

species may extend for many meters. Zimmermann stresses vessel length distribution rather than maximum or average vessel length and notes that the xylem generally contains more short vessels than long ones. Hydraulic conductivity varies with the fourth power of the radius of the vessel, and Zimmermann suggests that this parameter should be used in the functional comparison of xylem instead of the usually used vessel area or vessel number. Zimmermann provides thorough coverage of the applicability of the Hagen-Poiseuille equation to the xylem of various taxa and beginning with chapter 3 deals definitively with the cohesion theory for the ascent of sap. He does not spend much time evaluating competing hypotheses (for example, that put forth by Plumb and Bridgman, *Science* **176**, 1129 [1972]). He concludes with a chapter on the effects of pathology on water transport.

The references in the book are rich and mainstream, with good coverage of the older and European literature; citation of the wood science literature is somewhat lacking, however. Overall this volume is a fine and creative contribution that brings many heretofore disparate concepts into a coherent whole.

GRAEME P. BERLYN
*School of Forestry and Environmental Studies, Yale University,
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Planetary Science

Physics of the Jovian Magnetosphere. A. J. DESSLER, Ed. Cambridge University Press, New York, 1983. xvi, 544 pp., illus. \$29.50. Cambridge Planetary Science Series.

Books on the giant planets tend to be associated with the interpretative phase of major planetary missions and to have a lifetime on the order of the time until the mission's exciting data are superseded by the spectacular findings of the next mission. Thus the giant tome *Jupiter, The Giant Planet* that came out in 1975 in the wake of the Pioneer 10 and 11 missions has been replaced in the magnetosphere-plasma domain by the present volume, whose purview is the data collected by Voyager 1 and 2. Until the interpretative phase of the Galileo orbiter is reached, this volume will serve as the major reference work for researchers and students working in the field.

The book is tightly and rationally organized. It contains 12 papers, eight experimental and four theoretical. The experimental papers present the relevant

Voyager data, the results of optical ultraviolet and radio remote sensing, and, in the paper on high-energy particles, the Pioneer 10 and 11 results. Results concerning the magnetic field, thermal plasma, and low-energy charged particles are presented clearly and discussed in depth by authors who were intimately involved with the experiments. A paper on the ionosphere by two Voyager ultraviolet experimenters insightfully compares the Pioneer and Voyager epochs and presents estimates of those ionospheric parameters, such as Pedersen conductivity, that play a basic role in magnetospheric dynamics.

A long paper by Brown, Pilcher, and Strobel, two ground-based optical spectroscopists and one member of the Voyager ultraviolet team, deals with the optical and ultraviolet remote sensing of the Io torus. The paper contains a great deal of "tutorial" material; the same space could have been better used for a more comprehensive and possibly fairer review of the contributions of many other workers, some of whom have been given rather short shrift in the paper. The involvement of a plasma physicist, if only as a consultant, would have done the paper good.

Chapters 7, 8, and 9 constitute a set. The first two chapters are reviews of the radio-astronomy and plasma-wave results, respectively, with the proper combination of authors from ground-based and Voyager groups. The last of the three chapters is the first of the theoretical papers, a review of the theories of radio emission by Goldstein and Goertz. The authors deal with the application of standard plasma-wave theory to the generation and propagation of electrostatic and electromagnetic waves in a magnetized plasma with, of course, Jupiter as the prime example. Of necessity this chapter depends on the following one, a discussion of magnetospheric models that, though to some extent presenting "the view from Rice," gives a fair picture of the generally sorry state of theory concerning the magnetosphere of a giant planet and the outstanding problems that remain to be confronted.

The final two papers deal with the fundamental questions concerning plasma physics that are raised by Jupiter. Vasyliunas deals creatively with the magnetohydrodynamic aspects of the plasma and magnetic-field regime, coupling his theoretical discussion with copious quantities of data gleaned from both the Pioneer and Voyager flybys. The result is an interesting and useful paper that does much more than simply review the published literature. Thorne,

in the final paper, views the Jovian magnetosphere and its particle populations from the perspective of plasma kinetic theory. He discusses linear and nonlinear wave theory, including wave-particle interactions, diffusion resulting from the violation of the various adiabatic invariants, and the resonant-type processes that give rise to the broad range of Jovian magnetospheric plasma, particle, and radiation phenomena. Though there is some inevitable overlap between the paper and that of Goldstein and Goertz, the contents are sufficiently different to justify the inclusion of both papers. Thorne's paper is one of the book's highlights.

I can sum up by saying that this book is a useful and valuable research tool. It should be in the library of every researcher and student in the field. The editor is to be commended for bringing the book into being.

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Books Received

An Advanced Course of Theoretical Mechanics for Engineering Students. V. M. Starzhinskii. Translated from the Russian edition (Moscow, 1980) by V. M. Volosov. Mir, Moscow, 1982 (U.S. distributor, Imported Publications, Chicago). 472 pp., illus. \$10.95.

Advanced Soil Mechanics. Braja M. Das. Hemisphere, Washington, D.C., and McGraw-Hill, New York, 1983. xvi, 512 pp., illus. \$34.95.

Advances in Blood Substitute Research. Proceedings of a symposium, San Francisco, Sept. 1982. Robert B. Bolin, Robert P. Geyer, and George J. Nemo, Eds. Liss, New York, 1983. xxxii, 472 pp., illus. \$56. Progress in Clinical and Biological Research, vol. 122.

Biological Rhythms and Behavior. J. Mendlewicz and H. M. van Praag, Eds. Karger, Basel, 1983. vi, 150 pp., illus. Paper, \$59.50. Advances in Biological Psychiatry, vol. 11.

Biosynthesis of Indole Alkaloids. Atta-ur-Rahman and Anwer Basha. Clarendon (Oxford University Press), New York, 1983. viii, 270 pp., illus. \$49. The International Series of Monographs on Chemistry, 7.

California Serogroup Viruses. Proceedings of a symposium, Cleveland, Nov. 1982. Charles H. Calisher and Wayne H. Thompson, Eds. Liss, New York, 1983. xxiv, 404 pp., illus. \$42. Progress in Clinical and Biological Research, vol. 123.

Cancer of the Prostate and Kidney. Proceedings of an institute, Erice, Italy, June 1981. M. Pavone-Macaluso and P. H. Smith, Eds. Plenum, New York, 1983. xvi, 750 pp., illus. \$89.50. NATO Advanced Science Institutes Series A, vol. 53.

Exploratory Drilling. B. Vozdvizhensky, O. Golubintsev, and A. Novozhilov. Translated from the Russian edition (Moscow, 1979) by S. Kittell. Mir, Moscow, 1982 (U.S. distributor, Imported Publications, Chicago). 510 pp., illus. \$11.95.

Field Theory in Elementary Particles. Proceedings of a meeting, Coral Gables, Fla., Jan. 1982. Arnold Perlmutter, Ed. Plenum, New York, 1983. x, 470 pp., illus. \$65. Studies in the Natural Sciences, vol. 19.

Flora of Connemara and the Burren. D. A. Webb and Mary J. P. Scannell. Royal Dublin Society, Dublin, and Cambridge University Press, New York, 1983. xlvii, 322 pp., illus. \$69.50.

Ground and Air Survey for Field Scientists. John Wright. Clarendon (Oxford University Press), New York, 1982. xii, 328 pp., illus. Cloth, \$69; paper, \$26.95. Monographs on Soil and Resource Surveys.

Group Theoretical Methods in Physics. Proceedings of a colloquium, Istanbul, Aug. 1982. M. Serdaroglu and E. Inonu, Eds. Springer-Verlag, New

(Continued on page 529)

BOOKS RECEIVED

(Continued from page 501)

York, 1983. xii, 570 pp. Paper, \$30. Lecture Notes in Physics, vol. 180.

A Handbook for Inventors. How to Protect, Patent, Finance, Develop, Manufacture, and Market Your Ideas. Calvin D. MacCracken. Scribner, New York, 1983. xii, 212 pp., illus. \$14.95.

Handbook for Spider Identification. Vincent D. Roth. Published by the author, American Museum of Natural History Southwestern Research Station, Portal, Ariz., 1982. Various pages, illus. Unbound, \$5.

Handbook of Applied Mathematics. Selected Results and Methods. Carl E. Pearson, Ed. Van Nostrand Reinhold, New York, ed. 2, 1983. xvi, 1308 pp., illus. \$67.50.

Lectures in Geometry. M. Postnikov. Translated from the Russian edition (Moscow, 1979) by Vladimir Shokurov. Mir, Moscow, 1982 (U.S. distributor, Imported Publications, Chicago). Two volumes. Semester 1, Analytic Geometry. 344 pp. \$8.45. Semester 2, Linear Algebra and Differential Geometry. 320 pp. \$8.45.

The Life of a Psychologist. An Autobiography. Fritz Heider. University Press of Kansas, Lawrence, 1983. xii, 196 pp., illus. \$12.95.

Linear and Nonlinear Differential Equations. Ian Huntley and R. M. Johnson. Horwood, Chichester, England, and Halsted (Wiley), New York, 1983. 190 pp., illus. Cloth, \$49.95; paper, \$22.50. Ellis Horwood Series in Mathematics and Its Applications.

Magnetic Resonance in Biology. Vol. 2. Jack S. Cohen, Ed. Wiley-Interscience, New York, 1983. xii, 308 pp., illus. \$69.95.

Nutritional Support of Medical Practice. Howard A. Schneider, Carl E. Anderson, and David B. Coursin, Eds. Harper and Row, New York, ed. 2, 1983. xxvi, 702 pp., illus. \$37.50.

The Organic Constituents of Higher Plants. Their Chemistry and Interrelationships. Trevor Robinson. Cordus Press, North Amherst, Mass., ed. 5, 1983. iv, 354 pp., illus. \$14.75.

Organic Photochemistry. Vol. 6. Albert Padwa, Ed. Dekker, New York, 1983. xiv, 438 pp., illus. \$69.75.

The Original Vermonters. Native Inhabitants, Past and Present. William A. Haviland and Marjory W. Power. Published for the University of Vermont by University Press of New England, Hanover, N.H., 1983. xxii, 326 pp., illus. Paper, \$12.95. Reprint of the 1981 edition.

Pure Types Are Rare. Myths and Meanings of Madness. Irwin Silverman. Praeger, New York, 1983. xiv, 130 pp. \$21.95.

Quantum Theory, Groups, Fields and Particles. A. O. Barut, Ed. Reidel, Boston, 1983 (distributor, Kluwer Boston, Hingham, Mass.). viii, 336 pp. \$45.50. Mathematical Physics Series, vol. 4.

Quantum Theory of Solids. I. M. Lifshits, Ed. Translated from the Russian. Mir, Moscow, 1982 (U.S. distributor, Imported Publications, Chicago). 320 pp., illus. Paper, \$8.95. Advances in Science and Technology in the U.S.S.R., Physics Series.

The Real Future. T. A. Heppenheimer. Doubleday, Garden City, N.Y., 1983. xvi, 296 pp., illus. \$17.95.

Reason in Human Affairs. Herbert A. Simon. Stanford University Press, Stanford, Calif., 1983. x, 116 pp. \$10. The Harry Camp Lectures at Stanford University, 1982.

Recent Advances in Analytical Chemistry. Proceedings of a meeting, Dec. 1981. J. M. Thomas, R. Belcher, and T. S. West, Eds. The Royal Society, London, 1982. vi, 220 pp., illus. £29.80. First published in *Philosophical Transactions of the Royal Society of London*, series A, vol. 305.

Symmetries in Nuclear Structure. Proceedings of an institute, Drontheim, The Netherlands, Aug. 1982. K. Abrahams, K. Allaart, and A. E. L. Dieperink, Eds. Plenum, New York, 1983. x, 302 pp., illus. \$47.50. NATO Advanced Science Institutes Series B, vol. 93.

Targeted Drugs. Eugene P. Goldberg, Ed. Wiley-Interscience, New York, 1983. xii, 296 pp., illus. \$55. Polymers in Biology and Medicine, vol. 2.

Viruses Associated with Human Cancer. Leo A. Phillips, Ed. Dekker, New York, 1983. xiv, 652 pp., illus. \$95.

Vitiligo and Other Hypomelanoses of Hair and Skin. Jean-Paul Ortonne, David B. Mosher, and Thomas B. Fitzpatrick. Plenum, New York, 1983. xvi, 684 pp., illus. \$79.50. Topics in Dermatology.

World Directory of Collections of Cultures of Microorganisms. Vicki F. McGowan and V. B. D. Skerman, Eds. World Data Center on Microorganisms, University of Queensland, Brisbane, Australia, ed. 2, 1983 (available from T. Rosswall, Department of Microbiology, Swedish University of Agricultural Sciences, Uppsala). xxxii, 642 pp. Paper, \$25.

Personnel Placement

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POSITIONS WANTED

Consultant, molecular biology Ph.D.; gene cloning and related technologies. Nucleic acid sequencing, purification, hybridization, translation; construction of genomic and cDNA expression libraries, isolation and characterization of recombinants, and so forth. Box 298, SCIENCE. 11/4, 18

Cytogeneticist. Ph.D. 1973. Broad experience in modern cytogenetics research using chromosome spreading, chromosome banding, TEM, and SEM. Also experience in administration as department chairman. Desires to relocate in the southeastern United States. Seeks position in academics as faculty member or department head. Strong commitment to undergraduate and graduate research. Box 292, SCIENCE. X

Experienced successful Grantsman, Author, and Peer Reviewer (physiology Ph.D.) seeks free-lance projects requiring prompt help with writing or editing grant applications, journal articles, books, and so forth. I specialize in applied medical and veterinary research and can assist foreign or domestic individuals or institutions with literature searches, experimental design, data collection, statistical analysis, and the ultimate production of a polished document. Box 299, SCIENCE. X

Lipid Neurochemist, Ph.D., 18 years of teaching, administration, research experience. Seeks position in industry, college, government. Box 297, SCIENCE. X

Neuroscience Program, interested in relocating. Nationally recognized, five principal investigators plus support staff. Human, animal, and cellular multidisciplinary research: neurophysiology; psychobiology; psychophysiology; computer modeling; development; neuroimmunology. Clinical services: electroencephalography; neurosensory assessment; polysomnography; neuropsychological assessment. Request program outline. Box 283, SCIENCE. 11/4, 11

POSITIONS WANTED

Versatile Microbiologist operating at postdoctoral level seeks research position. Interested in nutrition, motility, energy flow, ecology, mode of action of toxicants, and others. Many publications. 7225A Amherst Avenue, St. Louis, Missouri 63130. 11/4, 11

Physiologist/Computer Science. Ph.D. (1982). Cardiovascular/hemodynamics. Experience: in vivo cardiovascular measurements and models, chronic and acute; 2 years of postdoctoral experience: regional alpha-adrenergic VSM control. Publications. Academic/government/hospital/industry. Box 289, SCIENCE. X

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POSITIONS OPEN

ANATOMY

Gross anatomy/embryology. The University of South Carolina, Anatomy Department, is seeking two qualified anatomists with postdoctoral experience (assistant-associate professor), commencing 1 July 1984, to teach medical students. Necessary qualifications include a positive commitment to teaching, knowledge of other anatomical disciplines, an active research program, and service to the school and university. The University of South Carolina School of Medicine graduated its first class in 1981 and presently accepts 64 medical students. The school has recently moved to new facilities located on the Veterans Administration campus. Submit résumé and letters of recommendation to: **Professor Richard J. Weymouth, Chairman, Department of Anatomy, University of South Carolina School of Medicine, Building 1, B-26, Columbia, South Carolina 29208.**

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THREE TENURE-TRACK ASSISTANT PROFESSORS

Department of Biological Sciences
State University of New York at
Binghamton, Binghamton, N.Y. 13901

- 1) **POPULATION ECOLOGIST**
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- 2) **PHYSIOLOGIST**
(Dr. Arthur Frankel, search chair)
- 3) **BIOCHEMIST**
(Dr. Karl Wilson, search chair)

Applicants should solicit three or more letters of recommendation to be sent and send curriculum vitae (including home and business telephone numbers), a summary of current and/or anticipated research, reprints, and a brief statement of teaching interests to the appropriate search chair. Deadline is 15 December 1983. *An Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF ROCHESTER SCHOOL OF MEDICINE AND DENTISTRY DEPARTMENT OF PHYSIOLOGY ASSISTANT PROFESSOR

Applications for a tenure-track research and teaching position are invited from individuals with postdoctoral research experience. Neurophysiologists or neurobiologists working in areas of interneuronal communication, information processing, or control by neuronal systems will be considered. Applicants should be involved in the development of new concepts or techniques or their application to systems not previously studied. Specific area of interest is less important than the potential for creative work using approaches at the forefront of the field. Curriculum vitae, description of research interests, and a list of four or more references should be sent to:

Dr. Paul Horowicz
Department of Physiology
Box 642
University of Rochester
School of Medicine and Dentistry
Rochester, N.Y. 14642

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POSITIONS OPEN

MENTAL RETARDATION RESEARCH CENTER (MRRC), University of California, Los Angeles (UCLA). Applications are invited for an **ASSISTANT PROFESSORSHIP**. Candidates should have research interests in developmental neurobiology of the central nervous system with emphasis on molecular biology, pharmacology, or immunohistochemistry. Submit curriculum vitae and three references by 1 December 1983 to: **Developmental Biology Committee, c/o Director, MRRC, 760 Westwood Plaza, Los Angeles, Calif. 90024. UCLA is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT/ASSOCIATE PROFESSOR. Tenure-track position for a Ph.D. in chemical sciences, fall 1984. Applicants must have a strong commitment to teaching at the undergraduate and graduate (M.S.) levels and to maintaining an active research program. Teaching and/or postdoctoral experience is desirable. Research areas open, but analytical, chemical education, chemometrics, clinical or nuclear/radiochemistry are preferred. University has 24,000 students; 29 faculty in the Department. Have curriculum vitae, transcripts, a statement of both teaching/research interests, and three letters of reference sent to: **John Neptune, Chemistry Department, San Jose State University, San Jose, Calif. 95192** by 16 December 1983. *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR—ANATOMY

The Section of Morphological Sciences, University of Southern California School of Dentistry, invites applications for a tenure-track appointment at the level of assistant professor available 1 July 1984. Candidates must have a Ph.D. degree in anatomical sciences; postdoctoral experience is desirable. Requirements include demonstrated research capabilities and excellence or the potential for excellence in teaching gross anatomy to dental students, dental hygiene students, and postdoctoral (D.D.S.) specialist candidates. Applicants should send their curriculum vitae, a concise statement of research achievements and goals, and the name of three references to: **Dr. William H. Crawford, Jr., Dean, School of Dentistry, University Park MC-0641, University of Southern California, Los Angeles, California 90089-0641.** The application deadline is 1 March 1984.

ASSISTANT PROFESSOR OF BIOCHEMISTRY

A tenure-track position will be available in the Department of Biochemistry at Kansas State University in fall 1984. The successful applicant will have at least 2 years of postdoctoral experience. He or she will be expected to establish an independent research program and to participate in graduate and undergraduate teaching. Applicants in all research areas will be considered. We are particularly interested in areas related to cell-cell communication, which might include cell-surface function or the action of hormones, growth factors, or neurotransmitters, among other possibilities. Send a résumé, a description of research plans, and the names of three references to: **David J. Cox, Head, Department of Biochemistry, Kansas State University, Manhattan, Kans. 66506.**

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

ASSISTANT PROFESSOR, ORGANIC CHEMISTRY, fall 1984. Applicants for this tenure-track position should have a Ph.D. in organic chemistry with a strong experimental research program and a vigorous interest in teaching at the undergraduate and graduate levels. To apply, submit a complete résumé, including research plans and teaching interests, and three letters of recommendation to: **Dr. James W. Pavlik, Worcester Polytechnic Institute, Worcester, Mass. 01609.** *An Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR—PHARMACOLOGY AND PSYCHIATRY. The Alcohol and Drug Abuse Research Center, McLean Hospital-Harvard Medical School, invites applications for a research pharmacologist. Candidates should have experience in both experimental animal and human alcohol and drug abuse related research. Experience with techniques involving experimental analysis of behavior with sub-human primates in drug related studies is essential. Applicants should send curriculum vitae, a description of research experience, and names of three references to: **Jack H. Mendelson, M.D., Alcohol and Drug Abuse Research Center, McLean Hospital-Harvard Medical School, 115 Mill Street, Belmont, Mass. 02178.** Deadline for receipt of applications is 18 November 1983. *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR OF ANATOMY

The Department of Anatomy, The Ohio State University, is seeking exceptional candidates to fill a tenure-track position. Applicants should have a Ph.D. or M.D. degree and a minimum of 2 years of postdoctoral experience. A successful candidate must have a strong record of scientific accomplishments and the ability to develop an independent research program. The department is committed to forming a strong research group in developmental biology/aging biology. Preference will be given to candidates with research expertise in cellular biology and quantitative morphology. Additional responsibilities include collaborative research, and teaching of both professional and graduate students. Curriculum vitae and three letters of recommendation should be sent by 1 January 1984 to:

**James S. King, Ph.D.
Professor and Chairman
The Ohio State University
Department of Anatomy
4066 Graves Hall
333 West 10 Avenue
Columbus, Ohio 43210**

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ASSISTANT PROFESSOR OF BIOLOGY

Candidates are sought for two or more tenure-track positions. One will be located in the Department of Biology, Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts, and others will be at the Whitehead Institute for Biomedical Research with an appointment in the Department of Biology, MIT.

The candidates' research interests should be in the broad areas of the structure and function of biological macromolecules, membranes, or organelles. Specific topics could include: cellular and subcellular organization and assembly; receptors; regulatory macromolecules; molecular and cellular neurobiology; and structure-function relationships of proteins or nucleic acids.

The appointees will be expected to conduct an active research program and to participate in the teaching program of the department.

Applicants should send curriculum vitae, a summary of their proposed research program, and names of at least three scientists who can provide an evaluation of their accomplishments and future potential. Send applications to:

**Chairperson
Cell Biology and Biochemistry Search Committee
Room 56-511, Department of Biology
Massachusetts Institute of Technology
Cambridge, Mass. 02139**

Equal Opportunity/Affirmative Action Employers

CELL BIOLOGIST/NEUROBIOLOGIST

Two tenure-track faculty positions are available in the Department of Anatomy at Georgetown University. Both positions are at the assistant or associate professor level and will be filled on or before 1 July 1984. Applicants must have a Ph.D., M.D., or D.D.S. degree and 2 years of postdoctoral experience.

CELL BIOLOGY: While the specific area of research is not as important as excellence, preference will be given to candidates interested in the cytoskeleton, endocytosis, membrane biology, or extracellular matrix.

NEUROBIOLOGY: Although research excellence is the major criterion, preference will be given to candidates utilizing cellular approaches to the study of the nervous system.

Successful candidates will be expected to pursue a vigorous research program capable of attracting extramural funding and to participate in teaching. Teaching experience in human neuroanatomy and/or gross anatomy is desirable.

Persons interested in these positions should send a copy of their curriculum vitae, copies of two or three publications, names of three referees, and a one-page statement outlining their research objectives to:

**Dr. Martin Dym, Chairman
Department of Anatomy
Georgetown University
School of Medicine-School of Dentistry
3900 Reservoir Road, NW
Washington, D.C. 20007**

Deadline for application receipt is 15 December 1983. *Georgetown University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR, FOREST TREE TISSUE CULTURE RESEARCH

A tenure-track appointment available 1 January 1984, working at the interface between basic research in conifer tissue culture and applied forest tree improvement. The individual will be expected to independently initiate research projects involving plantlets derived from new tissue culture methods and to incorporate developed methods and systems into tree improvement and forestry activities. Position is 100 percent research with opportunities to work with and direct graduate student research. Emphasis is on the growth and development of tissue culture plantlets in vivo, including assessment of the suitability of plantlets for genetic improvement programs, assessment of clonal fidelity, and the development of "early" selection methods. Qualifications are a Ph.D. in forestry or related plant science, experience in tree improvement, plant physiology, experimental design, and statistics. Experience with vegetative propagation, tissue culture, and greenhouse management is desirable. Applicants should submit a detailed résumé and three letters of reference to:

**Dr. Robert J. Weir
Department of Forestry
Box 5488
North Carolina State University
Raleigh, N.C. 27650**

Equal Opportunity/Affirmative Action Employer

ASSISTANT/ASSOCIATE PROFESSOR OF HORTICULTURE/PLANT PHYSIOLOGY. Fairbanks, Alaska. Appointee to this tenure-track position will be involved in 95 percent research and 5 percent teaching. Research emphasis in the Agricultural Experiment Station will be on the physiological response of horticultural crops to temperature and photoperiod, particularly under greenhouse conditions. Opportunities will be available for teaching; participation in extension programs is expected, but is not a formal assignment. A Ph.D. with major emphasis in horticulture and plant physiology, and evidence of recent research and scholarly publication are required. Experience in greenhouse management is desirable. Salary commensurate with qualifications and experience. Send résumé, university transcripts, and a statement supporting your ability to carry out the responsibilities of the position, and have three letters of reference sent to: **Dean James V. Drew, School of Agriculture and Land Resources Management, 309 O'Neill Resources Building, University of Alaska-Fairbanks, Fairbanks, Alaska 99701.** Closing date is 1 February 1984. *University of Alaska is an Equal Opportunity/Affirmative Action Employer and Educational Institution.*

EMORY UNIVERSITY: The Department of Psychology anticipates making a tenure-track appointment at the beginning **ASSISTANT PROFESSOR** level in the **Psychobiology Program**. Applications from candidates in animal behavior/physiological psychology and behavioral neuroscience are encouraged. Ph.D. required. Duties include undergraduate and graduate teaching and research. Please include current curriculum vitae and copies of recent work, and have three letters of recommendation sent to: **Dr. Michael Zeiler, Department of Psychology, Emory University, Atlanta, Ga. 30322.** Deadline for receipt of applications is 1 February 1984. *Emory University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT RESEARCH SCIENTIST

Assistant research scientist position in a university biochemistry department, working on the biochemistry of antitumor proteins. Research will involve protein purification, characterization by compositional and spectrophotometric assays, and evaluation of biological effects of the drug on tissue culture cells. A Ph.D. degree in biochemistry and publications in peer reviewed journals are required. The applicant must have expertise in the purification of proteins from tissue fluids and cell membrane, in chemical modification of proteins, in physical studies of proteins, in enzymology, particularly membrane-bound enzymes, in tissue culture, and in cytotoxic assays.

Salary is \$17,970 per year; 40 hours per week.

Send résumé and two letters of reference to:

**Iowa Job Service
1810 Lower Muscatine Road
Iowa City, Iowa 52240
Reference Number JO 1344710
Equal Opportunity Employer**

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR OF PHARMACOLOGY. The Department of Pharmacology of the West Virginia School of Osteopathic Medicine (WVSOM) seeks an assistant or associate professor of pharmacology. Applicants must have a good background in general pharmacology, with experience in one or more of the following areas: cardiovascular pharmacology, neuropharmacology, chemotherapy, and antibiotics. Significant teaching experience and a demonstrated ability to conduct independent research are also required. Rank and salary will be commensurate with qualifications. Send current curriculum vitae and three letters of recommendation to: Elizabeth Blatt, Associate Dean for Academic Affairs, WVSOM, 400 North Lee Street, Lewisburg, West Virginia 24901, by 2 December 1983; the position is available immediately. *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR—PHYSIOLOGICAL PSYCHOLOGY. Applicants with strong research programs in the biological basis of behavior are sought for a tenure-track position. The Department of Psychology at University of Alabama, Birmingham, co-sponsors a doctoral program in behavioral neuroscience with the Neurosciences Program of the School of Medicine. Seed money and excellent research facilities are available. Send curriculum vitae and three letters of recommendation to: Dr. Joan F. Lorden, Department of Psychology, University of Alabama in Birmingham, Birmingham, Alabama 35294.

ASSOCIATE PROFESSOR, VIROLOGY

A 12-month, tenure-track position requiring a Ph.D. with a strong background in the cellular/molecular biology of animal viruses is now available in the Department of Medical Microbiology and Immunology. Candidate with primary research interests in the mechanisms of virus replication, virus gene expression, pathogenesis of viral infection or tumor biology are encouraged to apply. The department is seeking an innovative person to establish and maintain a high-quality, independent research program and to participate in medical and graduate student teaching. Interested candidates should submit curriculum vitae, a summary of research interests, and the names of three references by 1 February 1984 to:

Dr. Ram P. Tewari
Department of Medical Microbiology
and Immunology
Southern Illinois University School of Medicine
P.O. Box 3926
Springfield, Ill. 62708

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COMPUTERS AND THE LIBERAL ARTS

Reed College seeks an energetic and imaginative person with a strong academic or industrial background who has scholarly interest and practical experience in computing sciences. The College is poised to take a substantial initiative in the establishment of a campus-wide system networking large numbers of personal computers with higher-level systems. This effort will be undertaken with particular attention to facilitating the broadest possible use of the computing resources in the context of a rigorous liberal arts curriculum. Thus, we are seeking a person who will be able to address the computer-related interests of students and faculty in diverse disciplines and provide guidance and leadership toward further development of an open-access computer system in this academic context.

This position was created by a gift to the College from the John D. and Catherine T. MacArthur Foundation. The term of the initial appointment is negotiable but expected to be not less than 6 months nor more than 3 years. The successful applicant will have full faculty status and a formal association with an appropriate academic department. It is expected of the occupant of the MacArthur position that he/she will lead an upper division undergraduate seminar in an area of his/her expertise during each academic term in residence. In addition, it is anticipated that he/she will participate actively and as a consultant in the implementation of the program for diffusion of computer-based information handling in the liberal arts. The closing date for applications is 15 January 1984. Address inquiries and applications (including résumé and three letters of recommendation) to: S. Arch, Ph.D., Chair, MacArthur Search Committee, Reed College, 3203 South East Woodstock Boulevard, Portland, Oregon 97202. *Reed College is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

BIOPSYCHOLOGIST. The Department of Psychology at the University of New Orleans has an opening at the assistant or associate professor level in biopsychology beginning August 1984. Salary is commensurate with experience. The Department of Psychology has graduate programs leading to the doctorate in applied biopsychology and applied developmental psychology. Applicants should therefore have demonstrated research competence in biopsychology and have applied interests and capabilities. Curriculum vitae and three letters of recommendation should be sent no later than 15 January 1984 to: Dr. Bruce M. King, Biopsychology Search Committee, Department of Psychology, University of New Orleans, New Orleans, Louisiana 70148. *An Equal Opportunity/Affirmative Action Employer.*

BOTANY POSTDOCTORATE. Host/parasite relationships in *Striga* and other root parasites. Developmental and physiological interests with skills in some or all of the following: tissue culture, SEM and TEM, radiolabeling, HPLC, and electrophoresis. Available immediately. Send curriculum vitae, statement of interests, and names of references to: J. L. Riopel, Biology Department, University of Virginia, Charlottesville, Va. 22901.

CHAIRPERSON, DEPARTMENT OF SURGERY. State University of New York at Buffalo has an opening for chairperson, Department of Surgery. Responsibilities: education and research programs of the department and residency program at affiliated hospitals. Should have record of accomplishment in teaching, scholarly activity, and administration. Send curriculum vitae and references prior to 15 December 1983 to: James P. Nolan, M.D., Chairman, Surgical Search Committee, Erie County Medical Center, 462 Grider Street, Buffalo, N.Y. 14215. *Affirmative Action/Equal Opportunity Employer.*

COMPARATIVE PHYSIOLOGY

The Department of Zoology, University of Florida, has a tenure-track position available for an assistant or associate professor whose field of research is **COMPARATIVE PHYSIOLOGY OF AMPHIBIANS AND/OR REPTILES.** Individuals who are interested in an evolutionary, behavioral, and/or ecological approach are preferred. The department is determined to maintain close contact between its developing program in ecological physiology and its traditional strengths in ecology, behavior, and evolutionary zoology. The successful candidate will be expected to contribute to teaching in the undergraduate program, will be encouraged to develop a graduate course of his/her choosing, and will be expected to develop an effective research program. Appropriate research interests include such topics as gas exchange, behavioral temperature regulation, energy budgets, and water and salt balance. Candidates must submit a curriculum vitae, a statement of research interests, a selected set of recent publications, and the names, addresses, and phone numbers of at least three references by 10 December 1983 to:

Dr. Martha Crump
Physiology Search Committee
Department of Zoology
University of Florida
Gainesville, Fla. 32611

PURDUE UNIVERSITY CALUMET Hammond, Indiana DEAN

School of Science and Nursing

Applications and nominations are invited for the position of dean in this school which includes Departments of Biology, Chemistry and Physics, Mathematical Sciences, and Nursing.

The School of Science and Nursing is one of three degree granting schools of Purdue Calumet, a commuter campus of approximately 7800 students, located in the northwest Indiana—Chicago metropolitan area. Undergraduate and master's level programs offered.

Candidates must have an earned doctorate in an appropriate discipline from a recognized institution, effective college or university teaching experience, a record of research or creative activity, administrative experience, and must qualify for full professor. This position will be available 1 July 1984. Salary is competitive. Deadline for applications is 9 January 1984. Nominations or applications, including curriculum vitae and names of three references, should be sent to:

Professor Samuel D. Paravonian, Chairman
Dean Selection Advisory Committee
Purdue University Calumet
Hammond, Indiana 46323

An Equal Access/Equal Opportunity University

POSITIONS OPEN

DEAN, COLLEGE OF LETTERS AND SCIENCE, MONTANA STATE UNIVERSITY

Nominations and applications are invited for the position of dean of the College of Letters and Science at Montana State University, a multifaceted land-grant institution of 11,000 students. The College, composed of 300 faculty and over 1800 undergraduate and graduate majors, seeks a candidate with the following qualifications: a terminal degree in a discipline represented in the college; an established reputation for research and creativity; experience in university teaching, preferably at both the undergraduate and graduate levels; knowledge of and appreciation for the teaching methods, scholarship, and educational goals in the departments of Letters and Science; experience in budgetary matters and personnel management; and demonstrable leadership and administrative capabilities.

Starting date is 1 July 1984, and salary is negotiable. Interested individuals should send a formal letter of application addressing interest and qualifications; a résumé; and names, addresses, and telephone numbers of three references by 15 December 1983 to:

Office of Academic Vice President
Search Committee: Dean of Letters and Science
211 Montana Hall
Montana State University
Bozeman, Montana 59717

An Equal Opportunity/Affirmative Action Employer

DEAN, ARTS AND SCIENCE, NORTHERN ARIZONA UNIVERSITY (NAU), 1 July 1984. Qualifications: Ph.D., recognized scholarly achievement, excellent teaching record, and administrative experience; qualified for advanced rank and tenure. Send résumé, three current letters of recommendation, and a one-page statement on role of College of Arts and Science in institution of 11,000 students, postmarked by 15 December 1984, to: Dean Blinn, Chair, Screening Committee, Box 4121, NAU, Flagstaff, Ariz. 86011. *Equal Opportunity/Affirmative Action Employer.*

GENERAL CLINICAL RESEARCH CENTER (GCRC)—PROGRAM DIRECTOR

Applications are invited from individuals committed to clinical investigation. The center is a separate wing of the university hospital, fully staffed, equipped, and funded through an NIH Clinical Center Grant. Clinical research is carried out in a strong interdisciplinary scientific environment. A substantial commitment of finances, positions, and space has been made by the university to support the position. Interested individuals should send curriculum vitae to:

Dr. Thomas E. Gaffney
Principal Investigator, GCRC
Medical University of South Carolina (MUSC)
171 Ashley Avenue
Charleston, South Carolina 29425

MUSC is an Equal Opportunity/Affirmative Action Employer.

International research organization concentrating on family health programs (including family planning) seeks a **DIRECTOR** for its Clinical Trials Group. Successful candidate will be an M.D. or Ph.D. with epidemiology, pharmacology, or heavy clinical trials management experience. Must have working knowledge of research capabilities and needs of at least one Third World country. Superior location for good living and intellectual stimulation in Research Triangle area of North Carolina.

Send résumé to: President, Family Health International, Research Triangle Park, N.C. 27709. *An Equal Opportunity/Affirmative Action Employer, M/F/H.*

FACULTY POSITIONS. As part of a major development program, **THE UNIVERSITY OF PENNSYLVANIA, DEPARTMENT OF CHEMISTRY**, seeks to add two outstanding faculty members at the assistant professor (tenure probationary) level beginning September 1984. Candidates at a more senior level may also be considered. The two general areas of research interests are organic or inorganic chemistry, excluding natural product synthesis, and experimental or theoretical physical chemistry, including biophysical chemistry. Applicants should send curriculum vitae, list of publications, a brief statement of research interests, and in addition have a minimum of three letters of recommendation sent to: J. Kent Blasie, Chairman, Department of Chemistry/D5, University of Pennsylvania, Philadelphia, Pa. 19104, by 1 December 1983. *The University of Pennsylvania is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

SCIENTIFIC EDITOR. Ph.D. in discipline related to biotechnology (microbiology, biochemistry, molecular biology, chemical engineering, and so forth). Assess and edit original research papers and review articles, commission review articles, work with editor-in-chief and scientific advisory board to develop research section of the journal. Some editorial experience, academic or industrial contacts preferred. Understanding of industrial impact of basic research essential. This is a full-time position in our New York office. For more information, write to: **Christopher G. Edwards, Editor-in-Chief, BIO/TECHNOLOGY**, 15 East 26 Street, New York, N.Y. 10010.

The California Space Institute, La Jolla campus of Scripps Institution of Oceanography, has an immediate opening at the postdoctoral level (Ph.D. or equivalent degree) for an **EXPERIMENTAL CHEMIST OR PHYSICIST** with experience in nuclear instrumentation appropriate to participate in a research program for the development and calibration of instruments for gamma-ray spectroscopic observation of Mars, the moon, or asteroids from orbit. The experimental program involves accelerator bombardment and scientific balloon flights. Position is for 1 year with the possibility of a second year dependent on available funding. Salary range: \$18,132 to \$19,848, commensurate with qualifications. Send résumé and references to: **Elaine Cox, California Space Institute, A-030, Scripps Institution of Oceanography, La Jolla, Calif. 92093**, by 30 November 1983. For additional information regarding the position, contact: **David Wirth or Dr. James Arnold** at the above address or telephone: 619-452-4772, 619-452-2908. *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS IN MICROBIOLOGY AND MOLECULAR GENETICS

The Department of Microbiology and Molecular Genetics at the University of Cincinnati College of Medicine has been undergoing a major expansion and is currently searching for a molecular or cellular immunologist. Applications for tenure-track positions at any level are invited. Candidates should be involved in vigorous and creative research programs and should have demonstrated independence as an investigator. Applicants should submit curriculum vitae and a short statement of research accomplishments and direction for future research, along with the names of three scientists willing to write letters of recommendation. These should be forwarded to: **Dr. Jerry B. Lingrel, Chairman, Department of Microbiology Genetics (524), University of Cincinnati College of Medicine, Cincinnati, Ohio 45267**. *The University of Cincinnati is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN MOLECULAR GENETICS

The Department of Microbiology at the University of Alabama in Birmingham invites applications for a tenure-track position at the assistant professor level. Applicants are required to hold an M.D. and/or Ph.D. and postdoctoral training in molecular genetics relative to the major histocompatibility complex of man. Applicants should have the desire and ability to develop a competitive research program. Salary commensurate with experience and qualifications.

Applicants should submit: (i) curriculum vitae, including at least three recent publications, (ii) statement of research and teaching goals, (iii) current and pending research support, and (iv) three reference letters to:

Ronald T. Acton, Ph.D.
Chairman, Search Committee
Room 801, DREB
University of Alabama in Birmingham
University Station
Birmingham, Ala. 35294

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

POSTDOCTORAL POSITION. USPHS-supported fellowship positions available immediately in the Department of Microbiology, University of Alabama in Birmingham (UAB). Individuals interested in the molecular characterization of the genes within the major histocompatibility complex with experience in molecular genetics are encouraged to apply. Send curriculum vitae, three references, and summary of research interests to: **Ronald T. Acton, Ph.D., Room 801, DREB, University of Alabama in Birmingham, University Station, Birmingham, Alabama 35294**. *UAB is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

EXPERIMENTAL NUTRITION: Faculty Position

The Department of Nutritional Sciences at the University of California, Berkeley, seeks an outstanding individual with an established record of excellence in research and teaching for the position of professor or associate professor of experimental nutrition. Research emphases are not restricted but should be related to biochemical aspects of experimental nutrition such as studies of intermediary metabolism and its control or mechanisms of nutrient action. Teaching responsibilities normally include two courses per year (including a laboratory). Level of appointment will depend on qualifications. Applications should be submitted to: **Chairman, Experimental Nutrition Search Committee, Department of Nutritional Sciences, 119 Morgan Hall, University of California, Berkeley, Calif. 94720**. Applications should be accompanied by complete curriculum vitae and publication list, a statement of research interests, and a brief description of teaching experience. Applicants should submit the names of five referees able to evaluate the academic, teaching, and research abilities of the applicant. Deadline for completed applications: 1 December 1983. Position available 1 July 1984, pending approval of University administration.

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

THE UNIVERSITY OF CHICAGO DIVISION OF THE BIOLOGICAL SCIENCES

The Department of Pharmacological and Physiological Sciences is considering faculty appointments from qualified candidates with research interests in the area of **neurobiology**. We are particularly interested in the areas of neuroanatomy, cell and molecular neurobiology, and invertebrate neurobiology. *From the time of its original charter, the principle of the University of Chicago has been to appoint scholars without regard to race, color, religion, sex, or national origin.* Please have three professional persons write us concerning you and send your résumé together with your most significant publications to:

Alfred Heller, Professor and Chairman
Department of Pharmacological and
Physiological Sciences
The University of Chicago
947 East 58 Street
Chicago, Illinois 60637

FACULTY POSITIONS IN MICROBIOLOGY AND MOLECULAR GENETICS

The Department of Microbiology and Molecular Genetics at the University of Cincinnati College of Medicine has been undergoing a major expansion, and is currently searching for a person with interests in host parasite relationships or the genetics and/or biochemistry of yeast. Applications for tenure-track positions at any level are invited. Candidates should be involved in a vigorous and creative research program and should have demonstrated independence as an investigator. Applicants should submit curriculum vitae and a short statement of research accomplishments and direction for future research, along with the names of three scientists willing to write letters of recommendation. These should be forwarded to: **Dr. Jerry B. Lingrel, Chairman, Department of Microbiology and Molecular Genetics (524), University of Cincinnati College of Medicine, Cincinnati, Ohio 45267**. *The University of Cincinnati is an Equal Opportunity/Affirmative Action Employer.*

The School of Applied Biology, Georgia Institute of Technology, invites applications for two tenure-track **FACULTY POSITIONS** at the assistant/associate professor rank. **Applied Biologist:** Applicants with research experience and teaching interest in one or more of the following areas are especially encouraged to apply: microbial genetics, toxicology, molecular biology, or applied microbiology. **Mass Spectroscopist—Biotechnologist:** Applicant must have research and teaching experience in mass spectrometry, identification of natural products, and physiology of cellular systems. Applicants for both positions will be assessed on teaching ability, strength of research program, and research that complements departmental research interest.

Send curriculum vitae, description of proposed research, and three letters of reference to: **T. G. Tornabene, Director, School of Applied Biology, Georgia Institute of Technology, Atlanta, Ga. 30332**. Telephone: 404-894-3735. Closing date: 31 January 1984. *The Georgia Institute of Technology is a unit of the University System of Georgia and is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY POSITION IN PHYSIOLOGY: The Department of Physiology of the Temple University School of Medicine seeks a Ph.D. or M.D. to fill a full-time, tenure-track position. Individual should demonstrate ability to do independent research and will be involved in medical and graduate level teaching programs. Salary is commensurate with experience. Send curriculum vitae to: **Dr. Alan R. Freeman, Department of Physiology, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, Pa. 19140**. *Temple University is an Equal Opportunity/Affirmative Action Employer.*

CENTER FOR GENETICS UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE

The Center for Genetics is seeking candidates for two faculty positions in the area of **molecular genetics**. The positions, starting on or after 1 January 1984, will be at the level of assistant professor or higher, depending upon the candidate's qualifications, and will be either tenure-track or tenured. Candidates must have a Ph.D. or its equivalent plus 2 years of postdoctoral experience in molecular genetics or related areas. Significant research accomplishments and/or evidence of outstanding research potential will be key considerations.

Applicants should provide curriculum vitae, names and addresses of four references, and a brief statement of research interests and plans. Applications should be sent to:

Dr. Richard L. Davidson, Director
Center for Genetics
University of Illinois College of Medicine at Chicago
808 South Wood Street
Chicago, Illinois 60612

To receive fullest consideration, applications should be received by 1 December 1983.

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

SIX TENURE-TRACK POSITIONS

A newly established medical school is expanding its faculty in: **ANATOMY, CELL BIOLOGY, NEUROSCIENCE, PHARMACOLOGY, PHYSIOLOGY, AND VIROLOGY**. We are seeking candidates with a Ph.D. and/or M.D. with postdoctorate training. Successful candidates will participate as tutors in a problem-based curriculum and will be expected to develop an active research program. Applications will be accepted until 15 December 1983. Send curriculum vitae, names and addresses of three references, and a brief statement outlining career goals to: **Dr. Robert Moon, Chairman, Department of Basic Medical Sciences, Mercer University School of Medicine, Macon, Ga. 31207**. *An Equal Opportunity/Affirmative Action Employer.*

Applications are invited for an **INSTRUCTOR** in the Department of Pharmacology. The duties include the synthesis, analysis, and toxicological testing of glutathione conjugates of halogenated chemicals and participation in the instruction of graduate students in instrumental analysis and biochemical toxicology. Qualifications for the position include a Ph.D. degree in medicinal, pharmaceutical, or organic chemistry, postdoctoral experience in biochemical toxicology and nephrotoxicity, and demonstrated experience in synthetic chemistry and the use of NMR, GC/MS, and other analytical techniques. The deadline for the receipt of applications is 1 December 1983. Applicants should submit curriculum vitae, bibliography, and the names of three references to: **Dr. M. W. Anders, Department of Pharmacology, University of Rochester, 601 Elmwood Avenue, Rochester, N.Y. 14642**.

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INSTRUCTOR IN MEDICINE to direct all aspects of Board-accredited laboratory. Perform and instruct on immunodiagnostic assays—RIA, EIA, and electrophoresis for the determination of hepatitis, alpha-fetoprotein, carcinoembryonic antigen and gastrin levels in serum and amniotic fluids. Initiate research and/or develop techniques necessary for updating and advancing laboratory services. Must have Ph.D. in a biological science with immunology. Needs 7 years of experience dealing with microbiological investigations including virology (some of this time in a viral hepatitis laboratory) and 3 years of teaching experience in a related field. Must speak English and have proven record of research in related field with publications. Salary \$23,500 per year, 40 hours per week. Apply at: **Texas Employment Commission, Houston, Texas**, or send résumé to: **The Texas Employment Commission, TEC Building, Austin, Texas 78778**, Job Order Number 2807697. *Ad paid by Equal Opportunity Employer.*

ASSOCIATE PROVOST FOR RESEARCH TEXAS A & M UNIVERSITY

Texas A & M University is seeking applicants and nominations for a new administrative position, **Associate Provost for Research**. This officer will assume general responsibility, under the direction of the president and provost, for the welfare and quality of the research programs of the University, their future development, and their coordination with research done in other parts of the Texas A & M University System.

Specific duties of the associate provost for research will include, but not be limited to, implementing research policies and recommending new policies, developing a long-range strategy for the University's research mission, representing the University in its relationships with other research programs of The Texas A & M University System and with the Texas A & M University Research Foundation, and supervising the operations of the dean of the Graduate College and of other units of the University as may be assigned by the provost.

Qualifications for this position include an earned doctorate, a record of significant achievement in research, demonstrated academic leadership and administrative ability, an ability to communicate effectively with internal and external constituents, and a commitment to the independence and integrity of research and the interdependence of research and teaching. Knowledge of and participation in the federal grants and contracts peer review process is highly desirable as is knowledge of the promotion of grant and contract work through the private sector.

Candidates must be available to assume the position no later than 1 September 1984. Nominations and applications, with résumés and names of references, must be submitted on or before 15 December 1983 to:

Dr. Charles E. McCandless
Associate Provost
Texas A & M University
College Station, Texas 77843

Texas A & M University is an Equal Opportunity/Affirmative Action Employer.

DIRECTOR LAWRENCE HALL OF SCIENCE

The Lawrence Hall of Science of the University of California, Berkeley, invites applications for the position of director. The Hall is internationally recognized for development of innovative science education at all levels. Its well-established programs include educational research; curriculum development; public programs and exhibits; teacher in-service training; precollege courses in science, mathematics, and computer skills; and collaborative programs with schools to better prepare students for higher education. On-site public programs attract 250,000 visitors per year.

Applicants should show evidence of scholarly achievement and have a doctoral degree or equivalent experience. Administrative ability is essential—the director must be able to inspire and maintain a wide variety of activities at this vigorous science center. The director must work closely and easily with the public, schools, and community groups. Successful experience in working with governmental agencies, corporations, and foundations is desirable as well as extensive knowledge in a field of science, technology, or science education. Leadership of the science center requires long-range planning for the Hall's development, fund-raising to support these plans, and integration of the Hall's activities with the University's academic program.

Salary and other benefits will be commensurate with the responsibilities of the position and negotiated on the basis of experience.

Send letter of application, including brief statement of goals for the Hall, curriculum vitae, names of at least three references, and any supplemental information by 1 December 1983 to:

Chairman, Director's Search Committee
Lawrence Hall of Science
University of California
Berkeley, Calif. 94720

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

Cell and Molecular Biology FACULTY POSITIONS

Faculty level positions are becoming available at the Worcester Foundation for Experimental Biology. The major criteria in this search are scientific excellence and collegial qualities.

At present, the faculty and their areas of interest are:

Earl Baril—Enzymology of eukaryotic DNA replication
Edward Berger—Cell-cell recognition and control of gene expression by cell-cell contact in *Dictyostelium*
William Crain—Structure and developmental expression of sea urchin actin genes
Charles Glabe—Gamete interactions and sperm adhesion
Grant Fairbanks—Membrane proteins, regulation of erythrocyte shape and volume
Jay Greenberg—Messenger RNA-binding proteins and control of protein synthesis
Thor Pederson—Nuclear ribonucleoproteins and messenger RNA processing
Harriet Robinson—Avian retroviruses; oncogenes
Greenfield Sluder—Timing and molecular control of mitotic events during early development

David Steffen—Murine leukemia virus gene expression and oncogenicity
Richard Vallee—Microtubule-associated proteins; mitosis, neuronal cytoskeleton, monoclonal antibodies
Samuel Wadsworth—Gene expression during development in *Drosophila*
Robert Weihing—Actin and actin-associated proteins in relation to cytoskeleton organization
David Wolf—Control of lateral organization and motion of membrane components
George Witman—Mechanism and control of flagellar motility in *Chlamydomonas*
Paul Zamecnik—Nucleotide-enzyme interactions involved in DNA replication
Carol Ziomek—Membrane structure and cell polarity in early mouse development

We hope to make at least two appointments in the next 18 months. These positions can be filled at either junior or senior faculty rank. Send C.V. and description of research interests to Dr. Thoru Pederson, Cell Biology Group, C/O PERSONNEL OFFICE, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545

An Equal Opportunity/Affirmative Action Employer



**WORCESTER FOUNDATION
FOR EXPERIMENTAL BIOLOGY**

THE FIRST WORD IN ... PHARMACEUTICAL RESEARCH

Abbott Laboratories is a major manufacturer of pharmaceutical products. As our markets expand, so too has our awareness of world health care needs and the products necessary to meet them. And from that awareness has developed a significant commitment to pharmaceutical research, and a variety of challenging professional opportunities.

METABOLISM INVESTIGATOR

The selected scientist will separate, quantify and isolate radiolabeled drugs and their metabolites in biological matrices and, working with structural chemistry experts, identify these metabolites. Candidates will have a Ph.D. in Biochemistry, Pharmacology or a related pharmaceutical science, with a strong background in synthetic organic chemistry. Expertise in modern chromatographic and derivatization techniques used in the isolation and identification of unknown compounds is essential. Good written and oral communication skills are required. Experience with the synthesis of radionuclides is desirable.

Abbott Laboratories is a \$2.6 billion corporation headquartered in an attractive setting on the Lake Michigan shoreline, 30 miles north of Chicago. We provide excellent salaries, full benefits including profit sharing and stock retirement plan, and exceptional opportunities for career advancement. For consideration, send a resume with salary history to: **Charlene Crusoe-Ingram/Corporate Placement**. Abbott is an Affirmative Action Employer.

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THE FIRST WORD IN ... SUCCESS

POSITIONS OPEN

FACULTY POSITION—ECOLOGICAL SYSTEMS ANALYSIS. A tenure-track position for an ecological systems analyst in the Department of Biology, Forest Resources, or Fisheries and Wildlife, depending on successful applicant's background. Duties include teaching, modeling assistance on research projects, and personal research. Applicants must have Ph.D. in biology or natural resources management, and professional experience in ecosystem modeling. Salary and rank are negotiable and competitive, commensurate with qualifications. Application deadline is 31 January 1984. Applicants may inquire for more details, or send curriculum vitae and have three letters of reference sent to: **Dr. Frederic H. Wagner, Ecology Center, Utah State University, Logan, Utah 84322.** An Equal Opportunity/Affirmative Action Employer.

GASTROENTEROLOGY, DIVISION DIRECTOR. Applications are invited for the position of director, Division of Gastroenterology-Hepatology in the Department of Medicine. The division which currently numbers ten full-time faculty and five fellows has had a long history of excellence in teaching, patient care, and research, and a number of the members are nationally and internationally recognized leaders in their field. Candidates should have an outstanding record in academic gastroenterology and be dedicated to providing leadership in teaching, specialized patient care, and research. Applications will be received until the position is filled and should be sent to: **F. M. Abboud, M.D., Head, Department of Internal Medicine, The University of Iowa College of Medicine, The University of Iowa Hospitals and Clinics, Iowa City, Iowa 52242.** The University of Iowa is an Equal Opportunity/Affirmative Action Employer.

TWO POSITIONS GENETICIST AND NEUROBIOLOGIST CARLETON COLLEGE

The Biology Department at Carleton College is reopening its search for a **molecular eukaryotic geneticist** and a **neurobiologist**. Applications are invited for the tenure-track positions at the assistant professor level available September 1984. In the geneticist's position we are seeking an individual who will teach an upper division course in genetics, a course related to his/her specialty, and one-half of an introductory course in genetics-bioenergetics. In the neurobiologist's position we are seeking an individual who will teach an upper division course in neurobiology, a lower division course to be agreed upon, and participate in the laboratories of the introductory course. The applicants' areas of expertise will be important in the selection. The department is interested in persons with a commitment to teaching and research in the context of a liberal arts college. Applicants must have a Ph.D., and postdoctoral training is advantageous. Applications, including curriculum vitae, undergraduate and graduate transcripts, a summary of research goals, and three letters of professional recommendation should be sent to: **Professor G. J. C. Hill, Chairman, Department of Biology, Carleton College, Northfield, Minn. 55057,** by 1 December 1983. Carleton College is an Equal Opportunity/Affirmative Action Employer.

PHARMACOLOGIST, GS-405-13. Applicants must have a doctor's degree with major study in a field of the biological, medical, or physical sciences, including at least 12 hours in pharmacology; 2 years of professional postdoctoral experience is required. Application deadline: 18 November 1983. For more information, contact: **CCPO-NW, Naval Medical Command, National Capitol Region, Building 1, Tower 12, 8901 Wisconsin Avenue, Bethesda, Maryland 20814; telephone: 202-295-1420.**

PHARMACOLOGIST. The Pharmacology Department, University of South Carolina School of Medicine, invites applications for an anticipated tenure-track position. Candidates must have a Ph.D. and/or M.D. and postdoctoral experience. The successful candidate will be expected to develop an independent research program which merits extramural support and teach medical/graduate students. Preference will be given to individuals whose research interests are compatible with current faculty—that is, metabolic control mechanisms and biochemical mechanisms of drug action. Individuals should submit curriculum vitae, list of publications, statement of professional goals, and the names of three references to: **Dr. D. 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.

POSITIONS OPEN

HEAD DEPARTMENT OF GENETICS AND DEVELOPMENT

The University of Illinois at Urbana-Champaign invites applications and nominations in its extended search for the headship of this 20-person department. The candidate should be an active and accomplished molecular biologist in one or more of the following areas: cell biology, genetics, development, evolution. The person should have the capability for strong and creative leadership in research, staffing, and curriculum development. The department offers B.S., M.S., and Ph.D. degrees within the School of Life Sciences. The appointment, with duties beginning August 1984, subject to budgetary approval, will be at the rank of professor and the salary is negotiable. Applicants should send curriculum vitae and the names of three references to: **Dr. Richard Burkhardt, Department of Genetics and Development, University of Illinois, 515 Morrill Hall, 505 South Goodwin Avenue, Urbana, Ill. 61801; telephone: 217-333-7814.** All completed applications received before 20 December 1983 are assured consideration.

University of Illinois at Urbana-Champaign is an Affirmative Action/Equal Opportunity Employer.

IMMUNODIAGNOSTICS DIVISION LEADER

TechAmerica Research Center - Colorado

An energetic division leader with industrial experience and sound scientific background is sought to direct a developmental research team for production of immunodiagnostic kits. Individual will interact with a basic research group which will supply a variety of purified antigens and monoclonal antibodies. Development of diagnostics for a variety of human and animal diseases is currently under way.

Research groups are aligned with production and marketing capabilities of the TechAmerica Group companies.

This is an opportunity to participate in new programs of an innovative rapidly growing company. We offer competitive salaries and a generous bonus plan.

Please send resume, selected reprints, and names of professional references in strict confidence to: **Personnel, TechAmerica Research Center, P.O. Box 2211, Fort Collins, Colorado 80522.**

TECHAMERICA GROUP, INC.

LIFE SCIENCE RESEARCH POSITIONS Agricultural Research Service

Career positions in areas of: (i) animal production and protection; (ii) plant production and protection; (iii) use and improvement of soil, air, and water; (iv) processing, storage, distribution, food safety, and consumer service; and (v) human nutritional requirements and the composition and nutritive value of food. A monthly Listing of Positions in Life Science Research with the U.S. Department of Agriculture, listing current vacancies, is issued by:

**Special Examining Unit 421/408
Agricultural Research Service
U.S. Department of Agriculture
6505 Belcrest Road, Room 555
Hyattsville, Maryland 20782**

MOLECULAR EVOLUTIONIST. The Department of Biology of the Pennsylvania State University announces a tenure-track position for a molecular evolutionist/population geneticist to begin September 1984. Preference will be given to applicants with a broad background in eukaryotic genetics. A Ph.D. is required, and postdoctoral experience is desirable. The successful candidate will be expected to develop a strong research program and teach introductory and advanced general genetics. The rank of the appointment will depend upon qualifications and experience. Submit curriculum vitae, statement of research and teaching interests, and three letters of recommendation by 15 January 1984 to: **Molecular Evolutionist Search Committee, Department of Biology, 208 Mueller Laboratory, The Pennsylvania State University, University Park, Pa. 16802.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

The University of Michigan Medical School, Department of Internal Medicine, Division of Infectious Diseases, has an academic position available for an **INTERNIST**, trained in the clinical subspecialty of infectious diseases. This individual should have a strong interest in clinical research (experimental therapeutics, molecular biology, virology, bacteriology, or immunology). The program has seven faculty with University Hospital, Veterans Administration, and Wayne County General Hospital components. Position available 1 July 1984. Please send curriculum vitae and letter outlining clinical and research interests to: **Robert Fekety, M.D., Division of Infectious Diseases, University of Michigan Medical School, R6024 Kresge II, Ann Arbor, Michigan 48109.** The University of Michigan is a nondiscriminatory, Affirmative Action Employer. 76DO.

MEDICAL DIRECTOR ALCOHOL TREATMENT PROGRAM

Duke University Medical Center, Department of Psychiatry and Durham County Mental Health Center (DCMHC) offer a joint position for an experienced psychiatrist. The successful applicant will be appointed medical director of the DCMHC Alcoholism Treatment Center (half-time) and director of the Duke Department of Psychiatry alcoholism program. DCMHC facility is located close to Duke Hospital and provides an excellent base for clinical and academic activity. Core departmental resources at Duke are available for data management, clinical research admissions, and research laboratory support. Applicant must have clinical skills in alcohol treatment and must be able to provide planning and supervision to a comprehensive alcohol treatment program. Qualified candidates with a strong academic and research orientation will be preferred. Address inquiries to: **Daniel Blazer, M.D., Head, Division of Community and Social Psychiatry, Duke University Medical Center Box, P.O. Box 3173, Durham, North Carolina 27710.** Duke University and Durham County Mental Health Center are Equal Opportunity/Affirmative Action Employers.

Wanted—ORTHOPAEDIC SURGEON for full-time faculty position in pediatric orthopaedics at the University of Michigan. Candidates must be Board-certified or be eligible for Board-certification. He or she should have demonstrated interest and skills in pediatric orthopaedics and have limited his or her practice exclusively to pediatric orthopaedics. Fellowship training in pediatric orthopaedics is desirable. Should demonstrate outstanding teaching and clinical care abilities, and will be expected to participate in clinical and laboratory research programs. Curriculum vitae and references should be sent to: **Robert N. Hensinger, M.D., Section of Orthopaedic Surgery, University of Michigan, Ann Arbor, Michigan 48109.**

The University of Michigan is a nondiscriminatory, Affirmative Action Employer. PC210.

PHYSIOLOGIST

The Department of Physiology, The University of Texas Health Science Center at San Antonio, is seeking an individual to fill a tenure-track faculty position. Academic rank and salary are dependent on experience and qualifications. The applicant should have a Ph.D. or M.D. degree and have research and teaching interests in one of the following areas: cellular, cardiovascular, endocrine-metabolism, or neurophysiological aspects of these systems. Preference will be shown to candidates with two or more years of postdoctoral experience and a currently funded research program.

Please submit curriculum vitae, a synopsis of research interests, and arrange to have three letters of reference sent by 1 January 1984 to:

**Dr. Walter F. Ward
Department of Physiology
The University of Texas Health Science Center
7703 Floyd Curl Drive
San Antonio, Texas 78284**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL OPPORTUNITIES available under an NIH-supported training grant: immunogenetics (Chella David), structure and function of MHC (David McKean), neuroimmunology (Vanda Lennon), cellular immunology (Barry Handwerker, Christopher Krco), and tumor immunology (Gary Pearson). Candidates should be either U.S. citizens or hold permanent immigrant visas. Interested persons should send their curriculum vitae to: **Dr. Chella David, Department of Immunology, Mayo Medical School, Rochester, Minnesota 55905.** An Equal Opportunity/Affirmative Action Institution.

POSITIONS OPEN

MEDICAL RESEARCH SCIENTIST

Guthrie Research Institute, an affiliate of the Guthrie Medical Center at Sayre, Pennsylvania, seeks a full-time research scientist for a new program in **human immunology** to start in 1984. Applicants must have advanced degree, 2 to 4 years of postdoctoral experience, and an interest in human immune regulation and disease mechanisms. A background in cell biology, biochemistry, or molecular genetics all are suitable. Advantages include a well-equipped new facility; endowed support of salary and baseline research; potential collaborative/teaching affiliations with nearby institutions; generous travel and working arrangements; attractive life-style in rural, culturally rich area—Susquehanna Valley on the New York/Pennsylvania border; opportunity to be involved in development of new program. Send letter and résumé to:

Dr. S. D. Litwin
Guthrie Research Institute
at the Guthrie Foundation
for Medical Research
Sayre, Pa. 18840

PHYSICAL OCEANOGRAPHER

The College of Marine Studies invites applications for a tenure-track position in physical oceanography. It is anticipated that the appointment will be at the assistant professor level, but applications from more senior persons are welcome. Applicants should have a background in coastal or estuarine physical oceanography, with experience in observational work at sea.

Teaching at the graduate level will be required, and the successful candidate will be expected to develop a funded research program involving graduate students.

Applicants should send curriculum vitae, pertinent reprints, and the names of four references to:

Dr. Ferris Webster
Oceanography Program
College of Marine Studies
University of Delaware
Lewes, Del. 19958
Telephone: 302-645-4266

The closing date for applications is 30 November 1983.

The University of Delaware is an Equal Opportunity Employer which encourages applications from qualified minority groups and women.

JOHN MERCK PROGRAM AT YALE POSTDOCTORAL FELLOW IN CLINICAL NEUROCHEMISTRY

Position will involve the measurement of neuropeptides in human plasma and CSF and in animal tissues. Experience with RIA methods is necessary. Familiarity with receptor assays and HPLC is desirable.

The determination of neuropeptides of interest in childhood neuropsychiatric disorders will be of high priority. A full involvement in the design and execution of clinical studies in doubly disadvantaged children is expected. The carrying out of relevant animal studies, along with the improvement of basic analytical aspects of peptide measurement, will be encouraged.

Send curriculum vitae, names of three references, and a short statement (one page) of one's special interests and expertise in the relevant areas. Please apply by 1 December 1983 to:

Dr. George M. Anderson
Child Study Center and
Department of Laboratory Medicine
Yale University
P.O. Box 333
New Haven, Conn. 06510

An Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL FELLOW position available 1 January 1984 to study etiology and mechanisms of EBV-induced lymphoproliferative diseases in patients with primary immune deficiency, AIDS, lymphoma, or leukemia. Expertise in virology and/or immunology required. Salary: \$20,000 per year. Curriculum vitae and references to: **David T. Purtilo, M.D., Department of Pathology and Laboratory Medicine, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, Neb. 68105.**

An Equal Opportunity/Affirmative Action Employer

Cetus Corporation, a leader in biotechnology, is committed to making your future as successful as ours. Currently, we have the following career opportunities available:

RESEARCH ASSOCIATE/ASSOCIATE SCIENTIST (2)

Duties include research on the molecular biology of the human histocompatibility complex locus. We require a Ph.D. or M.A. plus 2 years' experience. Knowledge of molecular biology and immunology preferred. Job #'s 83091, 83092.

ASSOCIATE SCIENTIST/SCIENTIST

In this position, your primary duty will be to develop enzyme immuno assay for cancer diagnostics. An M.S. plus 6 years' experience or Ph.D. in Biochemistry, Immunology, or Biology will qualify you for this position. Some background on immunology, radioimmuno assay, enzyme immuno assay, cancer diagnostics, and diagnostic instrumentation are required. Job #83113.

RESEARCH ASSISTANT/RESEARCH ASSOCIATE

You need a B.S. plus 3 years' experience or an M.S. to qualify. In this position, your duties and background should include those in job #83113. We require you to have 1+ year's experience in research or industry development. Job #83115.

For confidential consideration, please send resume, specifying job number to:

Cetus Corporation
Box SE
1400 Fifty-third Street
Emeryville, CA 94608



An equal opportunity employer m/f/handicapped

Postdoctoral Research Staff Member 2-Year Appointment Possibility of a 1-Year Renewal

The Lawrence Livermore National Laboratory has a current opening for a postdoctoral research staff member. Recent PhD in Biochemistry, Molecular Biology, or related area of biological sciences, with specific experience in recombinant DNA techniques as applied to cloning mammalian DNA and using cloned probes to study gene structure, function, organization, mutation, or mapping.

Must be able to work as part of a large team effort in library construction and characterization that involves the isolation of human chromosomes, purification by flow sorting and cloning in a λ -vector system. Extensions of this work will include other vectors and cloning of altered DNA sequences. Parallel research using these libraries is also expected and will be driven by the successful candidate's interest in conjunction with current studies within the Biomedical Sciences Division. Highly competitive salary and benefits.

Qualified candidates are invited to forward their curriculum vitae and 3 letters of recommendation to: **Earl G. Morrell, Employment Division, LAWRENCE LIVERMORE NATIONAL LABORATORY, P.O. Box 5510, KSC-113, Livermore, CA 94550.**

U.S. Citizenship is required.

An equal opportunity employer M/F/H/V.

University of California
**Lawrence Livermore
National Laboratory**



POSITIONS OPEN

PLANT DEVELOPMENTAL BIOLOGY FACULTY POSITION

The Department of Plant Biology, University of Illinois at Urbana-Champaign, invites applications for a tenure-track position at the assistant professor level for appointment in August 1984. Applicants must have a Ph.D., with research experience in the molecular biology of higher plants, preferably as it relates to hormonal control of growth and development. The appointee will be expected to conduct research in the above area, contribute to the graduate and undergraduate teaching programs, and interact with the plant physiology and molecular biology programs presently on campus. Salary is open, depending on the applicant's qualifications.

Applicants should send curriculum vitae, a summary of research interests, and at least three letters of reference to: **Dr. William L. Ogren, Search Committee Chairman, Department of Plant Biology, University of Illinois, 505 South Goodwin, Urbana, Illinois 61801; telephone: 217-333-4370 or 333-3261.** In order to ensure full consideration, applications must be received by 31 December 1983. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOW PHYSIOLOGICAL PLANT ECOLOGY

Applications are invited for an appointment in February 1984 with the Research Program for Technology Assessment in Subarctic Ontario (TASO) at McMaster University, examining the potential impacts of hydroelectric development in northern Ontario through the investigation of wetland hydrology, microclimate, and coastal ecology of James Bay.

The successful candidate will be responsible for both a field and laboratory experimental program, examining the ecology and salt tolerance of selected salt-marsh species, characteristic of the James Bay region. The initial appointment is for one year but a satisfactory appointee may expect support for at least one additional year. The commencing salary will be \$20,000 per annum, plus benefits.

Applications should be directed to: **Dr. K. A. Kershaw, Department of Biology, McMaster University, Hamilton, Ontario, Canada L8S 4K1. Telephone: 416-525-9140, extension 4265.**

POSTDOCTORAL POSITIONS. The Department of Microbiology of the College of Medicine of the Pennsylvania State University has available postdoctoral positions in viral oncology. The areas of training include virus transformation; molecular, cellular, and cancer biology; virus genetics; studies on metastases; and viral immunology. State of the art techniques, such as recombinant DNA technology and production and use of monoclonal antibodies, are stressed. Financial support is available through a 5-year renewal of an NIH training grant and other sources. Qualified applicants are invited to send their curriculum vitae and the names of three references to: **Dr. Fred Rapp, Department of Microbiology, the Pennsylvania State University College of Medicine, Post Office Box 850, Hershey, Pa. 17033. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION now available for identification of DNA sequences essential for transcription of T-DNA genes in plant cells. Project involves cloning, DNA sequencing, transcript mapping, and vector construction utilizing the pTi of *Agrobacterium*; \$17,500 per annum. Send curriculum vitae and three names of reference to: **William Gurley, Microbiology and Cell Science, 1059 McCarty Hall, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, Fla. 32611.**

POSTDOCTORAL POSITION available immediately to study the biosynthesis, processing, and genetic control of lysosomal and other granule enzymes in macrophages and other cells of the mouse. Experience in protein biochemistry and/or subcellular biology desired. Send curriculum vitae and three letters of reference to: **Dr. Richard Swank, Molecular Biology Department, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, N.Y. 14263. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION IN BIOCHEMISTRY to study structure, mechanisms of action, and regulation of lipogenic enzymes. Children's Hospital Medical Center is seeking a biochemist to work with Dr. Stuart Smith. Salary: minimum of \$20,000, depending on experience and qualifications. Available immediately. Send résumé and either names and telephone numbers of two referees or two letters of recommendations to: **Children's Hospital Medical Center, Personnel Department, 51st and Grove Streets, Oakland, Calif. 94609.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS— ATHEROSCLEROSIS RESEARCH

Two postdoctoral positions are available in the Section of Atherosclerosis Research. The research projects involve (i) isolation and characterization of monocyte chemotactic factors from atherosclerotic arteries; applicant for this position must have a strong background in biochemistry, cell biology and related techniques; and (ii) evaluation of the effects of fiber-optic lasers in removing atherosclerotic plaques in vivo. Applicant for this position should have background in ultrastructural morphology and interpretation. Starting stipend: \$17,600.

Applicants should submit curriculum vitae, bibliography, and three letters of reference to:

**Ross G. Gerrity, Ph.D.
Section of Atherosclerosis Research
Division of Research
Cleveland Clinic Foundation
9500 Euclid Avenue
Cleveland, Ohio 44106**

POSTDOCTORAL POSITION IN LOW TEMPERATURE ELECTRON MICROSCOPY available immediately for work on the Duke University electron cryomicroscope, equipped with superconducting objective lens, liquid helium specimen stage, field emission gun, and electron energy loss spectrometer. Candidates with interest in specimen preparation, instrument development, or EELS microanalysis are encouraged to apply. Respond by 1 December to: **Dr. D. A. Kopf or Dr. M. K. Lamvik, Department of Anatomy, Box 3011, Duke University Medical Center, Durham, N.C. 27710.**

Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION IN MUCOSAL IMMUNOREGULATION available immediately for Ph.D. or equivalent. The candidate should be interested in lymphocyte cloning, lymphokine analysis, and role of accessory cells in IgA responses and oral tolerance. Interested candidates should send curriculum vitae and three letters of reference to: **Dr. Jerry R. McGhee, Department of Microbiology, University of Alabama in Birmingham, Birmingham, Ala. 35294. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available now in a laboratory utilizing current DNA research techniques (site-specific, carcinogen-modified oligonucleotidedirectional in vivo mutagenesis in prokaryotes) to investigate molecular mechanisms of mutation by carcinogens. Interested individuals send curriculum vitae and names and addresses of references to: **Dr. O. S. Bhanot, Department of Genetics, The Public Health Research Institute of The City of New York, Inc., 455 First Avenue, New York, N.Y. 10016. Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS. Opportunity to participate in research investigating the molecular mechanisms of RNA processing in higher eukaryotes with special emphasis on the processes of polyadenylation and splicing and the role of small nuclear ribonucleoproteins in processing. Recent Ph.D. with some expertise in molecular biology preferred. Send curriculum vitae and names of three references to: **Dr. Susan M. Berger, Department of Biochemistry, P.O. Box 1892, Rice University, Houston, Texas 77251. Equal Opportunity Employer.**

POSTDOCTORAL POSITION available May 1984 to individual with training in **PROTOZOOLOGY** and strong interest or background in biochemistry and/or molecular biology to work on New World leishmaniae and/or trypanosomes in ongoing research program in Colombia, South America. Knowledge of membrane biochemistry, protein purification and characterization, or immunohistochemistry desirable. Send curriculum vitae to: **Dr. Thomas C. Orihel, Department of Tropical Medicine, Tulane Medical Center, 1430 Tulane Avenue, New Orleans, La. 70112. Tulane University is an Affirmative Action/Equal Opportunity Employer.**

Position available May 1984 for **PROTOZOOLOGIST/IMMUNOLOGIST** with training and research experience with New World leishmaniae to participate in ongoing research program focused on the biology, immunology, and biochemical identification of leishmaniae in Colombia, South America. Send curriculum vitae and statement of research interests before 15 January 1984 to: **Dr. Thomas C. Orihel, Department of Tropical Medicine, Tulane Medical Center, 1430 Tulane Avenue, New Orleans, La. 70112. Tulane University is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION

A postdoctoral position is available immediately to investigate the developmental expression of a *Drosophila* collagen gene by reintegration of this gene into the germ line via P-element mediated transformation. Experience with *Drosophila* and/or recombinant DNA technology is desirable, but not necessary. Salary will be competitive, commensurate with experience, and in accordance with Medical Research Council of Canada regulations. Send curriculum vitae and three letters of recommendation to:

**Dr. Janet Monson
Biology Department
McGill University
1205 Dr. Penfield Avenue
Montreal, Canada H3A 1B1**

POSTDOCTORAL POSITIONS IN PHARMACOLOGY available immediately.

1) Drug effects in brain and spinal cord influencing gastrointestinal function in unanesthetized animals. Requires degree in pharmacology. Contact: **Thomas F. Burks, Ph.D.**

2) Adrenergic control of blood vessels during aging. In vitro techniques for smooth muscle contraction, receptor characteristics, transmitter content and release. Contact: **Sue P. Duckles, Ph.D.**

Department of Pharmacology, College of Medicine, University of Arizona, Tucson, Arizona 85724. Equal Opportunity/Affirmative Action Employer. Closing date: 30 December 1983.

POSTDOCTORAL POSITION available now for studies of age-related changes in Ca, vitamin D, and PTH action in kidney, intestine, and bone. Experience in slab gels, autoradiography, hormone-receptor binding helpful. Recent Ph.D. in biochemistry, pharmacology, physiology preferred. Send curriculum vitae, three references, and one-page summary of research interests to: **Dr. H. J. Armbricht, Geriatric Center (111G-JB), VA Medical Center, St. Louis, Mo. 63125. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION IN BIOMECHANICS available commencing 1 July 1984 to perform flow measurements of concentrated biomacromolecular solutions, creep and stress-relaxation tests on normal and pathological soft connective tissues, and mathematical modeling of such phenomena. Stipend is from NIH and NSF grants and is highly competitive. Position is for 2 years, renewable at the end of the first year. Send curriculum vitae and three letters of reference to: **Dr. Van C. Mow, Department of Mechanical Engineering, Rensselaer Polytechnic Institute, Troy, N.Y. 12181.**

POSTDOCTORAL POSITION available now to study the biochemistry and immunocytochemistry of neural cell-cell interactions in developing chick retina. Both light and TEM experience necessary. Experience with affinity chromatography of membrane proteins helpful. Send curriculum vitae, availability date, and names of three references to: **Dr. Robert E. Hausman, Biological Science Center, Boston University, 2 Cumming Street, Boston, Mass. 02215. Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS AVAILABLE

1) To study molecular biology of neurotransmitter synthesizing enzyme, choline acetyltransferase. The individual should have a strong background in molecular biology and skills in the use of *Drosophila melanogaster* in research.

2) To study molecular biology of insulin receptor. The individual should have a strong background in molecular biology.

These positions are available immediately with a salary range from \$16,500 to \$20,000 per annum. Send curriculum vitae and three references to: **Dr. K. Itakura, Director, Department of Molecular Genetics, Beckman Research Institute of the City of Hope, 1450 East Duarte Road, Duarte, Calif. 91010.**

POSTDOCTORAL RESEARCH INVESTIGATOR IN BIOCHEMISTRY to participate in research projects to study the regulation of Ca^{2+} transport in vascular smooth muscle membranes and cardiac contractile proteins. Ph.D. or equivalent in biochemistry required; research experience in cardiovascular biochemistry/physiology desirable. Qualified applicants send curriculum vitae and names of three references to: **G. McHenry, Department of Anatomy, BSB, University of Iowa, Iowa City, Iowa 52242. The University of Iowa is an Equal Opportunity/Affirmative Action Employer.**

Organic Chemist

General Synthesis— Peptide Synthesis

Cyanamid's Agricultural Research Division is seeking a Ph.D Organic Chemist with strong general synthesis background who also has experience in peptide synthesis to fill a position in our Animal Health Synthesis Group.

The successful candidate will be expected to take a medicinal chemist's approach to problems related to animal parasitology and methods of improving rate of gain and efficiency of feed utilization in animals. Some of the synthesis approaches will be peptide-related, others will not. Interactions with biologists will be strong and continual.

American Cyanamid is a world leader in animal health and nutrition research. Our laboratories, located outside of Princeton, New Jersey, just halfway between New York City and Philadelphia, offer a stimulating research atmosphere.

Interested candidates should send their resume, with salary requirements to: Employment Office,



American Cyanamid Company

Agricultural Research Division
P.O. Box 400, Princeton, New Jersey 08540
An Equal Opportunity Employer, M/F/H.

CHEMIST

Analytical Methods

Marion Laboratories, Inc., currently has a position available in our Chemical Affairs Department in R&D for an experienced Analytical Chemist. This position is located at our Marion Park facility in Kansas City.

A degree in chemistry is essential, and familiarity with computer data handling systems is highly desirable. The candidate should have a minimum of 3 years experience in pharmaceutical analysis at the bench level or the equivalent in advanced training. Candidate must be knowledgeable in wet chemical and instrumental analysis; i.e., TLC, GC, HPLC, UV/visible spectroscopy, infrared spectroscopy and atomic absorption spectroscopy. Some experience in methods development, NMR, math spectroscopy, and DSC is highly desirable.

We offer an excellent total compensation and benefits package including stock options, profit sharing, comprehensive group health, dental and life insurance benefits. Please send a detailed resume including salary history, in confidence, to:

Recruiting & Placement
Dept. RM



MARION LABORATORIES, INC.

10236 Bunker Ridge Road
Kansas City, Missouri 64137

An Equal Opportunity Employer M/F

CARDIOVASCULAR PHARMACOLOGY

Ph. D. Level

The Pharmaceutical Research Division of Warner-Lambert has an immediate opening for an experienced cardiovascular physiologist/pharmacologist to participate in our drug discovery and development efforts. Responsibilities will include the application of conceptual and practical knowledge in the direction of on-going projects and the development of novel therapeutic approaches for cardiovascular diseases.

The successful applicant will have:

- A Ph.D. or equivalent in physiology or pharmacology and up to 5 years post-doctoral experience
- Expertise in both *in vivo* and *in vitro* techniques, including cardiac and smooth muscle function, blood flow techniques, blood pressure recordings, etc.
- Excellent oral and written communication skills.

Our research facilities adjacent to the University of Michigan campus in Ann Arbor, Michigan are among the finest and best equipped in the world and are devoted exclusively to the discovery and development of new drugs. We offer excellent compensation, benefits and work environment. Send resume with salary requirements and references in confidence to: Ms. D. Love, Human Resources Supervisor, Dept. #146-83, WARNER-LAMBERT/ PARKE-DAVIS, PHARMACEUTICAL RESEARCH DIVISION, 2800 Plymouth Road, Ann Arbor, Michigan, 48105. An Equal Opportunity Employer M/F/H

**WARNER
LAMBERT**

Technical Support Specialist

Respiratory Therapy Products

This is an excellent entry-level position for a scientist with the desire to contribute in a business environment. Pall Corporation is the international leader in "state-of-the-art" filtration systems for a wide variety of medical, industrial and aerospace applications. Our medical products subsidiary seeks a talented individual to provide technical support for our sales and marketing efforts for breathing circuit filtration.

You should have an M.S. or Ph.D. in a medical discipline such as physiology along with an interest in business. Knowledge of respiratory therapy is a plus. Ability to organize materials, review technical papers and prepare and deliver training materials is required. Excellent communications skills are essential.

We offer an excellent starting salary plus company-paid benefits program. To apply, please send resume to: **Employment Manager**



subsidiary of



"Fine Filtration"

Pall Biomedical Products Corp

30 Sea Cliff Avenue, Glen Cove,
Long Island, New York 11542

Equal Opportunity Employer M/F

POSITIONS OPEN

POSTDOCTORAL RESEARCH FELLOW. Position available immediately to investigate the synthesis and expression of hemostatic factors by cultured vascular and non-vascular cells. Experience in blood coagulation or hematology required. Send curriculum vitae and the names of three references to: **Dr. David J. Crutchley, Research Division, Miami Heart Institute, 4701 North Meridian Avenue, Miami Beach, Fla. 33140. Telephone: 305-674-3170.**

NATIONAL SCIENCE FOUNDATION (NSF)

NSF is accepting Intergovernmental Personnel Act Mobility Program (IPA) nominations from colleges/universities, state and local government for an assignment as a **PROGRAM ASSOCIATE**, Polar Biology and Medicine Program, in the Division of Polar Programs. The assignment is for 1 or 2 years beginning January 1984 or earlier; applications will be accepted until the position is filled. A Ph.D. and, in addition, 4 to 6 years of research experience in the biological sciences is required. Experience in polar research is highly desirable. The individual selected will remain an employee of his/her institution which may be reimbursed by NSF for a portion of his/her salary and other costs related to the assignment. Letters of nomination and résumé should be forwarded by the applicant's institution (**not by individual applicant**) to: **The National Science Foundation, Personnel Administration Branch, 1800 G Street, NW, Room 212, Washington, D.C. 20550, Attention: Catherine Handle.**

For further information, contact: **Dr. Francis S. L. Williamson, Chief Scientist, Division of Polar Programs, telephone: 202-357-7894. Women, minority, and handicapped scientists are encouraged to apply. NSF is an Equal Opportunity Employer.**

NATIONAL SCIENCE FOUNDATION (NSF)

NSF is accepting Intergovernmental Personnel Act Mobility Program (IPA) nominations from colleges/universities, state and local government for an assignment as a **PROGRAM ASSOCIATE** in the Genetic Biology Program, Molecular and Genetic Biosciences Section, Division of Physiology, Cellular and Molecular Biology.

This assignment is for approximately 1-year. The applicant should have a Ph.D. and, in addition, 4 to 6 years of research experience in the area of genetic biology.

The individual selected for the assignment will remain an employee of his/her institution, which will be reimbursed by NSF for a portion of his/her salary and other costs related to the assignment. Nominations should be forwarded by the applicant's institution (**not by the individual applicant**) by 15 December 1983 to: **The National Science Foundation, Personnel Administration Branch, 1800 G Street, NW, Room 212, Washington, D.C. 20550, Attention: Catherine Handle.** For further information, please telephone either: **Dr. James H. Brown, Director, Division of Physiology, Cellular and Molecular Biology, 202-357-9400, or Dr. Philip Harriman, Director, Genetic Biology Program, 202-357-9687. Women, minority and handicapped scientists are encouraged to apply. NSF is an Equal Opportunity Employer.**

U.S. DEPARTMENT OF ENERGY

Senior-Level Staff Positions in
Biomedical Research Management

RADIATION BIOLOGIST GENETICIST

Office of Health and Environment Research, Office of Energy Research, U.S. Department of Energy (DOE), is seeking qualified applicants for the staff positions of **RADIATION BIOLOGIST and GENETICIST** in the Health Effects Research Division, which administers a broad multidisciplinary program of basic and applied research to understand and quantify health effects associated with the large-scale production and use of energy. Both positions involve appointments for a period of 2 years.

Must be U.S. citizen, Ph.D. or equivalent required. Experience in independence research required. Salary range for GS-15 is from \$48,553 to \$63,115. Duty station: Headquarters Office, Germantown, Md. Send SF-171, applications for federal employment, or direct inquiries to:

**Stephanie Chaconas
Office of Personnel Operations, GTN
MA-205.4**

**Office of Personnel
U.S. Department of Energy
Washington, D.C. 20545
Telephone: 301-353-5591**

The Department of Energy is an Equal Opportunity Employer.

POSITIONS OPEN

RESEARCH ASSISTANT PROFESSOR OF PHYSICS

Position available immediately for experimental and theoretical research on the magnetic measurement of action currents in isolated nerve and cardiac tissue. Send curriculum vitae and have three reference letters sent to: **Dr. John Wikswo, Department of Physics and Astronomy, Vanderbilt University, Box 1807 Station B, Nashville, Tenn. 37235. Deadline for submission of application: 1 December 1983.**

Affirmative Action/Equal Opportunity Employer

RESEARCH ASSOCIATE. Attractive position in established research laboratory for a person with at least one year of postdoctoral experience or extensive graduate training in molecular biology/genetics to work on characterization of genes coding for tumor-associated immunosuppressive proteins. Send a copy of curriculum vitae, bibliography, and three letters of reference to: **Dr. Ralph Snyderman, Professor of Medicine and Immunology, Box 3892, Duke University Medical Center, Durham, N.C. 27710.**

RESEARCH ASSOCIATE, POSTDOCTORAL, IN NEUROCHEMISTRY, available immediately, for a person with training in the area of membrane-receptor characterization and purification to work in the area of muscarinic acetylcholine receptor purification. Familiarity with synthetic organic chemistry, NMR, or stopped-flow kinetics would be helpful, but is not required for the position. Salary: \$15,000 per year. Please send curriculum vitae and have two letters of recommendation sent to: **Michael Schimerlik, Department of Biochemistry and Biophysics, Oregon State University, Corvallis, Oregon 97331-6503. Closing date: 18 November 1983. Oregon State University is an Affirmative Action/Equal Opportunity Employer which complies with Section 504 of the Rehabilitation Act of 1973.**

RESEARCH ASSOCIATE. Required: Ph.D. or equivalent (preferably in biophysics, physiology, biology, or physics) plus some postdoctoral experience and knowledge of biology, computer science, and electronics. Starting salary: \$18,000 plus, depending on experience. Write to: **Membrane Biology Laboratory, Department of Ophthalmology, Columbia University, College of Physicians and Surgeons, 630 West 168 Street, New York, N.Y. 10032. An Equal Opportunity/Affirmative Action Employer.**

SEDIMENT CHEMIST

A tenure-track position is available at the level of assistant or associate professor in marine chemistry. Applicants should have a Ph.D. with a background in sediment chemistry and they should be capable of teaching and carrying out independent research. Applicants must submit the following by 1 January 1984: curriculum vitae, a summary of research interest, the names of at least three references and three recent representative publications, to: **Dr. Frank J. Millero, Division of Marine and Atmospheric Chemistry, Rosenstiel School of Marine and Atmospheric Science, University of Miami, 4600 Rickenbacker Causeway, Miami, Florida 33149-1098.**

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

NATIONAL SCIENCE FOUNDATION (NSF)

NSF is accepting Intergovernmental Personnel Act Mobility Program (IPA) nominations from colleges/universities, state and local government for an assignment as a **SENIOR POLICY ANALYST** in the Division of Policy Research and Analysis. Duties include the examination of the key dimensions of the utilization of research in the policy-making process. Methodological issues as they affect research in the policy sciences are a major concern. The applicant should have a Ph.D. in political science or a related field and, in addition, 4 to 6 years of experience in the area of research and teaching policy analysis. The assignment is for 1 to 2 years, starting between January and February 1984. The individual selected for assignment will remain an employee of the nominating organization which may be reimbursed by NSF for a portion of salary and other costs related to the assignment. Letters of nomination and résumé should be forwarded by the applicant's institution (**not by individual applicant**) to: **The National Science Foundation, Personnel Administration Branch, 1800 G Street NW, Room 212, Washington, D.C. 20550, Attention: Catherine Handle.**

For further information, contact: **Dr. Joshua Menkes, 202-357-9828. Women, minority, and handicapped scientists are encouraged to apply. NSF is an Equal Opportunity Employer.**

POSITIONS OPEN

RESEARCH ASSOCIATE with strong background in biochemistry is sought for studies on the mechanism of hormonal regulation of cyclic AMP. Areas currently under investigation are (i) turnover of cyclic AMP in intact cells and (ii) the mechanism of hormonal regulation and desensitization of the cAMP system involving purification and characterization of the various components (stimulatory and inhibitory receptors, coupling proteins, the catalytic proteins of the cyclase, phosphodiesterase, and the protein kinase). Current and future directions will emphasize the combined biochemical-genetic approach utilizing cultured cell lines with defects in the various components of the cAMP complex. The salary is negotiable. Please send curriculum vitae and the names of references to: **R. W. Butcher, Graduate School of Biomedical Sciences, University of Texas Health Science Center at Houston, Box 20334, Houston, Texas 77225. Telephone: 713-792-4750. Equal Opportunity Employer. Women and minorities are encouraged to apply.**

RESEARCH PHYSICIST

A private research foundation is seeking applicants with a Ph.D. and several years of experience in a broad range of high energy cosmic ray physics and related computer techniques for simulations of cosmic ray cascades. The work will involve comparison of computer simulations to results of ultrahigh energy cosmic ray experiments as well as feasibility and optimization studies for possible experiments. The initial appointment is for a period of 3 years, with a beginning salary in the range of \$20,000 to \$23,000. Résumés and letters of recommendation should be directed to the attention of:

**R. J. Shiels
Department of Labor
Division of Job Services
P.O. Box 9029
Newark, Delaware 19711**

RESEARCH PROFESSOR, R5, Cancer Center of Hawaii, University of Hawaii, 11-month tenurable. To organize an independent extramurally funded research group in basic cancer cell biology (for example, cell surfaces, cell-cell interactions, metastasis, chemical carcinogenesis, molecular biology of cancer, oncogenes, and oncogenic viruses). Candidate must have experience supervising a successful, independent research program with extensive publications and consistent research grant funding. Salary dependent on qualifications. Please send curriculum vitae and three letters of reference to: **Tom Humphreys, Director, Basic Research Program, Cancer Center of Hawaii, 1236 Lauhala Street, Honolulu, Hawaii 96813. Closing date: 1 January 1984.**

Equal Opportunity Employer

RESEARCH—Research staff position, tenure track, available for independent research in the general area of NMR investigations of structure, dynamics, and function of biological macromolecules and their complexes. Multinuclear high-resolution FT NMR spectrometers available. Send curriculum vitae and statement of proposed research to: **Dr. Mildred Cohn, Chairman, Search Committee, Institute for Cancer Research of the Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, Pa. 19111. Equal Opportunity Employer.**

STAFF BIOPHYSICIST

A staff biophysicist position is available in the Biology and Medicine Division, Lawrence Berkeley Laboratory, University of California, Berkeley, to participate in a biomedical program investigating the biological effects of heavy-ion charged particles at the Bevalac accelerator. Specific responsibilities include: beam preparation and dosimetry, schedule radiobiological experiments, optimize exposure configurations, evaluate and analyze dosimetry data, troubleshoot accelerator-related problems, and participate in collaborative and independent research in physics and biophysics. Applicants should have a Ph.D. in physics/biophysics and a strong background in physics, dosimetry, and computer applications. Must have demonstrated research capability and ability to handle multiple responsibilities. Familiarity with biophysics/radiobiology highly desirable. Salary range \$1986 to \$4767 per month. Send two copies of curriculum vitae and names and addresses of three references to: **Dr. E. John Ainsworth, c/o Ronald Lowder, Lawrence Berkeley Laboratory, Employment Office Building 65, One Cyclotron Road, Berkeley, Calif. 94720. Please specify Job Number A/2273. An Equal Opportunity Employer, M/F/H.**

DIRECTOR CENTER FOR EXPLOSIVES TECHNOLOGY RESEARCH

The Rio Grande Research Corridor initiative of the State of New Mexico is part of a major effort to enhance high-technology economic development in the State by building upon an existing base of research and development capabilities. The Corridor, extending 300 miles along the Rio Grande River Valley from Los Alamos to Las Cruces, is host to five major federal laboratories and three state-supported doctoral-granting universities. As part of this economic development effort, the State has funded establishment of centers of technical excellence at the universities, one of which is the Center for Explosives Technology Research at the New Mexico Institute of Mining and Technology. State funding for the Center for Explosives Technology Research is \$1.3 million for the present fiscal year and is projected at \$6.5 million over a five-year startup period.

The Center's mission is to conduct basic and applied research focused on the application of high-energy-rate technology to materials and processes, to develop new techniques and processes suitable for industrial application, and to work with industry in joint ventures to effect the transfer of this technology to the private sector. Interdisciplinary programs will involve areas such as shock physics and chemistry, explosives formulation and characterization, metallurgical processes of high-energy-rate fabrication, computer modeling, high-velocity impact phenomena, and the controlled fracture and fragmentation of materials. The Center will draw on resources from existing programs in the departments of Metallurgical and Materials Engineering, Mining Engineering, Physics, Geophysics, Chemistry, and Mathematics. Additional expertise and facilities are available from the Terminal Effects Research and Analysis Group, which operates a complex of field sites dedicated to explosives research and testing in a 12-square-mile facility adjacent to the campus, and from cooperation with the Los Alamos and Sandia National Laboratories, as enabled by the Stevenson-Wylder Technology Innovation Act of 1980.

A senior scientist with outstanding credentials in research and administration is being sought to direct the Center. This is a full-time, 12-month, tenure-track, joint appointment as a senior research scientist in the Research Division and as a full professor in an appropriate department of the College Division. As Director, this individual will be responsible for development of the Center as a world-class organization for research, technological development, and graduate instruction. The Director will oversee the development of staff and facilities, will coordinate efforts of the Center with other related activities within the Institute and within the National Laboratories and other members of the Rio Grande Research Corridor community, and will assure an aggressive program of research and cooperative ventures with industry.

The position requires an individual with an outstanding record of research in a related field and with demonstrated abilities in the development of major research programs. Leadership qualities and ability to organize and manage research-and-development partnerships with industry are essential. Salary will be competitive with comparable positions in both the public and private sectors. Nominations or applications, with curriculum vitae and three references, should be submitted before 15 February 1983 to:

CETR Search Committee
c/o Research and Development Division
New Mexico Institute of Mining and Technology
Campus Station
Socorro, NM 87801



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DIRECTOR LEVEL POSITIONS

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Travenol Laboratories is a well established, rapidly growing, multinational leader in the medical care products industry. Two positions have been created which involve new product development and related research.

DIRECTOR-VETERINARY SCIENCES

Responsibility will encompass DVM-operated vivarium, clinical pathology, and related biological systems laboratories. Knowledge of hemodynamics and blood coagulation desirable. Board or board-eligible in veterinary pathology also preferred.

DIRECTOR-IMMUNOLOGY

Qualified candidates will have a proven record of research productivity, membership in immunological societies and demonstrated administrative abilities. Background in hypersensitivity, immunoglobulins, rDNA and monoclonal antibodies highly desirable.

As members of an innovative research team, the successful candidates will enjoy an exceptional career environment. In addition, Travenol provides an excellent salary and benefits package which includes profit sharing, stock purchase plan and relocation assistance. For confidential consideration, please send CV, including bibliography, to:



Frank Thomas.

**Travenol
Laboratories, Inc.
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Deerfield, IL 60015**

Equal Opportunity Employer

POSITIONS OPEN

STAFF SCIENTIST

Two staff scientist positions are available in the Biology and Medicine Division, Lawrence Berkeley Laboratory, University of California, Berkeley. Successful applicants will supplement investigative teams doing research in nuclear medicine, hematology, and blood lipids. Each incumbent will be responsible for one of the following two projects: (i) evaluation of the role of blood platelets in atherosclerosis using positron emission tomography, or (ii) analysis of megakaryocytopoiesis in cell cultures. Applicants should have the M.D. or Ph.D. degree and experience in one or more of the following areas: animal models of atherosclerosis, application of nuclear medicine techniques to platelets, hemopoietic cell cultures, and testing of platelet function. Excellent facilities are available for cell sorting, cytometry, electron microscopy, NMR, and other related technology. Salary range: \$1986 to \$4767 per month. Specify Job Number A/2450. Send two copies of curriculum vitae and names and addresses of three references to: Dr. Shirley Ebbe, c/o Ronald Lowder, One Cyclotron Road, Employment Office Building 65, Berkeley, Calif. 94720. An Equal Opportunity Employer, M/F/H.

CONFERENCE

The 7th CIIT Conference on Toxicology, "Toxicology of the Nasal Passages," will be held on 22 and 23 February 1984, in Raleigh, North Carolina. An international group of researchers in the field of upper respiratory tract toxicity will summarize current knowledge on the anatomy, physiology, and biochemistry of the nasal passages in relation to chemically induced injury. Results obtained in experimental animals and in humans will be presented. Attendance will be limited to approximately 250 to facilitate discussions and to encourage active participation by conference registrants. Registration fee (\$275) includes conference materials, two luncheons, and written proceedings. Interested persons should contact: Ann McCarthy, Chemical Industry Institute of Toxicology, P.O. Box 12137, Research Triangle Park, N.C. 27709; telephone: 919-541-2070.

REQUEST FOR PROPOSALS

NATIONAL SCIENCE FOUNDATION

A third special competition for improvements in research facilities at U.S. marine biological laboratories is being held in 1984, with a deadline for submission of proposals of 15 January and announcement of the awards totaling about \$1,200,000 around 1 June 1984. It is expected that the maximum award amount will be \$100,000 per institution. For details, contact: Dr. James C. Tyler, Biological Research Resources Program (Room 1140), National Science Foundation, Washington, D.C. 20550 (telephone: 202-357-7475).

TRAINING PROGRAM

TRAINING VETERINARY PATHOLOGISTS FOR AGING RESEARCH

The Department of Pathology, New York State College of Veterinary Medicine, Cornell University, in conjunction with the Cornell Medical College, New York City, announces a unique opportunity for postdoctoral training for veterinarians in the field of aging research. Prerequisites include enrollment in The Graduate School of Cornell University, at least one year of supervised residency training in veterinary pathology, and documentation of research interest and potential, particularly as it relates to the field of aging. Successful completion will lead to a Ph.D. in experimental pathology (pathobiology of aging) and eligibility for specialty Board-certification by the American College of Veterinary Pathologists.

Availability of positions: immediately. Starting stipend levels are contingent upon background and experience as determined by NIH guidelines. Application materials (curriculum vitae and personal bibliography, official college transcripts, three professional references and a brief statement concerning career goals in aging research) should be directed to: Robert M. Lewis, D.V.M., Chairman, Department of Pathology, E205 VA Moore Laboratory, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York 14853.

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

FELLOWSHIPS

HYPERTENSION RESEARCH FELLOWSHIPS

Fellowships in hypertension research for 2 years for qualified applicants are available at the Mayo Clinic and Mayo Graduate School of Medicine. This NIH-funded multidisciplinary program provides research training in hypertension by faculty in nephrology, endocrinology, cardiovascular diseases, pharmacology, pediatrics, biochemistry, and physiology. Applicants should have the M.D. or Ph.D. degree and hold a permanent visa if not a citizen of the United States. Degree programs leading to the master's or Ph.D. degrees are available to individuals with the M.D. degree. For further information, write to: R. M. Weinshilboum, M.D., Director, Multidisciplinary Hypertension Research Training Program, Mayo Clinic, Rochester, Minnesota 55905. An Equal Opportunity/Affirmative Action Institution.

POSTDOCTORAL FELLOWSHIP opportunity available in program to isolate and identify peptides with endorphin properties. Will participate with Drs. Ian Jardine and Tony Yaksh in the purification and separation of small peptides from biological fluids using latest mass spectrometric techniques for peptide sequence analysis. Applicant should ideally be experienced with small peptide separation. Qualified candidates are encouraged to send curriculum vitae, copies of two or three representative papers or manuscripts, and names of three references to: Tony L. Yaksh, Ph.D., Department of Neurosurgery and Pharmacology, Mayo Clinic and Foundation, Rochester, Minnesota 55905. An Equal Opportunity/Affirmative Action Institution.

PRE- AND POSTDOCTORAL TRAINING IN EXPERIMENTAL PATHOLOGY AND TOXICOLOGY

Fellowships are currently available for a training program emphasizing education and research in the areas of xenobiotic metabolism, carcinogenesis, membrane biology, inflammatory mediators, and pulmonary cell biology. Send inquiries to: David S. Newcombe, M.D., Director, Division of Experimental Pathology and Toxicology, Department of Environmental Health Sciences, The Johns Hopkins University, 615 North Wolfe Street, Baltimore, Md. 21205. Johns Hopkins is an Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIP

Postdoctoral fellowship experience in neurology of aging available through Tarbox Parkinson's Disease Institute at Texas Tech University Health Sciences Center. Fellowship is for up to 3 years in duration for study of Alzheimer or Parkinson disease. Contact: J. Thomas Hutton, M.D., Ph.D., Department of Medical and Surgical Neurology, Texas Tech University Health Sciences Center, Lubbock, Texas 79430.

THE ARCHIE F. CARR, JR., POSTDOCTORAL FELLOWSHIP IN ZOOLOGY

The Department of Zoology at the University of Florida announces its 1984 postdoctoral fellowship (named in honor of Archie F. Carr, Jr., Graduate Research Professor of Zoology). This fellowship starts August 1984 (\$16,000 for 12 months; renewable for a second year). The recipient will establish an effective research project in comparative, ecological, or evolutionary zoology and will interact with faculty and graduate students. The department will provide a list of faculty and recent publications upon request. Candidates should submit curriculum vitae, publications, abstract of dissertation, and a proposal of intended research (four pages maximum, indicating why the University of Florida is appropriate for the research), and should have three letters of recommendation sent to:

Dr. Peter Feinsinger, Chairman
Carr Postdoctoral Fellowship Search Committee
Department of Zoology
University of Florida
Gainesville, Florida 32611
Telephone: 904-392-1296, 392-1107

Application deadline is 1 February 1984. The University of Florida is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL NIH FELLOWSHIP available now for Ph.D. or M.D. to study HLA-disease relationship at the molecular level. Background in recombinant DNA technology and/or cellular immunology desirable. Limited to U.S. citizen or permanent resident. Send curriculum vitae and references to: Joel D. Taurog, M.D., Department of Medicine, Box 108 Mayo, University of Minnesota, Minneapolis Minn. 55455. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

FELLOWSHIPS

GRADUATE TRAINING IN PHARMACOLOGY

Research training and course work leading to the Ph.D. degree, realistically designed for career opportunities in this expanding field. Major departmental research programs include: molecular, cardiovascular, renal, and nervous system pharmacology; the toxicology of therapeutic and environmental agents including drugs of abuse; clinical pharmacology. A limited number of fellowships offering tuition and stipend are available. Early application for September 1984 is advised. Apply to: Director of Graduate Studies, Department of Pharmacology and Therapeutics, Medical School, State University of New York at Buffalo, 127 Farber Hall, Buffalo, N.Y. 14214. An Equal Opportunity/Affirmative Action Employer.

GRADUATE FELLOWSHIPS IN MOLECULAR BOTANY

Plant scientists at the University of Vermont invite applications from highly qualified applicants interested in contemporary studies of plants and microbes. Areas of inquiry include: glycoproteins and lectins, plant proteins, chloroplast DNA and proteins, *Rhizobium*-legume symbiosis, host-parasite recognition, photosynthesis and photorespiration, electrophysiology of plant membranes, amino acid and aluminum transport, recombinant DNA and RNA, transformation of fungi. Full tuition remission and tax-free stipend: approximately \$6100 per year. Write: Dr. Robert C. Ullrich, Life Sciences Building, University of Vermont, Burlington, Vt. 05405.

GRADUATE FELLOWSHIPS

Louisiana State University (LSU) Alumni Federation Fellowships are available on a competitive basis to prospective graduate students who intend to pursue a Ph.D. degree in microbiology. Awards include a stipend of \$10,000 per year (tax exempt), exclusion from all tuition and fees, and freedom from any teaching responsibilities. Applications must include: verbal and quantitative GRE scores, transcripts of all college work, three letters of recommendation, a brief narrative of the student's educational and research experience, an outline of educational goals, and a one- or two-page summary of a research proposal. Deadline: 1 February 1984. Send inquiries to: Dr. John Larkin, Graduate Adviser, Department of Microbiology, 508 Life Sciences Building, Louisiana State University, Baton Rouge, La. 70803. LSU is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION AVAILABLE. Research areas are centered around the calcium regulation of various enzyme systems (for example, muscle contraction, myosin light chain kinase, and so forth). Techniques available include use of monoclonal antibodies, calcium binding techniques, calcium-induced structural changes (fluorescence, C.D., NMR, and so forth), protein interactions, protein drug interactions and so forth, and skinned fibers for the correlation of physiological events in muscle contraction. Candidates with backgrounds in biochemistry, immunology, biophysics, or pharmacology are encouraged to apply. Send curriculum vitae and names of three references to: Dr. James D. Potter, Chairman, Department of Pharmacology (R-189), University of Miami School of Medicine, P.O. Box 016189, Miami, Florida 33101. An Equal Opportunity/Affirmative Action Employer.

MARKETPLACE

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COLLEGE / UNIVERSITY FACULTY AND STUDENT PROGRAMS

Argonne National Laboratory, one of the U.S. Department of Energy's major research and development centers, announces College/University Faculty and Student Research Participation Programs for summer 1984. Opportunities exist for faculty, graduate students, and undergraduates to participate in Argonne's extensive program of basic and applied energy-related research. Financial assistance is available to research participants, and is provided by the U.S. Department of Energy.

Additional information and application forms may be obtained from: ARGONNE DIVISION OF EDUCATIONAL PROGRAMS, 9700 South Cass Avenue, Argonne, IL 60439. Or Call: (312) 972-3365.



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ployer, Women, Minor-
ities, the Handicapped,
and Veterans Urged to
Apply**

DNAX Research Institute

Scientific Opportunities

DNAX Research Institute, located near Stanford University, has established a strong basic research program combining recent advances in immunology and molecular biology. DNAX conducts its pioneering research in an open, academic-like environment, offering its scientists opportunities for frequent interaction with members of its scientific advisory board and other scientists at universities around the world. We're currently accepting applications for the following scientific opportunities:

MOLECULAR BIOLOGIST with a Ph.D. to participate in a collaborative research project with other molecular biologists and immunologists aimed at cloning genes for T-cell regulatory factors. Applicants should be highly motivated plus have a strong interest in the molecular biology of the immune system, especially in regulatory factors produced by T-lymphocytes. Candidates should have a strong background in nucleic acids, as well

as knowledge of cDNA or genomic DNA cloning techniques.

MOLECULAR BIOLOGIST or GENETICIST to participate in research to promote expression of various genes in yeast. Applicants should have a Ph.D. in genetics and molecular biology in yeast, or one to two years of postdoctoral experience with yeast. Candidates should have the skills and enthusiasm to participate in creative research efforts in yeast molecular biology.

DNAX has an excellent compensation and benefits package. Interested applicants should identify the position for which they are applying, and send a curriculum vitae, representative publications, a concise statement of research interests, and names of three references to: DNAX Research Institute of Molecular and Cellular Biology, 1450 Page Mill Road, Palo Alto, CA 94304. An equal opportunity employer m/f/h.

DIRECTOR Department of Environmental Health Kettering Laboratory University of Cincinnati Medical Center

The University of Cincinnati invites nominations and applications for the position of Director, Department of Environmental Health.

Qualified candidates should have a terminal degree with documented scholarly accomplishments and demonstrated experience in the field. Candidates are expected to have a clear understanding of the national aspects of environmental health and to provide strong leadership for the Department. Administrative skills are a requirement, also.

The Department of Environmental Health at the University of Cincinnati is a multidisciplinary effort devoted to the study of problems of public health significance whose origins lie in man's physical, chemical or biological environment. The program encompasses a wide range of scientific endeavors. The major goal of the Department of Environmental Health and its research center is to enhance the understanding of environmental hazards affecting human health and components of man's ecosystem so that detrimental effects may be prevented and controlled. Specific activities include: a large basic research effort, training of scientific and professional personnel for research in the environmental health sciences, training of medical students and occupational medicine residents, and mission-oriented studies devoted to the management of environmental and clinical problems. Many of the Department's activities involve other units in the Medical Center, the College of Engineering, and Urban and National Communities.

Salary will be commensurate with experience.

All nominations and applications, accompanied by a curriculum vitae, should be submitted by December 20, 1983 to:

Dr. Eula Bingham, Chair
Search Committee for Director, Environmental Health
Office of Vice President for Graduate Studies and Research
University of Cincinnati (ML 627)
Cincinnati, OH 45221
(513) 475-4532

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SEEKING APPLICATIONS FOR

The University of Akron Biomedical Engineering Director

Position available for individual with Ph.D. and/or M.D. who has at least one engineering degree. Position offers challenge and opportunity to expand biomedical engineering research program involving the University, area hospitals and the medical school. It is desirable that applicants have experience in biomedical engineering research and teaching.

The University of Akron, the third largest state university in Ohio, is located within a culturally rich region of concentrated industrial and research activities as well as outstanding health care facilities.

Salary is competitive, fringe benefits are outstanding and housing is attractively priced.

Send resume and names of three references by November 15, 1983 (February 15, 1984, if not filled sooner), to: Dean Louis A. Hill, Jr., College of Engineering, The University of Akron, Akron, OH 44325.

All materials, including letters from references, transcripts, etc., will be considered for the position available as early as January 1984.

**The
University
of Akron** Akron, Ohio 44325

The University of Akron is an Equal Education and Employment Institution

3 AAAS 8 Westinghouse 9 Science 1 Journalism Awards

Rules

The aim of this competition is to encourage and recognize outstanding reporting on the sciences and their engineering and technological applications in newspapers, general circulation magazines, radio, and television. The following categories are not eligible: items on the field of medicine, items published originally in AAAS publications or produced by AAAS; reports by employees of the AAAS or Westinghouse Electric Corporation.

Print

- An entry for a newspaper competition may be any of the following: a single story; a series of articles; or a group of three unrelated stories, articles, editorials, or columns published during the contest year. A magazine entry may be a single story or series published during the contest year.

- A completed entry blank must be submitted together with seven copies of each entry in the form of tear sheets, clippings, reprints, or syndicate copy (not over 8½" x 11"), showing name and date of the publication. **ENTRIES MUST NOT BE ELABORATE!**

Broadcast

- An entry for the radio or television competition may be an individual news story, feature, or a series, regardless of length, broadcast during the contest year on either public or commercial stations. Entries must be comprised of scripted material. Interviews are not eligible.

- A completed entry blank must be submitted together with a cassette in the case of radio and copy of the script or a ¾" videocassette in the case of television and copy of the script.

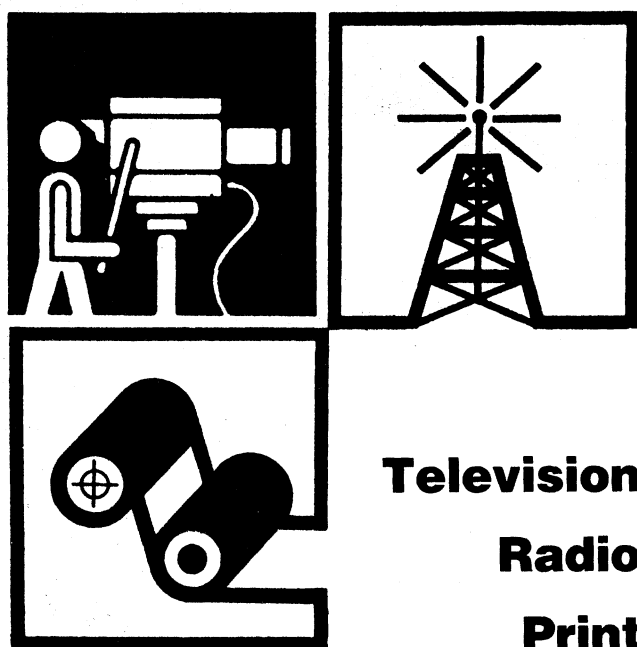
- Each entrant may submit three entries for any one category.
- Each entry must have been published or produced and broadcast within the United States during the contest year—**1 January 1983 through 31 December 1983.** (In case of a series, more than half of the items comprising it must have been published or broadcast during the contest year.) The date on the issue in which an article appears will be considered as the date of publication. All entries must be postmarked on or before midnight, 15 January 1984.

- Persons other than the author may submit entries in accordance with these rules. Entries will not be returned.

- Winners of the 1982 awards are not eligible for the 1983 awards. Persons winning three times are no longer eligible.

- The Judging Committees, whose decisions are final, will choose the winners. There are five awards of \$1,000: for the winning entry in the over 100,000 daily circulation newspapers competition; for the winning entry in the under 100,000 circulation newspapers competition; for the winning entry in the general circulation magazine competition; for the winning entry in the radio competition; and for the winning entry in the television competition. For award purposes, newspaper circulation will be sworn ABC daily circulation as of 30 September 1982. The Judging Committees may cite other entries for honorable mention.

- The awards will be presented at the dinner meeting of the National Association of Science Writers during the Annual Meeting of the American Association for the Advancement of Science in New York City in May 1984. Travel and hotel expenses of the award winners will be paid. **Entrants agree that, if they win, they will be present to receive their awards, unless prevented by circumstances beyond their control.**



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