagus*). This contrasts with the low density and diversity of other vertebrates in these forests.

A large number of distribution maps are included; however, these vary considerably in their accuracy. Some maps, like those provided by Wetzel, are based on extensive examination of museum specimens and are accurate representations of the Recent ranges of the species.

(Because of extensive habitat destruction few range maps are actually current.) Other distribution maps are based only on the literature, and these contribute to or perpetuate the errors of the past—misidentifications and taxonomic confusion—and do not include more recent range extensions. In the introduction we are chided by the editors that if we do not like the range maps we should prepare better ones, and that is fair enough; but it seems unfortunate that there is almost an inverse relationship in this volume between the amount of zoogeographic analysis conducted and the accuracy of the maps on which it is based. Some significant zoogeographic conclusions are reached, nonetheless. A thorough study of the mammals of Paraguay has led Myers to conclude that the Paraguay River separates two different faunas. He documents that this results from different habitats' being separated by the river and is not due to a past vicariant event. Similarly, Koopman tests vicariance biogeography with an examination of the bat fauna of South America and finds little evidence that vicariant events, like the rise of the Andes, have influenced the evolution and present distribution of these animals. Cerqueira discusses the dynamic changes in climate of South America during the Quaternary and possible effects on mammalian distribution. This is the only chapter in which the role of refugial forests is treated in depth. Like many other authors, Cerqueira is handicapped by our lack of knowledge about the ecology of the animals and of the Recent and Pleistocene forests. Unlike some authors, he does not try to force all distributions of Recent mammals into the orthodoxy of refugium theory, but rather points out a number of cases that do not fit the theory. Even then, some of his hypotheses seem forced, like his improbable scenario for the origin of the genera of marmosets and tamarins (*Callitrichidae*).

Conservation is a recurrent theme in this volume. Robinson and Ramirez review the many factors that affect a species's chances of going extinct, with particular reference to primates. They stress the importance of reproductive rate, large body size and susceptibility to hunting, the animal's ecology and the fluctuating availability of its resources, and genetic factors associated with small population size. The emphasis is naturally on the present and the future, but life-history characteristics affecting local extinctions are becoming of far greater concern to historical biogeographers as well. The capability of a species to survive in

small relict forests, gallery forests, and savannah habitats must have greatly influenced its distribution during interpluvial periods, and hence the manner in which its present distribution reflects the location of the large refugial forests. In a depressing chapter, Ojeda and Mares discuss the conservation problems in Argentina, documenting in particular the commercial use of the wildlife and its devastating effect on the distributions of large slow-breeding mammals. But it is Mayer and Brandt who best epitomize the plight of the South American fauna and the problems facing zoologists with their closing remark: "It would be ironic indeed if this species [the Chacoan peccary], thought to be extinct until the mid-1970's, were in fact to become extinct before the end of this century."

This concern with habitat destruction and high rates of extinction permeates the round table discussions of conservation and research priorities. The studies we wish to conduct of the South American fauna must be done soon, for the opportunities are disappearing rapidly. Many studies can best be done by South Americans themselves, and it is certainly they who must establish conservation programs in their native countries. The need to train competent South American mammalogists and ecologists is repeatedly emphasized, together with some of the difficulties of doing so. *Mammalian Biology in South America* is a worthy contribution to this cause. It is well illustrated, carefully edited, and surprisingly inexpensive.

RICHARD W. THORINGTON, JR.
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Washington, D.C. 20560

Books Received

Acid Rain. Robert H. Boyle and R. Alexander Boyle. Nick Lyons Books (Schocken), New York, 1983. 146 pp. Cloth, \$14.95; paper, \$8.95.

Acoustical Measurements. Methods and Instrumentation. Harry B. Miller, Ed. Hutchinson Ross, Stroudsburg, Pa., 1982 (distributor, Van Nostrand Reinhold, New York). xviii, 410 pp., illus. \$53. Benchmark Papers in Acoustics, vol. 16.

Advanced Automation for Space Missions. Proceedings of a NASA/ASEE Summer Study. Santa Clara, Calif., June 1980. Robert A. Freitas, Jr., and William P. Gilbreath, Eds. NASA Scientific and Technical Information Branch, Washington, D.C., 1982 (available from the Superintendent of Documents, Washington, D.C.). viii, 388 pp., illus. Paper, \$9.50. NASA Conference Publication 2255.

Advanced Exercises in Microeconomics. Paul Champsaur and Jean-Claude Milleron. Translated from the French edition (1971) by John P. Bonin and Hélène Bonin. Harvard University Press, Cambridge, Mass., 1983. viii, 280 pp. \$27.50.

Conformation in Biology. A Collection of Scientific Articles on the Frontiers of Biomolecular Conformation and interactions and Their Relevance to Biological Expression, Released at the International Symposium on Molecular Biophysics and Biocrystallography Held at Madras University, Madras, (Continued on page 90)

BOOK REVIEWS

(Continued from page 50)

India, December 28-31, 1982, in Honor of Professor G. N. Ramachandran F.R.S., and in Connection with His 60th Birthday Celebrations. R. Srinivasan and Ramaswamy H. Sarma, Eds. Adenine Press, Guilderland, N.Y., 1982. xviii, 484 pp., illus. \$89.

Conscientious Evolution. Herbert F. Mataré. Carlton, New York, 1982. 314 pp. \$9.75.

Consciousness and Self-Regulation. Advances in Research and Theory. Vol. 3. Richard J. Davidson, Gary E. Schwartz, and David Shapiro, Eds. Plenum, New York, 1983. xx, 222 pp., illus. \$25.

Continental Endogenous Regimes. V. V. Belousov. Translated from the Russian edition (Moscow, 1978) by V. Agranat and Yu. Prizov. Mir, Moscow, 1982 (U.S. distributor, Imported Publications, Chicago). 296 pp., illus. \$10.

The Control of Exposure of the Public to Ionizing Radiation in the Event of Accident or Attack. Proceedings of a symposium, Reston, Va., Apr. 1981. National Council on Radiation Protection and Measurements, Bethesda, Md., 1982. viii, 282 pp., illus. Paper.

Cooperation and Competition in Humans and Animals. Andrew M. Colman, Ed. Van Nostrand Reinhold, New York, 1982. x, 300 pp., illus. \$32.50. The Comparative Psychology of Animals and Humans.

Coordination Polymerization. Proceedings of a symposium, Atlanta, Mar. 1981. Charles C. Price and Edwin J. Vandenberg, Eds. Plenum, New York, 1983. x, 332 pp., illus. \$42.50. Polymer Science and Technology, vol. 19.

Dialogues on the Psychology of Language and Thought. Conversations with Noam Chomsky, Charles Osgood, Jean Piaget, Ulric Neisser and Marcel Kinsbourne. Robert W. Rieber, Ed. Plenum, New York, 1983. viii, 166 pp., illus. \$19.50. Cognition and Language.

Dictionary of Energy. Malcolm Slesser, Ed. Schocken, New York, 1983. xii, 300 pp., illus. \$29.95.

Dictionary of Information Technology. Dennis Longley and Michael Shain. Wiley-Interscience, New York, 1983. x, 382 pp., illus. \$34.95.

Differential Geometry and Mathematical Physics. Papers from meetings, Liège, May 1980, and Leuven, Feb. 1981. M. Cahen, M. De Wilde, L. Lemaire, and L. Vanhecke, Eds. Reidel, Boston, 1982 (distributor, Kluwer Boston, Hingham, Mass.). viii, 188 pp. Paper, \$28.50. Mathematical Physics Studies, vol. 3.

Excavation and Grading Code Administration, Inspection, and Enforcement. C. Michael Scullin. Prentice-Hall, Englewood Cliffs, N.J., 1983. x, 406 pp., illus. \$39.95.

Excited States. Vol. 5. Edward C. Lim, Ed. Academic Press, New York, 1982. xii, 204 pp., illus. \$49.50.

Extended Linear Chain Compounds. Vol. 3. Joel S. Miller, Ed. Plenum, New York, 1983. xviii, 562 pp., illus. \$55.

Finance and Utilization of Solar Energy. Proceedings of a conference, Santa Cruz, Calif., Oct. 1981. Narinder S. Kapany, Ed. Center for Innovation and Entrepreneurial Development, University of California, Santa Cruz, 1982 (distributor, American Solar Energy Society, New York). vi, 130 pp., illus. Paper, \$30. Progress in Solar Energy Supplement.

The Finite Element Method for Engineers. Kenneth H. Huebner and Earl A. Thornton. Wiley-Interscience, New York, ed. 2, 1983. xxii, 624 pp., illus. \$37.50.

Forecasting the Telephone. A Retrospective Technology Assessment. Ithiel de Sola Pool. Ablex, Norwood, N.J., 1983. xx, 162 pp. \$21.50. Communication and Information Science.

Human Milk and Infant Formula. Vernal S. Packard. Academic Press, New York, 1982. x, 272 pp. \$29.50. Food Science and Technology.

Human Nutrition. Murray M. Tuckerman and Salvatore J. Turco. Lea and Febiger, Philadelphia, 1983. viii, 376 pp., illus. \$28.50.

Human Sexuality. Morton G. Hartz and Melinda A. Novak. Harper and Row, New York, 1983. xxviii, 596 pp., illus. \$22.95.

Immune Mechanisms in Renal Disease. Nancy B. Cummings, Alfred F. Michael, and Curtis B. Wilson, Eds. Plenum, New York, 1983. xxviii, 564 pp., illus. \$65.

Immunoglobulines D et Immunité Informatrice. Michel Fontaine. Maloine, Paris, 1982. 398 pp., illus. Paper, 170 F.

Immunopharmacology. Pierre Sirois and Marek Rola-Pleszczynski, Eds. Elsevier, New York, 1982. xxiv, 426 pp., illus. \$97.75. Research Monographs in Immunology, vol. 4.

Limb Development and Regeneration. Proceedings of a conference, Storrs, Conn., June 1982. Liss, New York, 1982. Two volumes. Part A. John F.

Fallon and Arnold I. Caplan, Eds. xxxii, 640 pp., illus. \$68. Part B. Robert O. Kelley, Paul F. Goetnick, and Jeffrey A. MacCabe, Eds. xxxii, 438 pp., illus. \$46. Progress in Clinical and Biological Research, vol. 110.

Linear Algebra. An Introduction. A. O. Morris. Van Nostrand Reinhold, New York, ed. 2, 1982. viii, 204 pp. Paper, \$16.95. VNR New Mathematics Library, 9.

Literature and Science and Medicine. Serge Soupel and Roger A. Hambridge. William Andrews Clark Memorial Library, University of California, Los Angeles, 1982. viii, 104 pp. Paper, \$7.50.

Livestock in Asia. Issues and Policies. Papers from a conference, Singapore, Mar. 1982. Jeffrey C. Fine and Ralph G. Lattimore, Eds. International Development Research Centre, Ottawa, Canada, 1982. 192 pp., illus. Paper. IDRC-202e.

Living Images. Biological Microstructures Revealed by Scanning Electron Microscopy. Gene Shih and Richard Kessel. Science Books International, Boston, 1982. xiv, 156 pp., illus. Cloth, \$24.95; paper, \$14.95.

Male Reproduction and Fertility. Papers from a meeting, Mexico City. Andrés Negro-Vilar, Ed. Raven, New York, 1982. xvi, 390 pp., illus. \$75.

Nonionizing Radiation Protection. Michael J. Suess, Ed. World Health Organization Regional Office for Europe, Copenhagen, 1982 (U.S. distributor, WHO Publications Centre USA, Albany, N.Y.). viii, 268 pp., illus. Paper, \$14.50. WHO Regional Publications European Series No. 10.

Nuclear Chemistry. Glenn T. Seaborg and Walter Loveland, Eds. Hutchinson Ross, Stroudsburg, Pa., 1982 (distributor, Van Nostrand Reinhold, New York). xviii, 490 pp., illus. \$75. Benchmark Papers in Physical Chemistry and Chemical Physics, vol. 5.

Offshore Adventure. A Pictorial History of the Norwegian Petroleum Industry. Thorvald Buch Hansen, Odd Jan Lange, Håkon Lavik, and Willy Håkon Olsen. Photographs by Leif Berge. Universitetsforlaget, Oslo, 1983 (U.S. distributor, Columbia University Press, New York). 160 pp. \$44.

The Open Universe. An Argument for Indeterminism. Karl R. Popper. Rowman and Littlefield, Totowa, N.J., 1982. xxii, 186 pp. \$23.50. A volume of the *Postscript to the Logic of Scientific Discovery*.

Physics and Biology. M. V. Volkenstein. Translated from the Russian edition (Moscow, 1980). Academic Press, New York, 1982. viii, 166 pp., illus. \$24.

Physics of Weakly Ionized Gases. Problems and Solutions. B. M. Smirnov. Translated from the Russian edition (1978) by Oleg Glebov. Mir, Moscow, 1982 (U.S. distributor, Imported Publications, Chicago). 432 pp., illus. \$12.

Physiological and Pathological Aspects of Eye Movements. Proceedings of a workshop, Habay-la-Neuve, Belgium, Mar. 1982. A. Roucoux and M. Crommelinck, Eds. Published for the Commission of the European Communities by Junk, The Hague, 1982 (U.S. distributor, Kluwer Boston, Hingham, Mass.). x, 448 pp., illus. \$76. Documenta Ophthalmologica Proceedings Series, vol. 34.

Physiology and Biochemistry of Seeds in Relation to Germination. Vol. 2. Viability, Dormancy, and Environmental Control. J. D. Bewley and M. Black. Springer-Verlag, New York, 1982. xii, 376 pp., illus. \$54.

Quantitative Risk Assessment in Regulation. Papers from a conference, Washington, D.C., May 1981. Lester B. Lave, Ed. Brookings Institution, Washington, D.C., 1983. xii, 264 pp. Cloth, \$26.95; paper, \$10.95. Studies in the Regulation of Economic Activity.

Quantum Theory and the Schism in Physics. Karl R. Popper. Rowman and Littlefield, Totowa, N.J., 1982. xx, 230 pp. \$27.50. A volume of the *Postscript to the Logic of Scientific Discovery*.

Quarks, Leptons and Gauge Fields. Kerson Huang. World Scientific, Singapore, 1982 (U.S. distributor, Heyden, Philadelphia). x, 282 pp. \$35.

The Radiological Examination of the Colon. Practical Diagnosis. Roscoe E. Miller and Jovitas Skucas. Nijhoff, The Hague, 1983 (U.S. distributor, Kluwer Boston, Hingham, Mass.). xii, 360 pp., illus. \$128. Series in Radiology, 3.

Reactive Intermediates. Vol. 3. R. A. Abramovitch, Ed. Plenum, New York, 1983. xiv, 630 pp., illus. \$59.50.

Regression Analysis of Survival Data in Cancer Chemotherapy. Walter H. Carter, Jr., Galen L. Wampler, and Donald M. Stablein. Dekker, New York, 1983. x, 210 pp., illus. \$35. Statistics, vol. 44.

Treatise on Materials Science and Technology. Vol. 24. Preparation and Properties of Thin Films. K. N. Tu and R. Rosenberg, Eds. Academic Press, New York, 1982. xii, 338 pp., illus. \$48.

Waterworks. An Owner-Builder Guide to Rural Water Systems. Michael Hackleman. Doubleday, Garden City, N.Y., 1983. xvi, 172 pp., illus. Paper, \$14.95. Dolphin Books.

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EXECUTIVE DIRECTOR

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Curtis D. Klaassen, Ph.D.
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ASSISTANT PROFESSOR OF ENTOMOLOGY. Tenure track. Horticultural entomology. Research (60 percent) involves: (i) the biological control of horticultural insect pests, particularly those of food crops, and (ii) insecticide efficacy for specific management situations in horticultural crops. Extension (40 percent) responsibilities include the development and implementation of management recommendations for horticultural insects in Kansas. Qualifications: Ph.D. in entomology, with training and experience in biological control of insects affecting plant production, is required. Background or experience in horticultural insects and production of horticultural crops is desirable. Application deadline: 15 August 1983. Send letter of application, résumé, transcripts, and names and addresses of three references to: Dr. Robert G. Helgesen, Department of Entomology, Kansas State University, Manhattan, Kans. 66506. *Kansas State University is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF ENTOMOLOGY. Extension specialist. Tenure track. Residential extension entomology. Responsibilities involve development and implementation of statewide extension programs in entomology with emphasis on insects associated with residential environments. Primary emphasis is on structural insect pests, nuisance insects, stored product insects, and insects of lawn, garden, and landscape. Qualifications: Ph.D. in entomology, understanding of pest control concepts for residential environments, experience and/or training in economic entomology, and good communication skills are required. Experience in extension and horticultural or urban entomology is desirable. Application deadline: 1 August 1983. Send letter of application, résumé, transcripts, and names and addresses of three references to: Dr. Robert G. Helgesen, Department of Entomology, Kansas State University, Manhattan, Kans. 66506. *Kansas State University is an Affirmative Action/Equal Opportunity Employer.*

BIOCHEMIST/MOLECULAR BIOLOGIST (GS-11 level) to join a multidisciplinary program studying the molecular mechanisms of blood pressure regulations. Expertise in isolation and characterization of tissue proteins, molecular immunology, or tissue culture essential. Educational background in chemistry plus 3 years of experience. Ph.D. or equivalent. U.S. citizenship required. Contact: Carol Rossano-Baca, Veterans Administration Medical Center, 16111 Plummer Street, Sepulveda, Calif. 91343. Telephone: 213-891-2381.

DIVISION CHAIR Animal and Veterinary Sciences

West Virginia University invites nominations and applications for the chair of the Division of Animal and Veterinary Sciences. A Ph.D. in an agricultural or related science and an established reputation in research and teaching are required. Experience in the land-grant university system and administrative experience are highly desirable.

The Division of Animal and Veterinary Sciences includes disciplines of dairy, livestock, poultry, and food science and is one of four divisions in the College of Agriculture and Forestry.

A letter of application, a career résumé, and names of four persons qualified to provide references should be sent to: Dr. E. C. Townsend, Search Committee, P.O. Box 6108, College of Agriculture and Forestry, West Virginia University, Morgantown, West Virginia 26506-6108. Applications will be received until 15 August 1983. *The University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR

Applications are invited for a position in experimental pathology in the Vascular Research Laboratory of the Department of Pathology and Banting and Best Diabetes Centre. Candidates should have training in the study of mechanisms of disease preferably in relation to vascular disease. A sound knowledge of biochemistry and experience with using animal models of disease are important considerations. The individual will participate in medical undergraduate and postgraduate education.

In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. Letter of inquiry and application with full curriculum vitae to:

Dr. Avrum I. Gotlieb
Department of Pathology
University of Toronto
Medical Sciences Building
1 King's College Circle
Toronto, Ontario, Canada M5S 1A8

ASSISTANT PROFESSORS OF MOLECULAR PHARMACOLOGY AND NEUROPHARMACOLOGY

Applications are invited for a tenure-track position as assistant professor of molecular pharmacology. Applicants should possess a strong orientation to modern biochemistry and molecular biology and the application of these disciplines to pharmacological investigations.

The department also invites applications for a tenure-track position in neuropharmacology. Applicants should have a strong background in general pharmacology with research experience in neuropharmacology.

Inquiries should be received prior to 31 July 1983, addressed to: Dr. Elliot S. Vesell, Chairman, Department of Pharmacology, Pennsylvania State University College of Medicine, P.O. Box 850, Hershey, Pa. 17033. *An Affirmative Action/Equal Opportunity Employer.*

The Department of Veterinary Biology, University of Minnesota, College of Veterinary Medicine, invites applications for a full-time, 12-month, tenure-track **ASSISTANT PROFESSOR POSITION IN PHARMACOLOGY**, beginning January 1984. Applicants must have a Ph.D. and 1 year of teaching experience. Applicants with D.V.M. and Ph.D. degree will be given preference. Duties include teaching and development of a research program. Send curriculum vitae, statement of research interests, and names of three references by 15 August to: Dr. Sally Jorgensen, Department of Veterinary Biology (G), 295 AnSci/VetMed Building, University of Minnesota, St. Paul, Minn. 55108. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

ASSISTANT PROFESSOR OF PHYSIOLOGY. Northeastern Ohio Universities College of Medicine seeks an assistant professor of physiology, 12-month, tenure-track position. Requirements include M.D., Ph.D., or equivalent; sound background in general physiology; ability to teach endocrinology or gastrointestinal physiology; shared responsibility for medical student physiology course; ability to develop own research program. Opportunities exist for collaborative research and participation in graduate education. Please submit curriculum vitae and names of three references by 31 July 1983 to: Office of the Provost, Northeastern Ohio Universities College of Medicine, Rootstown, Ohio 44272. *An Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF FLORIDA—Department of Medicine seeks an **ASSOCIATE IN MEDICINE** with a Ph.D. in biochemistry or a related field with laboratory experience to work in field of action and metabolism of peptide hormones. Experience in hormone receptor studies and radioimmunoassays is desirable. Recruiting deadline: 31 July 1983. Anticipated starting date: 1 October 1983. Contact: R. I. Misbin, M.D., Box J-226, JHMC, University of Florida, Gainesville, Florida 32610. *An Equal Opportunity/Affirmative Action Employer.*

CHIEF OF CLINICAL PATHOLOGY at The George Washington University Hospital, Washington, D.C. Full-time faculty position in the Department of Pathology for academically oriented person with experience and expertise in clinical pathology. Send résumé to: Dr. H. Sidransky, Chairman, Department of Pathology, The George Washington University Medical Center, Washington, D.C. 20037. *An Equal Opportunity Employer.*

POSITIONS OPEN

CHROMATOGRAPHY SPECIALIST

Research assistant position available for multiuser chromatography laboratory. Seek individual with background, experience, and interest in preparative and analytical chromatography. Knowledge of the principles and practice of analytical biochemistry and quantitative analytical chemistry are essential. Candidate must have training and/or experience in biological, chemical, as well as familiarity with laboratory, analytical equipment, and procedures with a minimum of a B.S. degree in chemistry or biology. The candidate will be required to perform routine analysis of both low and high molecular weight compounds using either GC or HPLC techniques. Interested persons should send curriculum vitae and three letters of reference to: **Dean Franklin, Dalton Research Center, University of Missouri, Columbia, Missouri 65211.**

CONTINUING MEDICAL EDUCATION—The University of Michigan is seeking a dynamic leader and experienced manager to direct the Office of Continuing Medical Education (CME) in the Department of Postgraduate Medicine and Health Professions Education. Candidates must have a doctoral degree, possess interest and experience in conducting educational programs for physicians and other health professionals, and must demonstrate potential for directing and managing an extensive schedule of innovative programs in CME. State and national leadership in the field is expected. Ability to plan, conduct, and report meritorious educational research is required. Faculty rank and salary commensurate with credentials and experience. Send inquiries and curriculum vitae to: **Roland G. Hiss, M.D., Department of Postgraduate Medicine and Health Professions Education, University of Michigan Medical School, Ann Arbor, Michigan 48109.** *The University of Michigan is a nondiscriminatory, Affirmative Action Employer. Code 4.*

CURATORIAL POSITION IN ANTHROPOLOGY (ETHNOLOGY)

The Los Angeles County Museum of Natural History solicits application from ethnologists for a curatorial position in the Section of Anthropology. Responsibilities consist of the production of collection-oriented scholarly research, active participation in collection curating, and participation in public programs of the Museum, including in particular assisting in the production of a comprehensive permanent exhibit gallery on North American Indians. North American experience and specialization in material culture required. Applicants must possess a doctorate degree. Position has a tenure of 3 years with a possibility of conversion to a permanent appointment. Position will be filled at the level of the best-qualified candidate. Salary commensurate with experience. Qualified candidates send applications, including the names of three references, by 1 November 1983 to: **Dr. Charles E. Rozaire, Chair, Anthropology Search Committee, Natural History Museum, 900 Exposition Boulevard, Los Angeles, California 90007.** *An Equal Opportunity Employer.*

DIRECTOR, ENVIRONMENTAL STUDIES PROGRAM. Ph.D. preferred in a field which complements present courses and research activities in the natural and social sciences. The director is a member of the faculty with opportunity for tenure who will teach in the program and, with the Environmental Studies Committee and appropriate academic departments, develop courses suitable for a liberal arts, undergraduate college. Academic rank and salary depend on qualifications for an appointment starting September 1984. Send curriculum vitae and names of three references to: **Professor S. S. Butcher, Director, Environmental Studies Program, Department of Chemistry, Bowdoin College, Brunswick, Maine 04011,** by 15 October 1983. *Affirmative Action/Equal Opportunity Employer.*

DIRECTOR, Center for Quantitative Science (CQS) in Forestry, Fisheries and Wildlife; College of Ocean and Fishery Sciences. Applications are invited for a senior level faculty position as director. The Center provides a focus for quantitative ecology and resource management research and training at both the undergraduate and graduate levels. A candidate for this position should bring a thorough background in quantitative methods and modeling together with administrative experience. Academic experience should include university teaching and a record of research accomplishments. Please send curriculum vitae and names of three references to: **CQS Search Committee, Department of Biostatistics SC-32, University of Washington, Seattle, Wash. 98195.** *The University of Washington is an Equal Opportunity Employer.*

PLANT PHYSIOLOGISTS/ BIOCHEMISTS

The Rohm and Haas Company, a leading multinational chemical company, has openings for PhD level plant physiologists/biochemists at our corporate research headquarters located in Spring House, PA, an attractive suburb of Philadelphia.

SEED PHYSIOLOGIST/BIOCHEMIST with a knowledge of the enzymatic processes of germination and early plant growth.

MEMBRANE BIOCHEMIST with a broad background in the functional aspects of plant membranes, i.e., transport processes, permeability, membrane potential, etc.

PIGMENT/LIPID BIOCHEMIST with a background in the biochemical aspects of lipid and pigment biosynthesis.

You will join our Herbicides and Plant Growth Regulator group as a research scientist seeking to develop novel, effective weed control agents; as such, you will work closely with synthetic chemists, agronomists and other physiologists on a multidiscipline team. A PhD degree in plant physiology or biochemistry with relevant expertise is required.

We offer an excellent salary and benefits program, including relocation assistance, and an environment conducive to professional advancement. Please send a detailed resume, in confidence, to:

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An experienced engineer or physicist is sought to manage development of advanced microwave and pulsed power systems and to participate in high energy particle beam development. If you have had broad experience in these areas, are familiar with Government management techniques, and have excellent communicative skills, please forward your resume or SF-171 to:

**The Department of the Navy
CCPO — Crystal City
Room 424, Crystal Mall #2
Washington, D.C. 20376
ATTN: Michael Toussaint (S)**

For further information call Raymond Nolet at (202) 692-8716. An advanced degree is very desirable. Resumes must be postmarked by 31 August 1983.

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U.S. Citizenship Required

POSITIONS OPEN

ANATOMY, FACULTY POSITION—The Department of Anatomy, Hahnemann University, School of Medicine, invites applications for a faculty position available 1 August 1983. The candidate should have teaching experience in gross anatomy; and a record of research experience in cell biology. The position will be at the assistant or associate professor level. Applicants should forward a résumé and the names of at least three references to: **Dr. Peter S. Amenta, Professor and Chairman, Department of Anatomy, Hahnemann University, Broad and Vine, Philadelphia, Pa. 19102.**

An Equal Opportunity/Affirmative Action Employer

ENTOMOLOGIST, ASSISTANT PROFESSOR, Ph.D.—Twelve-month, tenure-track position for entomologist with background in population genetics and/or population ecology to conduct research on the insect problems affecting urban society in New Jersey, and to develop and coordinate a program in urban pest management including its educational components, with emphasis on household and structural pests. Candidate will have the opportunity to teach a graduate course(s) in his/her specific interest area. Position is budgeted for 2/3 research, 1/3 extension. Send application, including résumé, transcripts, and three letters of reference, to: **Dr. H. T. Streu, Department of Entomology and Economic Zoology, Rutgers-The State University of New Jersey, New Brunswick, N.J. 08903.** Applications will be accepted until 30 September 1983 or until suitable candidate is found.

POSITION AVAILABLE: EXECUTIVE DIRECTOR

River Road Charitable Corporation seeks an Executive Director of its Coolidge Farms project in Topsfield, Massachusetts, a 340-acre integrated farm in transition to biological management. The purpose of the farm is to demonstrate commercial viability of integrated organic farming techniques and to provide a base for specific applied research projects in conjunction with universities in New England, and the University of Kassel, West Germany, and its European affiliates. River Road seeks candidates with a Ph.D. in agricultural sciences, with 5 to 10 years of professional experience including the administration of programs and projects. Salary range: \$30,000 to \$40,000 per year. Please send résumé by 1 September 1983 to: **T. J. Coolidge, Jr., Suite 923, One Boston Place, Boston, Mass. 02108.** Please include names and addresses of three references.

EXPERIMENTAL COGNITIVE PSYCHOLOGIST. The University of California at Irvine anticipates a possible opening at the senior professor level for a cognitive scientist specializing in the experimental and mathematical psychology of attention and performance. Candidates should have a distinguished record in both psychological research and teaching, including demonstrable success in teaching the introductory course, and be prepared to contribute to a cognitive science program with research foci in mathematical psychology, linguistics, and perception. Please send curriculum vitae, and names of three references to:

John I. Yellott, Jr.
Chair, Cognitive Science Group
School of Social Sciences
University of California
Irvine, Calif. 92717

To ensure consideration, materials should be submitted by 31 August 1983. *University of California is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN PHARMACEUTICS (search reopened)—The School of Pharmacy, State University of New York at Buffalo, has an opening for a faculty position in pharmaceuticals. Applicants should have a Ph.D. degree with experience in physical pharmacy and drug delivery systems. The appointment is at the assistant or associate professor level. The individual selected will be expected to develop an active and independent research program, and to participate in undergraduate and graduate instruction. Apply by sending curriculum vitae and outline of research interests by 31 August 1983 to:

Dr. Ho-Leung Fung
Department of Pharmaceuticals
517 Hochstetter Hall
State University of New York at Buffalo
Amherst, New York 14260

The University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

GEOCHEMIST POSITION

GEOCHEMIST with active research program in stable isotopes, radioactive isotopes, and/or trace elements is being sought for a joint appointment in the Department of Geological Sciences and the Cooperative Institute for Research in Environmental Sciences (CIRES) of the University of Colorado. The one-half time position within the Department of Geological Sciences is tenure track at the assistant or associate professor level with a starting salary of \$12,000 to \$15,000 for the academic year. Teaching load will be half that of full-time faculty. The position within CIRES would be as a fellow with appropriate office and laboratory space. One-half academic year salary will be guaranteed by CIRES for 2 years at the departmental rate, after which incumbent must generate his/her CIRES salary from external sources. Incumbent may augment salary further by generating 3 months of summer salary from contracts and grants, and consulting.

Applicants with experience, publications, and/or movable existing research equipment preferred. Preferred starting date would be 1 January 1984. Closing date for applications is 1 October 1983. Applications should include a statement of research and teaching interests, experience, full curriculum vitae, and four letters of reference. Apply to:

Professor Charles Stern, Chairman
Geochemist Search Committee
Department of Geological Sciences
University of Colorado
Campus Box 250
Boulder, Colorado 80309

The University of Colorado is an Equal Opportunity/Affirmative Action/Section 504 Employer.

MOLECULAR BIOLOGY

The Department of Microbiology, University of Connecticut Health Center, invites applications for tenure-track positions at the level of assistant or associate professor. Candidates must demonstrate potential for outstanding independent research in eukaryote or prokaryote molecular biology.

Areas of particular interest include: molecular virology; chromosome organization, function, and regulation; membrane biogenesis; and protein-membrane interactions. Expertise in modern protein technology and/or molecular genetic approaches is especially desirable.

Interested persons should submit curriculum vitae, list of publications, brief résumé of previous and proposed research directions, and letters of reference from three individuals familiar with their research accomplishments and potential to:

Dr. M. J. Osborn
Department of Microbiology L-2034
University of Connecticut School of Medicine
Farmington, Conn. 06032
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IMMUNOLOGIST—Department of Cell Biology, University of New Mexico School of Medicine. Seeking immunologist with cellular background. Prefer research interests in cell surface biochemistry and receptor-ligand interactions. Applicants must have 3 years of postdoctoral training and be capable of establishing an independent program. Rank and salary depend on qualifications. Send curriculum vitae, in-press manuscripts, statement of research goals, and names of three references to: **Dr. T. B. Tomasi, Director, Cancer Center, University of New Mexico, Albuquerque, N.M. 87131.**

POSTDOCTORAL POSITION available for study of membrane actions of neuroactive peptides in spinal dorsal horn neurons in vitro, and primary afferent fibers in vivo, using appropriate electrophysiological techniques (i.e. recording, voltage-clamp, and so forth). Salary and arrival date negotiable. Send curriculum vitae and names of three references to: **M. Randic, Department of Veterinary Physiology and Pharmacology, Iowa State University, Ames, Iowa 50011.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available 1 September 1983 to conduct studies on transcapillary fluid exchange and regulatory mechanisms in the microcirculation. Send résumé and names of three references to: **Dr. Robert W. Gore, Department of Physiology, College of Medicine, University of Arizona, Tucson, Arizona 85724.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

The University of Nebraska Medical Center, Department of Pediatrics, Section of Pediatric Cardiology, is requesting applications for a **FACULTY POSITION IN CARDIOVASCULAR PHYSIOLOGY.** The candidate should have at least 2 years of postdoctoral training, with a strong publication record. Candidate should be skilled in long-term physiologic instrumentation studies in animals. The candidate will conduct an independent research program in collaboration with clinical pediatric cardiology. Submit curriculum vitae, research interests, and recent reprints to: **Dr. Philip Hofschire, Director of Pediatric Cardiology, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, Neb. 68105.** Deadline for receiving curriculum vitae is 1 December 1983. *The University of Nebraska is an Affirmative Action/Equal Opportunity Employer.*

MOLECULAR BIOLOGIST. Recent Ph.D. with knowledge of genetic engineering required to act as technology evaluator. Individual should have good communication skills and be interested in interfacing with university and industrial personnel. Please send résumé and references to: **Personnel Manager, University Genetics Co., P.O. Box 6080, Norwalk, Conn. 06852.**

MOLECULAR NEUROBIOLOGIST

An assistant or associate professorship (tenured or tenure track) is available to applicants using molecular genetic approaches for the study of neurons or neuroendocrine cells. Areas of interest include neuropeptides, hormone or neurotransmitter receptors, and membrane structures (ion channels and transport proteins). The successful applicant will be expected to develop an independent research program, and to train graduate students and postdoctoral fellows. Liberal start-up funds and highly competitive salary are available. The position requires a doctoral degree and postdoctoral training. Send curriculum vitae, a summary of future research plans, and names of three referees by 1 August 1983 to:

Professor J. D. Neill
Department of Physiology and Biophysics
University of Alabama in Birmingham
Birmingham, Ala. 35294

The University of Alabama in Birmingham is an Equal Opportunity/Affirmative Action Employer.

PHARMACOLOGIST

The Pharmacology Department of the University of South Carolina School of Medicine invites applications for a tenure-track position on its faculty. Rank and salary are open. Candidates must have a Ph.D. and/or M.D. degree and postdoctoral experience. The successful candidate will be expected to teach in the medical pharmacology course and to develop an independent research program which merits extramural support. Although outstanding candidates in all areas will be considered, preference will be given to those candidates whose research interests are compatible with those of the current faculty such as metabolic control mechanisms and molecular pharmacology. Interested individuals should submit curriculum vitae, list of publications, and the names of at least three references to: **Dr. Donald O. Allen, Chairman, Department of Pharmacology, School of Medicine, University of South Carolina, Columbia, S.C. 29208.** *The University of South Carolina is an Equal Opportunity/Affirmative Action Employer.*

POLYMER CHEMIST AND COMPOSITE ENGINEER

REQUIREMENTS: Master's degree in macromolecular science, 4 years of experience in field of polymer chemistry and composite engineering. Position involves responsibility for research and development of composite parts for high-temperature aerospace use and chemical resistance for industrial use. Position requires scientific and technological expertise to formulate specific and composite structures tailored to differing customer needs. Applicant must be able to supervise product quality control by mechanical, physical, and chemical testing for mechanical strength, abrasion, chemical resistance, and required dimensional and physical specifications. Applicant must be experienced in polymer chemistry and composite engineering technology and be capable of running and analyzing physical and chemical testing properties. **SALARY:** \$30,000 per year. **HOURS:** At least 40 hours per week. **EMPLOYER:** Plastonics International Inc., Avon, Ohio. Résumés to be sent to: **Ohio Jobs Service, Attention: M. McGill, 3135 Euclid Avenue, Cleveland, Ohio 44115, Re: Order Number 0235578.**

STAFF FELLOW

The Division of Cancer Biology and Diagnosis, National Cancer Institute, National Institutes of Health, Public Health Service, is seeking applicants for a Staff Fellow position in the Cellular Immunity Section of the Laboratory of Immunobiology.

The Cellular Immunity Section conducts studies on the basis of tumor graft rejection, the nature of tumor antigens and on methods for augmenting host response to poorly immunogenic tumors.

As a Staff Fellow, the incumbent will establish a research program involving application of the techniques of molecular biology to the definition of the genetic basis of tumor antigens. Applicants must have experience in molecular biology and genetics.

The position of Staff Fellow has a duration of 2 years, with the possibility of being extended for an additional 3 years. The salary range will be \$17,000-34,269, depending on the skill and experience of the individual selected for the position.

The position is located at the Frederick Cancer Research Facility in Frederick, Maryland (41 miles from Bethesda, Maryland).

Interested persons should respond by submitting a curriculum vitae with names of three references to:

**Dr. Berton Zbar, Chief, Cellular Immunity Section
Laboratory of Immunobiology, National Cancer Institute
Frederick Cancer Research Facility, Frederick,
Maryland 21701**

If you need additional information, please call Dr. Zbar at area code 301/695-1288.

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SOFTWARE ENGINEER

Nicolet Biomedical, world leader in the development and manufacture of evoked potential instrumentation, is located at the Nicolet Instrument Corporation world headquarters in Madison, Wisconsin. Nicolet Biomedical is a dynamic and fast growing company offering excellent employee benefits and opportunities for advancement.

Nicolet Biomedical Instruments Division has an immediate opening for a Software Engineer with at least 2 years experience. This is a highly responsible position as a member of a team dedicated to the development of sophisticated medical instrumentation. A BS or MS in electrical engineering or computer science is required. Working experience with UNIX*, FORTRAN, C and Z80's is highly desirable. The salary is commensurate with experience. The work environment allows freedom for creativity and the latest equipment is provided to accomplish goals.

The Madison community, home to a diverse population with varied interests, is a desirable place to live. People seeking an environment with clean air, scenic beauty, an abundance of lakes, large nature preserves, and a community dedicated to the availability of major cultural events have found Madison. Those who enjoy a change of seasons, a wide variety of outdoor recreational activities, and the vitality of a Big 10 university community enjoy living in the state capital.

For confidential consideration, send resume to: Robert W. Lovely, 5225 Verona Road, Madison, Wisc. 53711. 608/271-3333. Nicolet is an equal opportunity employer.

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Molecular Genetics & Microbiology Faculty Position

The Department of Molecular Genetics and Microbiology, University of Massachusetts Medical School, has a tenure-track position for a Eukaryotic Geneticist. Applicants should have a strong background in classical genetics as well as significant postdoctoral experience in genetics and molecular biology of eukaryotes and should plan to continue independent research in this general field. Shared teaching responsibilities involve instructing medical and graduate students in genetics, microbiology and molecular biology.

Research interests in the department involve cellular and structural immunology, eukaryotic gene organization and regulation, molecular biology of actual viruses, bacteriophage regulation and recombination, and bacterial and yeast gene regulation.

Applicants should provide curriculum vitae, a short statement of the proposed research program, and the names of three scientists willing to write letters of recommendation.

Send applications to:

**Eukaryotic Genetics Search Committee
Department of Molecular Genetics and Microbiology**

**University of Massachusetts
Medical Center**

**55 Lake Avenue North
Worcester, MA 01605**

The University of Massachusetts is an equal opportunity/affirmative action employer. Minority candidates and women are especially encouraged to apply.

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POSITIONS OPEN

The Laboratory for Plasma and Fusion Energy Studies of the University of Maryland requires a **PHYSICIST** with experience in rate coefficient measurement for highly ionized atoms in hot plasmas, vacuum-ultraviolet spectroscopy, visible spectroscopy, Thomson Scattering, and plasma gun injection of impurity. Must know how to operate a theta-pinch device. Require familiarity with optical multichannel analyzer and PDP 11/34 computer. Ph.D. required; \$23,000. Send curriculum vitae to: **Dr. H. R. Griem, Acting Director, Laboratory for Plasma and Fusion Energy Studies, University of Maryland, College Park, Md. 20742. The University of Maryland is an Equal Opportunity/Affirmative Action Employer.**

PHYSIOLOGIST—A faculty position at professor level is available. Applicants should have particular interest in the physiology, cell biology, and cellular anatomy of the cornea, with expertise in ophthalmic electron microscopy. Present and continuing grant support is essential. Send curriculum vitae and the names of three references to: **Dr. P. R. Lichter, Department of Ophthalmology, University of Michigan Medical School, W. K. Kellogg Eye Center, 1000 Wall Street, Ann Arbor, Mich. 48105. The University of Michigan is a nondiscriminatory, Affirmative Action Employer. Code 43.**

POSTDOCTORAL FELLOW—Three-year position for recent Ph.D. to participate in active research program on macrophage stimulation. Experience in fluorescent techniques and membrane biochemistry preferred. Salary: \$15,950 to \$21,650. Send curriculum vitae and names of two references to: **Dr. Andrij Holian, Department of Medicine, Hospital of the University of Pennsylvania, Philadelphia, Pa. 19104. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOW. Ph.D. or equivalent and experience in radioimmunoassay required. Background in renal physiology and biochemistry preferred. Tissue culture experience desirable. The position is immediately available for 1 year with possibility of further extension. Salary: \$16,000 a year. Send curriculum vitae to: **T. Shimamura, Professor of Pathology, UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY—Rutgers Medical School, P.O. Box 101, Piscataway, New Jersey 08854. An Equal Opportunity/Affirmative Action Employer, M/F.**

POSTDOCTORAL POSITIONS IN CANCER RESEARCH—OAK RIDGE NATIONAL LABORATORY. Appointments are available in an interdisciplinary cancer research program which includes study of mechanisms of action of chemical and physical agents in the initiation and promotion of cancer; the biochemistry, cell biology, and pathology of carcinogenesis; carcinogen metabolism, molecular genetics, virology, immunology, and DNA repair. Beginning stipend is \$18,000; U.S. citizenship or permanent residency required. Persons soon to be awarded or holding recent Ph.D., M.D., or D.V.M. degrees are invited to write for information to: **Training Office, University of Tennessee—Oak Ridge Graduate School of Biomedical Sciences, Biology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee 37830. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE. To study virus differentiation and characterization through the use of monoclonal antibodies. Candidates must have hybridoma research experience and be able to organize facilities for production of monoclonal antibodies. Temporary 3-year position with U.S. Department of Agriculture (USDA). Located at Ohio State University, Ohio Agricultural Research and Development Center, Wooster, Ohio. Minimum salary: \$24,508. For applications, contact: **Marie Bishop, USDA-ARS-NCRO-G2, 2000 West Pioneer Parkway, Peoria, Ill. 61615. Telephone: 309-671-7134. Equal Opportunity Employer.**

RESEARCH ASSOCIATE—Conduct research in the areas of upper-atmosphere dynamics and the air-glow. Research is mostly theoretical, involving the application of quantum mechanics to relevant molecular processes but will require some participation in observational programs. Requirements include Ph.D. in atmospheric science, 2 years of research experience in the above areas, and strong background in molecular physics and kinetic theory. Salary: \$22,450 per year; 35 hours per week. Send résumé to: **Job Order Number 3413, Division of Employment Security, Hurley Building, Government Center, Boston, Mass. 02203.**

POSITIONS OPEN

POSTDOCTORAL POSITION available after August 1983 at Tuskegee Institute, Department of Biology. Ph.D. applicant sought to work in areas involving regulation of gene expression in bacteria. Specific projects include gene cloning, nucleotide sequencing, and assessment of gene regulation. A salary of \$15,000 available for 1-year period with possibility for extension. Interested applicants should submit a résumé, a brief statement of research interests and goals, and the names, addresses, and telephone numbers of three references by 15 July 1983 to: **Dr. Julian E. Thomas, Carver Research Laboratory, Tuskegee Institute, Ala. 36088.**

An Equal Opportunity/Affirmative Action/Title IX University

POSTDOCTORAL POSITIONS (TWO) available immediately for studies investigating cell secretion and cell adhesion, combining biochemical, immunological, and ultrastructural techniques. Background in biochemistry and cell culture is desirable. Send curriculum vitae and three references to: **Dr. Morris J. Karnovsky, Department of Pathology, Harvard Medical School, 25 Shattuck Street, Boston, Massachusetts 02115.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION available immediately to study the relationship between tumor cell surface carbohydrates and the invasive and metastatic phenotype of cancer cells. Experience in cell surface carbohydrate biochemistry, tissue culture, and methods for defining and separating tumor subpopulations (including flow cytometry) is required. Salary negotiable. Send curriculum vitae and names of three references to: **Dr. Bendicht U. Pauli or Dr. John Coon, Department of Pathology, Rush Medical College, 1753 West Congress Parkway, Chicago, Ill. 60612. Rush is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately for recent Ph.D. to study the effect of age on protein synthesis. Some experience in the area of cell-free protein synthesis is desirable. Send curriculum vitae and names of three references to: **Dr. Morton Rothstein, Department of Biological Sciences, State University of New York at Buffalo, Buffalo, N.Y. 14260. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS (THREE) available 1 September 1983 for individuals interested in the regulation of gene transcription. Research projects include studies on the: (i) molecular biology of immunoglobulin production in autoimmune diseases, (ii) structural/functional properties of the RNA polymerases, (iii) regulation of ribosomal RNA synthesis in vivo and in vitro, and (iv) role of protein phosphorylation in gene transcription. The opportunity to gain experience in a wide variety of modern molecular, biochemical, and cellular techniques will be provided. Send curriculum vitae and names of three references to: **Dr. Kathleen M. Rose, Department of Pharmacology, The University of Texas Medical School at Houston, P.O. Box 20708, Houston, Texas 77025.**

An Equal Opportunity Employer. Women and minorities are especially encouraged to apply.

PROGRAM DIRECTOR—Bean/Cowpea Collaborative Research Support Program, Michigan State University (MSU). To serve as principal administrative and liaison officer for large multinational, multi-institutional, AID-funded project for alleviation of hunger and malnutrition in developing countries. Qualifications include Ph.D., preferably in an agricultural science, with experience in research, program development, and administration, including multidisciplinary programs; experience in land-grant or other internationally oriented organizations; and experience or a demonstrated understanding of social dimensions of international development.

Position is not in the tenure system but program is funded through 1985 with likelihood of minimal continuation through 1988. Salary commensurate with experience.

Position open until 15 July 1983. Send request for detailed position description or letter of application, résumé, and names of three references to:

**Dr. John F. Kelly
Chairperson, Bean/Cowpea Search Committee
210 Horticulture Building
Michigan State University
East Lansing, Mich. 48824-1112**

MSU is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately for genetic improvement of industrial microorganisms using recombinant DNA technology. Experience with recombinant DNA techniques, microbial genetics, and protein purification highly desirable. Salary: \$17,040 to \$21,000. Send curriculum vitae and three letters to: **Dr. Donald H. Dean, Department of Microbiology, The Ohio State University, Columbus, Ohio 43210. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION. One full-time position in **COMPARATIVE MOLECULAR GENETICS** is immediately available to study organization of multi-gene families and repetitive DNA's in *Equidae*. Experience in Southern blotting, molecular cloning, and related techniques desirable. Send letter, curriculum vitae, and references to: **Dr. Oliver A. Ryder, Research Department, San Diego Zoo, Box 551, San Diego, Calif. 92112. An Equal Opportunity/Affirmative Action Employer.**

TWO POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS available immediately to investigate mechanisms of action and metabolism of antiparasitic drugs. Training in membrane biochemistry, drug metabolism, analytical biochemistry, or related areas required. Please send résumé to: **Dr. Leslie T. Webster, Jr., Professor and Chairman, Department of Pharmacology, Case Western Reserve University, School of Medicine, Cleveland, Ohio 44106.**

POSTDOCTORAL RESEARCH ASSOCIATE: toxicology of heavy metals and biochemistry of membrane phospholipids. Available 1 September 1983 or sooner. Highly productive section. Experience in aa, NMR, HPLC, TLC, mass spectral analysis, kinetics. Stipend: \$17,000 to \$20,000. Send curriculum vitae and names of references to: **Dr. Carol R. Angle, Chairman, Department of Pediatrics, University of Nebraska Medical Center, Omaha, Neb. 68105. The University of Nebraska is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATES

Two positions are available. One is for studies of the regulation of neuronal adenylate cyclase activity by cytoskeletal and membrane components. The second is for studies on the control of tyrosine hydroxylase activity and other metabolic processes in sympathetic neurons and chromaffin cells. Candidate should have a Ph.D. or M.D. and a background and interest in neurochemistry, cell biology, or related disciplines. Send curriculum vitae and names of three references to: **Dr. Mark M. Rasenick (adenylate cyclase position) or Dr. Robert L. Perlman (tyrosine hydroxylase position), Department of Physiology and Biophysics, University of Illinois College of Medicine, P.O. Box 6998, Chicago, Ill. 60680.**

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

PROFESSOR AND CHAIRPERSON, Department of Pathology and the Department of Psychiatry and Mental Health Science. The University of Medicine and Dentistry of New Jersey—New Jersey Medical School seeks professor and chairperson for each of the above departments. The candidates must have outstanding academic credentials and demonstrated abilities in administration, teaching, and research. Send curriculum vitae to: **Giampiero di Mayorca, M.D., Chairman, Pathology Search Committee, Room MSB-F607, or Wen-Hsien Wu, M.D., Chairman, Psychiatry Search Committee, Room MSB-E538, UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY—New Jersey Medical School, 100 Bergen Street, Newark, N.J. 07103. An Equal Opportunity/Affirmative Action Employer, M/F.**

RESEARCH ASSOCIATE. Seek Ph.D. in physical chemistry to work in the area of gas-phase photochemistry and photophysics using lasers and synchrotron radiation. Research involves experimental spectroscopic and kinetic studies of reactive species, including excited states of atoms and molecules. Applicants must have a Ph.D. in physical chemistry or chemical physics with a strong background in spectroscopy and kinetics and at least 2 years of previous experimental experience with lasers and/or synchrotron VUV radiation. Salary: \$22,000 per year; 40 hours/5 days per week. Apply to: **Dr. R. E. Weston, Chemistry Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, N.Y. 11973. Equal Opportunity Employer, M/F.**

The Health Effects Institute announces the availability of four requests for applications for research funds.

The Health Effects Institute is a non-profit research organization founded in 1980. It was established co-operatively by the United States Environmental Protection Agency and the automotive industry but is governed by an independent 3-member Board of Directors: Archibald Cox, Carl M. Loeb Professor, Harvard Law School; William Baker, Chairman Emeritus, Bell Laboratories, and Donald Kennedy, President, Stanford University. The HEI funds research directed to understanding and evaluating the health effects of mobile source emissions. The research program was developed by HEI's Health Research Committee whose chairman is Walter Rosenblith, Institute Professor and former Provost of the Massachusetts Institute of Technology.

This set of four RFA's is the second and final series of Requests to be issued under the Institute's Phase One Research Agenda. The RFA's are addressed to the following subjects:

1. Cardiovascular and other health effects of carbon monoxide
2. Nitrogen oxides and susceptibility to respiratory infections
3. Dose of airborne pollutants to target tissues
4. Epidemiologic investigation of effects of automotive emissions

The Health Effects Institute will make available a packet of material consisting of four RFA's, as well as descriptive material about the Institute to all interested investigators. Applications will be required by September 23, 1983.

All requests and inquiries should be made to or through:
Dr. C. W. Powers, Executive Director, The Health Effects Institute, 215 First Street, Cambridge, Massachusetts 02142, (617) 491-2926.

SCIENTIST - DRUG DESIGN

The Upjohn Company, a worldwide producer of pharmaceuticals, chemicals and agricultural products, has an opening in the drug design program in the Physical and Analytical Chemistry Research unit for a scientist with a strong background in computer programming, computer graphics and molecular modeling. Duties will include: 1) the design of algorithms and the development of computer programs for the use of three-dimensional color graphics and molecular mechanics in the study of drug and receptor molecules and 2) the application of computer techniques to drug design and molecular interaction studies. Participation in collaborative research projects aimed at developing new and/or improved therapeutic agents is essential.

The successful applicant will possess a Ph.D. in physical chemistry, physics, or biophysics, with a strong background in mathematics, computer programming (primarily FORTRAN with some knowledge of ASSEMBLER), graphics, molecular structure and molecular mechanics. The ability to work both independently and as a member of multidisciplinary groups is essential. U.S. citizenship, or a visa entitling the applicant to work in the U.S., is required.

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

Upjohn offers competitive salary, commensurate with experience, and an outstanding benefits package. 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 15123 when calling.

An Equal Opportunity Employer M/F

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For further information, telephone **Dick Charles at SCIENCE: 212-730-1050**, or write: **1515 Broadway, New York, N.Y. 10036**.

*At a 15% premium.

POSITIONS OPEN

POSTDOCTORAL POSITION available for research in molecular hematology utilizing gene mapping and cloning techniques. Experience in nucleic acid technology desirable. Send curriculum vitae to: **Dr. R. F. Rieder, State University of New York—Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York 11203. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available in cell biology to study effects of protein kinase inhibitors on cellular differentiation and cell growth as part of a multidisciplinary team. Send curriculum vitae and letters of recommendation to: **Victor Levin, M.D., Cancer Drug Development Group, HSW-783, University of California, San Francisco, Calif. 94143. Equal Opportunity/Affirmative Action Employer**

QUEEN'S UNIVERSITY AT KINGSTON, ONTARIO, CANADA Department of Obstetrics and Gynaecology and Department of Physiology REPRODUCTIVE ENDOCRINOLOGIST

The Department of Obstetrics and Gynaecology in collaboration with the Department of Physiology is seeking a Ph.D. for a term appointment in the field of reproductive endocrinology. The position involves overall supervision of the laboratories of the Division of Reproductive Endocrinology, collaboration in work in progress in neuroendocrinology and developmental endocrinology, and the conduct of independent research in a related area as well. In addition to a solid background in RIA, teaching and supervisory skills are essential in this position.

The joint appointment in both departments will be at an academic rank appropriate to background and experience with an initial appointment for 2 years. A further term is dependent upon securing the independent funding.

Interested candidates should send their curriculum vitae and names of three referees to: **Dr. James A. Low, Head, Department of Obstetrics and Gynaecology, Queen's University, Kingston, Ontario, Canada K7L 3N6. In accordance with Canadian immigration policy, consideration, in the first instance, will be given to Canadian citizens and landed immigrants.**

UNIVERSITY OF LOUISVILLE RESEARCH PROFESSORSHIP

Tenure-track, academic appointment commensurate with experience available immediately. Advanced training in biomedical research, current research interest related to dentistry and dental degree preferred. Appointments available in Dental School (primary), basic sciences of Medical School (joint), and in the Graduate School. Send curriculum vitae, bibliography, three references, and a covering letter outlining future research plans to: **Dr. Daniel B. Green, Director of Research Center, School of Dentistry, University of Louisville, Louisville, Ky. 40292. An Affirmative Action/Equal Opportunity Employer**

RESEARCH SCIENTIST

Cellular immunologist with at least 2 years of experience in B cell cloning, isolation of antigen-specific cells, analysis of B cell activation, and growth and function of helper T cell lines. Salary: \$19,000 to \$22,000, depending upon experience. Send curriculum vitae and three references by 15 August 1983 to:

**Dr. David Scott
University of Rochester Medical Center
Box 704, Cancer Center
Rochester, New York 14642**

The University of Rochester is an Equal Opportunity Employer.

RESEARCH SCIENTIST

San Francisco Peninsula biotechnology company requires an individual with experience in plant tissue culture and/or molecular biology to join a multidisciplinary team working on cytoplasmic genetics in various crop species. Requires Ph.D. with minimum of 2 years of experience in cell biology with emphasis on molecular genetics. Experience with plant protoplast culture and/or molecular biological analysis of cytoplasmic genes highly desirable. Send résumé, list of publications, and names of three references to: **Kristina Combs, IPRI, 830 Bransten Road, San Carlos, Calif. 94070. Available immediately. Equal Opportunity Employer.**

POSITIONS OPEN

THREE POSTDOCTORAL POSITIONS available immediately to work on aspects of interaction of chemicals with DNA. Specific projects include molecular biology of: (i) cytochrome P₄₅₀ expression; (ii) DNA repair mechanisms; and (iii) mutagenesis of chemotherapeutic agents. Background in enzyme purification or recombinant DNA technology will be an advantage. Send curriculum vitae and two letters of reference to: **Dr. Edward Bresnick, Director, Eppley Cancer Institute, University of Nebraska Medical Center, Omaha, Nebraska 68105.**

RESEARCH ENTOMOLOGIST/INSECT GENETICIST. Career Federal Service. Incumbent to develop independent research program on the genetics of parasites, predators, and pathogens of insect pests. Position located at Biological Control of Insects Laboratory, Columbia, Missouri. GS/M-11/12/13—salary based on qualifications and experience. For applications: **J. Brooks, USDA-ARS-NCR-B61, 2000 West Pioneer Parkway, Peoria, Ill. 61615. Telephone: 309-671-7813. Candidates must be U.S. citizens. An Equal Opportunity Employer.**

RESEARCH ASSOCIATE, Ph.D. to join in a study of restriction fragment length polymorphisms in the human genome. Applicants with experience in molecular genetics and recombinant DNA technology preferred. Initial 1-year appointment with possible renewal. Send curriculum vitae plus names, addresses, and telephone numbers of three references to: **Dr. Michael Litt, Biochemistry Department, Oregon Health Sciences University, Portland, Ore. 97201; telephone: 503-225-7717. An Affirmative Action/Equal Opportunity Employer.**

SYMPOSIUM

INTERNATIONAL SYMPOSIUM LAKE/RESERVOIR MANAGEMENT
18 to 20 October 1983; Knoxville, Tennessee. Sponsored by North American Lake Management Society. Cosponsors: Environmental Protection Agency, U.S. Department of Agriculture, Tennessee Valley Authority. More than 100 papers on the management of lakes, ponds, and reservoirs will be presented and published in a proceedings. Contact: **Wayne Poppe, 248 401 Building, Chattanooga, Tenn. 37401; telephone: 615-751-7333.**

FELLOWSHIPS

The University of Alberta Edmonton, Alberta POSTDOCTORAL FELLOWSHIP

Available immediately for a membrane biochemist to investigate the role of plasma membrane fluidity (including cholesterol and fatty acid composition) on the intracellular control of cholesterol and phospholipid synthesis.

Applicants with backgrounds in biochemistry or biophysics are invited to apply. Funding will be from the Medical Research Council of Canada or the Alberta Heritage Foundation for Medical Research. Funding can start immediately and will be in the range of \$19,000 to \$21,000 per year for up to 4 years. Apply to:

**Dr. Mark Poznansky
Department of Physiology
University of Alberta
Edmonton, Alberta, Canada T6G 2H7**

The University of Alberta Edmonton, Alberta POSTDOCTORAL FELLOWSHIP

Available immediately for an individual to investigate the potential use of enzymes and enzyme-albumin conjugates in medicine. The applicant should have some background in biochemistry and a solid interest in experimental medicine since involvement with clinical scientists will be expected.

Applicants with Ph.D. or M.D. degrees are invited to apply. Funding will be from the Medical Research Council of Canada or the Alberta Heritage Foundation for Medical Research. Funding can start immediately and will be in the range of \$19,000 to \$21,000 per year for up to 4 years. Apply to:

**Dr. Mark Poznansky
Department of Physiology
University of Alberta
Edmonton, Alberta, Canada T6G 2H7**

FELLOWSHIPS

STAFF FELLOWSHIP POSITION

National Institutes of Health (NIH) seeks a postdoctoral fellow for a mathematical or computer science position with the Division of Computer Research and Technology. Candidates should have: (i) a Ph.D. (or have been certified as meeting all the requirements) in math or computer science, (ii) a strong interest in mathematics or computer science problems related to consultation and computer software development services provided to a biomedical research community, and (iii) strong commitment to research in math or computer science.

Initial appointment will be for 2 years with potential for 1-year extensions to a maximum of 5 years. Stipend range is \$17,000 to \$34,269, depending upon qualifications.

Candidates must be U.S. citizens or be eligible for naturalization within 4 years.

Applications must be received by 31 July to be assured of consideration.

Contact or send résumé to:

**Mercedes A. Malcomson
NIH/PHS/DHHS
Building 12A, Room 3013
9000 Rockville Pike
Bethesda, Md. 20205
Telephone: 301-496-6951**

NIH is an Equal Opportunity Employer.

A Norman and Rosita Winston Foundation **POSTDOCTORAL FELLOWSHIP** is available in the Department of Cell Biology and Anatomy, Cornell University Medical College, to work with Dr. Donald A. Fischman and associates on the cellular and molecular aspects of muscle differentiation, cytoskeleton, or nonmuscle motility. Holders of M.D. or Ph.D. degrees are invited to apply for a 2-year fellowship at \$19,000 per year. Applicants should generally have no more than 3 years of basic or clinical training beyond receipt of the doctorate. Send curriculum vitae and three references to: **The Office of Research and Sponsored Programs, Cornell University Medical College, 1300 York Avenue, Room A-131, New York, N.Y. 10021.**

CARDIOVASCULAR RESEARCH FELLOWSHIPS

Multidisciplinary postdoctoral research training in areas of cardiovascular regulation, myocardial metabolism, cardiovascular dynamics, pathophysiology, cardiovascular instrumentation, and biomaterials. Position available immediately for M.D., Ph.D., or D.V.M. interested in developing research capabilities in collaboration with investigators active in above areas. Competitive stipends. Well-equipped and staffed facilities on University of Missouri-Columbia campus. Funding requires U.S. citizenship or permanent visa. Contact:

**Dean Franklin, Director
Dalton Research Center
University of Missouri-Columbia
Columbia, Mo. 65211
Telephone: 314-882-7586**

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FORESTRY, FISHERIES, WILDLIFE

The Natural Resources Management Program, a graduate department at Simon Fraser University, invites applications from Ph.D.'s who wish to be sponsored for an **NSERC University Research Fellowship**. This position, which is at the assistant professorship rank, is tenable for 3 years beginning in 1984, and is extendable for another 2 years. This appointment is dependent on NSERC approval and funding. Although the primary responsibilities will be in the area of research, there will also be some teaching and administrative duties.

Applications are requested in the fields of fisheries management, wildlife management, or forestry, and applicants with postdoctoral experience will be given preference. *In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and landed immigrants.* The closing date for applications is 15 September 1983.

Send curriculum vitae and sample publications to the address below. Also, have three referees send letters of reference directly to:

**Dr. J. C. Day, Director
Natural Resources Management Program
Simon Fraser University
Burnaby, British Columbia, Canada V5A 1S6**

ANTICIPATED VACANCY TECHNICAL DIRECTOR OF THE AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (#150-83)

The Air Force Office of Scientific Research, Air Force Systems Command, located in Washington DC, invites applications from individuals with a background in university and industrial research. An earned PhD is desired. The Technical Director is responsible for the management of the Air Force research programs under contract to universities and industry and in Air Force Laboratories. A strong background and publication record in engineering or science is essential. Experience should include technical, program supervision, planning and budgeting. The position is Senior Executive Service, General, with a salary range presently starting at \$56,945 pa. No prior Government service is required. Send a resume including a list of publications and Office of Personnel Management Standard Form 171, "Personal Qualifications Statement," to:

**Civilian Personnel Office (#150-83)
1776 ABW/DPCR-83-5
Andrews AFB, Maryland 20331**

Applications must be received by 31 July 1983.

THIS POSITION IS AN ANTICIPATED VACANCY; SELECTION IS CONTINGENT UPON AGENCY APPROVAL OF THE PROPOSED POSITION.

AN EQUAL OPPORTUNITY EMPLOYER

SCIENTIST Fermentation R & D

Genentech, Inc., a recognized leader in the field of recombinant DNA, has an employment opportunity in our Fermentation Research & Development Department. We are seeking a Scientist to improve heterologous gene expression and gene product secretion in Bacillus with an emphasis in physiology and genetics.

As a Fermentation Scientist you will be optimizing media and growth conditions for maximal expression of eucaryotic genes and secretion of the gene products in Bacillus. You will also construct and map Bacillus mutants. Qualified applicants will have a PhD in Microbiology and at least 2 years post-doctoral experience in Bacillus physiology and genetics.

We offer excellent salaries and benefits, as well as a stimulating and challenging work environment. For immediate consideration please send curriculum vitae and the names of three references to **Human Resources**, referring to **Position #SCI-336**.

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**460 Point San Bruno Blvd.,
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CA 94080.**

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INDOOR AIR QUALITY CHEMISTS (2)

The Lawrence Berkeley Laboratory is seeking two outstanding chemists to join its Building Ventilation and Indoor Air Quality Program. Candidates for both positions should have demonstrated excellence in previous independent research and writing and should have substantial instrumental backgrounds.

STAFF SCIENTIST III

Initial responsibilities for the more senior person will be the program's research on organic pollutants, including development of methodologies for characterization of emissions from building materials and for field sampling of airborne organics in office buildings. You should have substantial experience in scientific leadership, and will be expected to contribute substantially to the overall leadership of the program. Familiarity with GC and GC-MS would be an asset, as would be experience in environmental chemistry or air quality monitoring or modeling. Prefer Ph.D. in analytical chemistry, physical organic chemistry or physical chemistry. APPLICANTS FOR THIS POSITION, SPECIFY JOB # A/0704.

STAFF SCIENTIST II

You will assume responsibility for the program's investigation of pollutants emitted from combustion appliances. Experiments are performed in a laboratory chamber and at field sites using a fully instrumented mobile laboratory. Requires previous experience supervising technical personnel. Familiarity with atmospheric or environmental chemistry, air quality monitoring or modeling preferred. Prefer Ph.D. in analytical chemistry. APPLICANTS FOR THIS POSITION, SPECIFY JOB # A/2067.

Please send two resumes to: **Lawrence Berkeley Laboratory, Employment Office, Building 65, One Cyclotron Road, Berkeley, CA. 94720.** An equal opportunity employer, m/f/h.

**Lawrence Berkeley
Laboratory**

INTERNATIONAL AGENCY FOR RESEARCH ON CANCER World Health Organization Lyon - France

FELLOWSHIPS FOR RESEARCH TRAINING IN CANCER 1984-1985

Applications for training fellowships in 1984-1985 are invited from junior scientists wishing to be trained in those aspects of cancer research related to the Agency's own programme: **epidemiology, biostatistics and environmental carcinogenesis - both chemical and viral.** Only applicants in these fields can be entertained.

Applicants should be engaged in research in medical or allied sciences and intend to pursue a career in cancer research.

Fellowships are awarded for one year and are tenable at the Agency or in another suitable institution abroad. Fellows will, in general, be selected from applicants with some post-doctoral research experience related to cancer in medicine or the natural sciences. They must have an adequate knowledge, both written and spoken, of the language of the country in which their fellowship is tenable.

Applications cannot normally be accepted from people already holding fellowships enabling them to study abroad.

Stipends will vary according to the cost of living in the country of study. The cost of travel for the applicant, and in certain circumstances, that of one dependent will be met.

Fellowship applications forms and more detailed information are available from:

Chairman of the Fellowship Selection Committee

**INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
150 cours Albert-Thomas, 69372 LYON CEDEX 08
France**

Applications must reach the Agency not later than
31 December 1983

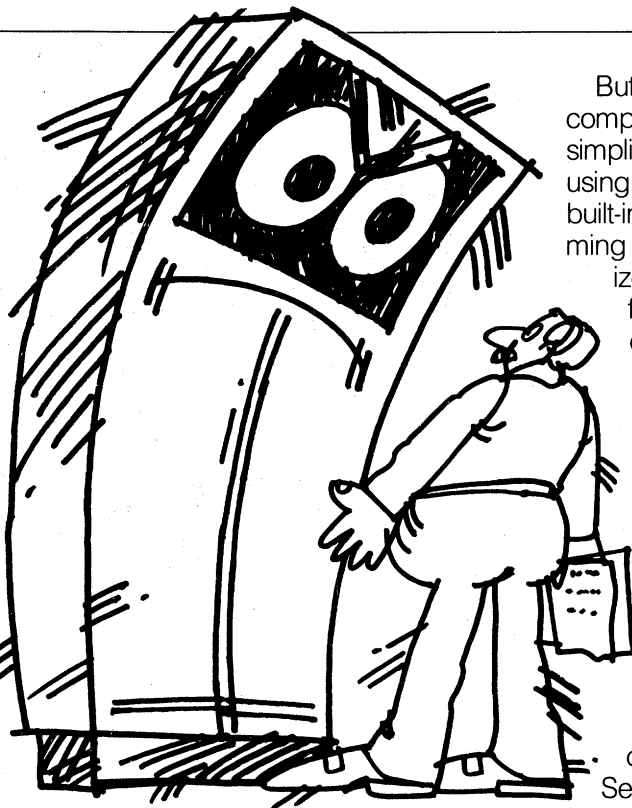
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