

all. Furthermore, the coverage of some of the methods that are discussed is quite uneven, with some methods only lightly touched upon and others dealt with, somewhat redundantly, in several papers. Nevertheless, the editor has succeeded in assembling a volume that will be interesting and useful to those concerned with the directions genetic toxicology is taking and particularly with developments in cytogenetics and in vivo monitoring in human populations. The book is nicely produced, with only a few errors, and includes a useful index.

MICHAEL A. BENDER

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## A Brain-Gut Peptide

**Neurotensin, Brain and Gastrointestinal Peptide.** Papers from a conference, New York, March 1982. CHARLES B. NEMEROFF and ARTHUR J. PRANGE, Jr., Eds. New York Academy of Sciences, New York, 1982. x, 444 pp., illus. Cloth or paper, \$80. *Annals of the New York Academy of Sciences*, vol. 400.

Neurotensin, a tridecapeptide (that is, having 13 amino-acid residues), is a prototype of a new class of biologically active peptides found in neurons and endocrine cells of the brain and gastrointestinal tract. This readable and carefully edited volume discusses current experimental and clinical data accumulated in more than a dozen laboratories around the world. In the first two papers Carraway and Leeman record the discovery in 1973 of neurotensin in extracts of bovine hypothalamus and the subsequent characterization of an identical peptide in mammalian gut, including human gut. Twenty-four additional papers and 28 "poster" abstracts describe in considerable detail the anatomic distribution of the peptide in brain and gut and its physiologic and pharmacologic effects on blood pressure, vascular tone, and gut motility. Several papers deal specifically with the effects of neurotensin on the neuroendocrine and central nervous systems. Of the latter effects, emphasis is given to the ability of neurotensin to induce hypothermia, to cause changes in motor activity, and to elicit other behaviors, all subjects studied in some depth in the laboratories of the two editors.

Neurotensin has a widespread distribution in the brain and gut. In the CNS, it is found in highest concentrations in the hypothalamus, limbic system, and basal ganglia. It is also found in neurons of the dorsal horn of the spinal cord,

where it is suggested to play a role (antinociceptive) in the transmission of pain. In the gut, neurotensin is found principally in secretory cells of the mucosal layer, particularly in the ileum and to a lesser extent in the jejunum, with only traces in the stomach and duodenum. Whether it exists also in intrinsic nerve fibers of the gut in avian species is disputed; evidence for such a site in mammals is lacking. Unusual and unexpected sites of neurotensin immunoreactivity include the thymus of avian species and the adrenal medulla of mammalian species. Of interest to the clinician is the common presence of neurotensin in tumors of the pancreas that are derived from neuroectoderm and in some medullary carcinomas of the thyroid gland. One of the current enigmas in clinical endocrinology is that patients with tumors that secrete neurotensin and with high levels of the peptide in the blood seem to have no adverse symptoms at all.

A coherent view of the physiologic roles of neurotensin is still not to be found. Kitabgi describes elegant in vitro experiments showing effects of neurotensin on intestinal smooth muscle. In the guinea pig ileum, neurotensin causes contraction by complex effects that include direct stimulation of muscle receptors and stimulation of nerve fibers containing acetylcholine and perhaps substance P. In the rat, neurotensin elicits relaxation of the longitudinal muscle of the duodenum and ileum. Rioux and colleagues review the effects of neurotensin on the cardiovascular system, where it elicits mild hypertension and chronotropism. There are prominent differences among species in the effects of neurotensin on the cardiovascular system. Both myogenic and neurogenic effects on the heart are postulated to occur.

It is in the reviews of the effects of neurotensin on the CNS that it becomes apparent how much information is yet required to provide a true understanding of the biological importance of neurotensin. Administration of neurotensin directly into the brain or cerebral ventricles elicits a number of effects, including alterations in the secretion of anterior pituitary hormone, changes in the responses of the autonomic nervous system, and perturbations in the regulation of body temperature. Although the last paper, by the editors, attempts a synthesis of the peptide's physiological role in the CNS, it leaves the reader unconvinced that sufficient information is currently in hand to explain the often overlapping, redundant, and inconsistent ex-

perimental results reported. A lack of information is common with current descriptions of the brain peptides. In the case of neurotensin, no information is available on the biosynthesis and cellular processing of the peptide, the molecular basis of its action, or the biochemical nature of the binding sites found in several tissues.

This volume will be useful to investigators interested in molecules that are synaptically active, to the brain-gut community, and to the neurobiologist or endocrinologist who wishes to review the latest in pharmacologic neuropeptide research. The volume will not hold the attention of the general biologist or the clinician who is unfamiliar with the general techniques and approaches used in the investigation of peptides.

JOSEPH B. MARTIN

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## Books Received

**Applied Probability-Computer Science.** The Interface. Papers from a conference, Boca Raton, Fla., Jan. 1981. Ralph L. Disney and Teunis J. Ott, Eds. Birkhäuser, Boston, 1982. Two volumes. xxviii, 504 pp., and xiv, 500 pp. Each volume, \$34. *Progress in Computer Science*, No. 2.

**The Aquatic Ape.** Elaine Morgan. Stein and Day, New York, 1982. 170 pp., illus., + plates. \$14.95.

**Aquatic Biota of Mexico, Central America and the West Indies.** Being a Compilation of Taxonomic Bibliographies. Stuart H. Hurlbert and Alejandro Villalobos-Figueroa, Eds. San Diego State University, San Diego, Calif., 1982 (available from S. H. Hurlbert, Department of Biology, San Diego State University). xvi, 530 pp. Paper, \$20.

**BASIC Programming for the Classroom Teacher.** Joan M. Miller, Ruth King Chaya, and Debra J. Santora. Teachers College Press, New York, 1982. xvi, 262 pp. Spiral bound, \$15.95.

**The Best Science Films, Filmstrips, and Videocassettes for Children.** Kathryn Wolff, Joellen M. Fritzsche, and Gary T. Todd, Eds. American Association for the Advancement of Science, Washington, D.C., 1982. xiv, 140 pp. \$12.95.

**Biochemical Approaches to Aging.** Morton Rothstein. Academic Press, New York, 1982. xiv, 314 pp. \$39.50.

**Computed Tomography of the Head and Spine.** A Photographic Color Atlas of CT, Gross, and Microscopic Anatomy. H. N. Schnitzlein, Edith Wright Hartley, F. Reed Murtagh, Laurence Grundy, and John T. Fargher. Urban & Schwarzenberg, Baltimore, 1983. x, 118 pp. \$59.

**Computer Simulation and the Statistical Mechanics of Adsorption.** D. Nicholson and N. G. Parsonage. Academic Press, New York, 1982. xvi, 398 pp., illus. \$55.

**Enumerative Geometry and Classical Algebraic Geometry.** Patrick Le Barz and Yves Hervier, Eds. Birkhäuser, Boston, 1982. x, 256 pp. \$20. *Progress in Mathematics*, vol. 24.

**Environmental Pathology.** An Evolving Field. Papers from two conferences, Aspen, Colo., 1979 and 1980. Rolla B. Hill and James A. Terzian, Eds. Liss, New York, 1982. x, 376 pp., illus. \$60.

**Evaluation and Management of Hospital Infections.** Papers from a symposium, Noordwijkerhout, Netherlands, Mar. 1982. Ralph van Furth, Ed. Nijhoff, The Hague, 1982 (U.S. distributor, Kluwer Boston, Hingham, Mass.). xii, 266 pp., illus. \$39. *New Perspectives in Clinical Microbiology* 5.

**Health and Human Values.** A Guide to Making Your Own Decisions. Frank Harron, John Burnside, and Tom Beauchamp. Yale University Press, New Haven, Conn., 1983. xvi, 196 pp. Cloth, \$24.95; paper, \$6.95.

**Health and Obesity.** Papers from a symposium,

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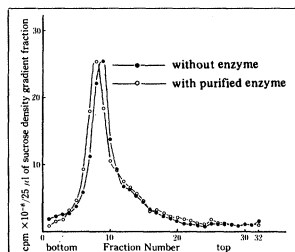
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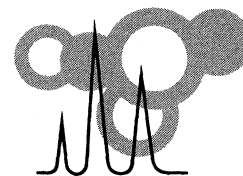
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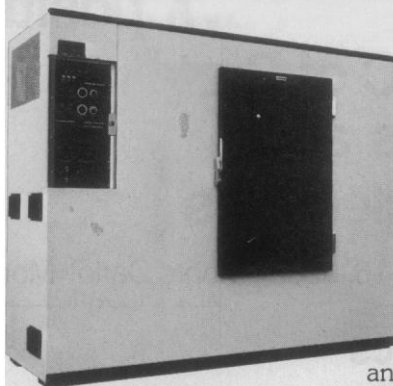
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## BOOKS RECEIVED

(Continued from page 1147)

Piscataway, N. J. Peter T. Kuo, Hadley L. Conn, Jr., and Eugene A. DeFelice, Eds., Raven, New York, 1982. xvi, 184 pp., illus. \$29.50.

**Helminths, Arthropods and Protozoa of Domesticated Animals.** E. J. L. Soulsby, Lea and Febiger, Philadelphia, ed. 7, 1982. xvi, 810 pp., illus. \$57.50.

**Hemoglobin.** Structure, Function, Evolution, and Pathology. Richard E. Dickerson and Irving Geis. Benjamin/Cummings, Menlo Park, Calif., 1983. viii, 176 pp., illus. \$29.95. The Benjamin/Cummings Series in the Life Sciences.

**Industrial Chemical Exposure.** Guidelines for Biological Monitoring. Robert R. Lauwerys. Biomedical Publications, Davis, Calif., 1983. xii, 150 pp. Paper, \$16.50.

**Industrial Hygiene Aspects of Plant Operations.** Vol. 1, Process Flows. Lester V. Cralley and Lewis J. Cralley. Eds. Macmillan, New York, and Collier Macmillan, London, 1982. xx, 630 pp., illus. \$47.50.

**Intermediate Algebra.** Applications and Problem Solving. Elizabeth Difanis Phillips, Thomas Butts, and Michael Shaughnessy. Harper and Row, New York, 1983. xiv, 618 pp., illus., + appendix. \$22.95.

**International Business and Global Technology.** J. Davidson Frame. Lexington (Heath), Lexington, Mass., 1983. xiv, 208 pp. \$24.95.

**Introduction to High Energy Physics.** Donald H. Perkins. Addison-Wesley Advanced Book Program, Reading, Mass., ed. 2, 1982. xvi, 438 pp., illus. \$24.50.

**Introduction to Plant Population Ecology.** Jonathan W. Silvertown. Longman, New York, 1982. viii, 210 pp., illus. Paper, \$17.95.

**The Klamath Knot.** Explorations of Myth and Evolution. David Rains Wallace. Illustrations by Karin Wikström. Sierra Club Books, San Francisco, 1983 (trade distributor, Random, New York). viii, 150 pp. \$14.95. A Yolly Bolly Press Book.

**Land Treatment of Hazardous Wastes.** James F. Parr, Paul B. Marsh, and Joanne M. Kla. Eds. Noyes Data Corporation, Park Ridge, N.J., 1983. xvi, 422 pp. \$45.

**Metal Interactions with Boron Clusters.** Russell N. Grimes, Ed. Plenum, New York, 1982. xiv, 328 pp., illus. \$42.50. Modern Inorganic Chemistry.

**Metal Stamping Plant Productivity Handbook.** Federico Strasser. Industrial Press, New York, 1983. viii, 256 pp., illus. \$29.95.

**Methods in Chloroplast Molecular Biology.** M. Edelman, R. B. Hallick, and N. -H. Chua, Eds. Elsevier, New York, 1982. xiv, 1140 pp., illus. \$200.

**Mineral Effects in Coal Conversion.** Robert M. Davidson. IEA Coal Research, London, 1983. 100 pp., illus. Paper, £10.

**Modern Quantum Chemistry.** Introduction to Advanced Electronic Structure Theory. Attila Szabo and Neil S. Ostlund. Macmillan, New York, and Collier Macmillan, London, 1982. xviii, 446 pp. \$39.95.

**Monte Alban's Hinterland.** Part 1, The Prehispanic Settlement Patterns of the Central and Southern Parts of the Valley of Oaxaca, Mexico. Richard E. Blanton, Stephen Kowalewski, Gary Feinman, and Jill Appel with Contributions by Laura Finsten and Eva Fisch. University of Michigan Museum of Anthropology, Ann Arbor, 1982. xvi, 506 pp., illus. Paper, \$20. Prehistory and Human Ecology of the Valley of Oaxaca, vol. 7. Memoirs of the Museum of Anthropology, University of Michigan, No. 15.

**Non-Invasive Bone Measurements: Methodological Problems.** Radiogrammetry, Single and Dual Photon Absorptiometry, Neutron Activation and C-T Densitometry. Proceedings of a workshop, Knokke, Belgium, Sept. 1981. Jan V. Dequeker and Conrad C. Johnston, Jr., Eds. IRL Press, Arlington, Va., 1982. x, 256 pp., illus. Paper, \$30.

**North American Furbearers.** A Contemporary Reference. Eugene F. Deems, Jr., and Duane Pursley, Eds. Published for the International Association of Fish and Wildlife Agencies and the Maryland Department of Natural Resources-Wildlife Administration by Worldwide Furbearer Conference, Baltimore, 1983. xiv, 218 pp., illus. \$14.

**Not Quite a Miracle.** Brain Surgeons and Their Patients on the Frontier of Medicine. Jon Franklin and Alan Doelp. Doubleday, Garden City, N.Y., 1983. xiv, 274 pp. \$16.95.

**The Nuclear Barons.** Peter Pringle and James Spigelman. Avon, New York, 1983. xii, 578 pp. Paper, \$4.95. Reprint of the 1981 edition.

**Nuclear Power in India.** A Comparative Analysis. David Hart. Allen and Unwin, Boston, 1983. xiv, 160 pp. \$24.

**Nucleases.** Papers from a meeting, Cold Spring Harbor, N.Y., Aug. 1981. Stuart M. Linn and Richard J. Roberts, Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y., 1982. xii, 378 pp., illus. \$45. Cold Spring Harbor Monograph Series.

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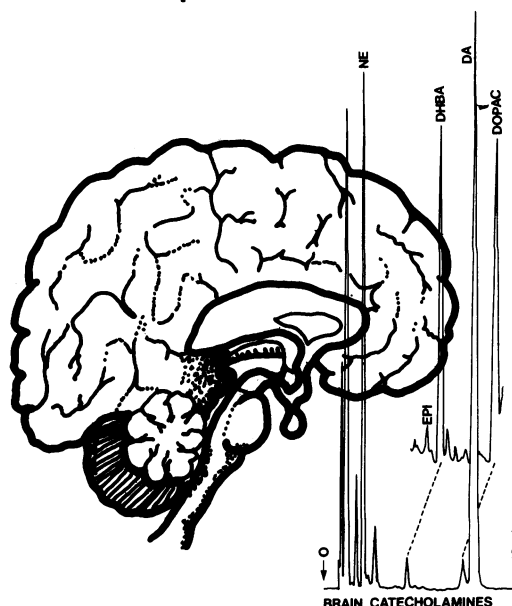
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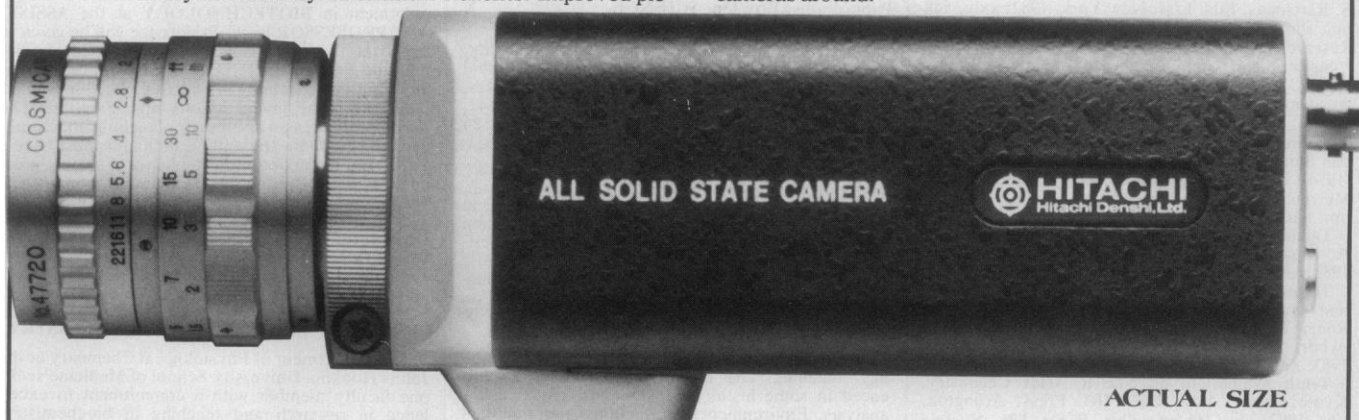
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**Number Theory Related to Fermat's Last Theorem.** Proceedings of a conference, Cambridge, Mass., Sept. 1981. Neal Koblitz, Ed. Birkhäuser, Boston, 1982. x, 366 pp. \$30. Progress in Mathematics, vol. 26.

**Paracelsus.** An Introduction to Philosophical Medicine in the Era of the Renaissance. Walter Pagel. Karger, Basel, ed. 2, 1982. xii, 400 pp., illus. \$83.25.

**Pathology of Granulomas.** Harry L. Joachim, Ed. Raven, New York, 1983. x, 542 pp., illus. \$59.

**Percolation Theory for Mathematicians.** Harry Kesten. Birkhäuser, Boston, 1982. viii, 424 pp., illus. \$30. Progress in Probability and Statistics, vol. 2.

**Principles and Applications of Room Acoustics.** Lothar Cremer, Helmut A. Müller, and Theodore J. Schultz. Applied Science Publishers, London, 1982 (U.S. distributor, Elsevier, New York). Two volumes. Vol. 1. xvi, 652 pp., illus. \$94.25. Vol. 2. xx, 434 pp., illus. \$69.75.

**Product Designs with Plastics.** A Practical Manual. Joseph B. Dym. Industrial Press, New York, 1983. xiv, 298 pp., illus. \$27.95.

**Productive Thinking.** Max Wertheimer. Michael Wertheimer, Ed. University of Chicago Press, Chicago, 1982. xxvi, 302 pp., illus. Paper, \$8.95. Reprint of the 1959 edition.

**Programming Languages.** A Grand Tour. Ellis Horowitz, Ed. Computer Science Press, Rockville, Md., 1982. x, 664 pp., illus. \$37.95. Computer Software Engineering Series.

**Progress in Biomass Conversion.** Vol. 3. Kyosti V. Sarkanen, David A. Tillman, and Edwin C. Jahn, Eds. Academic Press, New York, 1982. x, 292 pp., illus. \$24.50.

**Progress in Radiopharmacology 3.** Selected Topics. Proceedings of a symposium, Noordwijkerhout, Netherlands, Apr. 1982. Peter H. Cox, Ed. Nijhoff, The Hague, 1982 (U.S. distributor, Kluwer Boston, Hingham, Mass.). xiv, 256 pp., illus. \$44. Developments in Nuclear Medicine, vol. 2.

**Project Planning and Control.** Albert Lester. Butterworth, Boston, 1982. x, 196 pp., illus. \$29.95.

**Proprioception, Posture and Emotion.** Papers from a symposium, Kensington, Australia, Feb. 1981. D. Garlick, Ed. University of New South Wales Committee in Postgraduate Medical Education, Kensington, 1982. x, 256 pp., illus. Paper, A\$25.

**Psychiatric Administration.** A Comprehensive Text for the Clinician-Executive. John A. Talbott and Seymour R. Kaplan, Eds. Grune and Stratton, New York, 1982. xiv, 410 pp. \$38.50.

**Robotics.** Applications and Social Implications. Robert U. Ayres and Steven M. Miller with contributions from Vary Coates and four others. Ballinger (Harper and Row), Cambridge, Mass., 1983. xx, 342 pp., illus. \$32.50.

**Schizophrenia as a Brain Disease.** Fritz A. Henn and Henry A. Nasrallah, Eds. Oxford University Press, New York, 1982. xii, 298 pp., illus. \$29.50.

**Second International Conference on Geological Information.** Golden, Colo., May 1982. Claren M. Kidd, Ed. Oklahoma Geological Survey, Norman, 1982. Two volumes. xxvi, 428 pp., illus. Paper, \$10. Special Publication 82-4.

**Sexual Strands.** Understanding and Treating Sexual Anomalies in Men. Ron Langevin. Erlbaum, Hillsdale, N.J., 1983. xvi, 532 pp. \$49.95.

**Skeletal Dysplasias.** Proceedings of a seminar, Athens, May 1982. Costas J. Papadatos and Christos S. Bartsocas, Eds. Liss, New York, 1982. xxiv, 548 pp., illus. \$60. Progress in Clinical and Biological Research, vol. 104.

**Solitons and Nonlinear Wave Equations.** R. K. Dodd, J. C. Eilbeck, J. D. Gibson, and H. C. Morris. Academic Press, New York, 1982. x, 630 pp., illus. \$45.

**Studies on Carbohydrate Metabolism in Fish.** Sadao Shimeno. Translated from the Japanese edition (1974). Balkema, Rotterdam, 1982 (U.S. distributor, Merrimack Book Service, Salem, N.H.). xii, 124 pp., illus. \$12.

**Talking Computers and Telecommunications.** John A. Kuecken. Van Nostrand Reinhold, New York, 1983. xii, 238 pp., illus. \$26.50.

**Techniques for Managing Technological Innovation.** Overcoming Process Barriers. Carol Walcoff, Robert P. Ouellette, and Paul N. Cheremisinoff. Ann Arbor Science (Butterworths), Woburn, Mass., 1983. xiv, 152 pp. \$18.75.

**Tenth Symposium on Nucleic Acids Chemistry.** Kyoto, Japan, Nov. 1982. IRL Press, Arlington, Va., 1982. viii, 286 pp., illus. Paper, \$26. Nucleic Acids Symposium Series, No. 11.

**Testing the Theories of Aging.** Richard C. Adelman and George S. Roth, Eds. CRC Press, Boca Raton, Fla., 1982. x, 294 pp., illus. \$78. CRC Series in Aging.

**Wet Scrubbers.** Kenneth C. Schiffner and Howard E. Hesketh. Ann Arbor Science (Butterworths), Woburn, Mass., 1983. xvi, 140 pp., illus. \$19.95. The Environment and Energy Handbook Series.

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**Biologist.** M.S. Research experience: microbiology, aquatic resources, agriculture, forestry. Additional skills: analytical chemistry, writing, computers, teaching. Desires challenging position. Box 142, SCIENCE. 6/10, 17, 24

**Environmental Engineer.** Ph.D. 1983. Water quality model of ocean waste disposal, oxygen depletion, eutrophication. Strong computing skills: numerical analysis, statistics, oceanographic water quality data base design. More than 12 years of diverse experience in water resources, pollutant impact on aquatic ecosystems. Seeks position with consultant, industry, agency, or university. A. Stoddard, P.O. Box 119, Cameron, Illinois 61423. X

**Fish Physiologist.** Ph.D. Background in fish physiology, teaching, and research procedures. Experienced in some histology techniques, biochemistry analysis. Environmental protection/water pollutant bioassays. Publications. Industry/academia. Box 139, SCIENCE.

**Foundation Science-Administrator.** Experienced biomedical/toxicology/chemistry grant evaluations and applications. Extensive publications and international recognition. Seeking full/part or consultant opportunity to utilize 25 years of background experience. Box 137, SCIENCE. X

## POSITIONS WANTED

**Immunogeneticist/Immunochemist.** Ph.D. Experienced scientist with first-rate publications and grant support seeks change of environment to a position involving basic research and clinical service. Experience in tissue typing, cellular immunology, hybridoma technology. Box 134, SCIENCE. X

**Manager/Computer Scientist.** M.S., B.S. Seeks challenging management position in development/implementation of applications software for cost effective solutions to scientific problems. Experienced in CDC, DEC, and microcomputer systems; FORTRAN, PASCAL, BASIC, and Assembly languages. Box 138, SCIENCE. X

**Microbiologist.** Ph.D./MT(ASCP). ABMM certification eligible. Experience in anaerobic bacteriology and diagnostic virology. Publications and lecturing experience. Seeking position as a microbiologist in diagnostic laboratory, industry or as faculty in school of medicine or medical technology. Reply to: Box 135, SCIENCE. X

**Natural Resource Biologist.** B.S., M.S. Eight years of fisheries-wildlife scientific/technical experience, including salmonid management, culture, nutrition, pathology; waterfowl/upland game lease-management; mined land reclamation; range, soil, water resources evaluation for environmental statements/consolidated permits. Variety of publications. Desires challenging research/development position. Will relocate. William Logan, P.O. Box 4325, Boulder, Colorado 80306. 6/10, 17, 24

**Nutritionist,** with postdoctorate specialized in cancer, seeks position in academia or industry. Clinical research and teaching experience. Interested in educational materials development. Box 140, SCIENCE. X

**Ph.D. (Veterinary Physiology), M.A. (Marine Biology),** desires position in marine biology-physiology or marine mammal physiology-biology. Also, an experienced scuba diver. Box 141, SCIENCE. X

## POSITIONS OPEN

**ANATOMIST-D.V.M.** and/or advanced degree required. Experience teaching veterinary medical students is desirable. Duties will include teaching veterinary gross, neuro-, and applied anatomy to veterinary medical students and graduate students. Independent or cooperative research, participation in service and continuing education efforts of the department and college are expected. Rank and salary commensurate with background and experience. Submit professional résumé and names of three references to: **Dr. Robert C. McClure, College of Veterinary Medicine, University of Missouri, Columbia, Mo. 65211.** Application deadline: 15 Aug. 1983. *The University of Missouri is an Equal Opportunity/Affirmative Action Institution.*

The Department of Biology at the University of Waterloo invites applications for a tenure-track appointment in **BIOTECHNOLOGY** at the **ASSISTANT PROFESSOR** level. Preference will be given to applicants with experience in isolating, manipulating, and fully characterizing eukaryotic genes, but applicants with training in any area of cell/molecular biology will be given serious consideration. The position requires an aptitude for teaching undergraduate and graduate students. Candidates must have a Ph.D. and be anxious to establish a vigorous, independent research program. Send curriculum vitae, a description of future research plans, and names and addresses of three referees to: **Dr. J. E. Thompson, Department of Biology, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1.** Effective date of appointment is September 1983. *Canadian citizens and landed immigrants will be given preference.*

## ASSISTANT PROFESSOR IN BIOCHEMISTRY

The Department of Physiological Chemistry at the Johns Hopkins University School of Medicine seeks one faculty member with a commitment to excellence in research and teaching in biochemistry. Applicants should submit curriculum vitae, list of publications including representative reprints, three letters of recommendation, and a summary of research plans to: **Dr. Susan W. Craig, Search Committee Chairperson, Department of Physiological Chemistry, The Johns Hopkins University School of Medicine, Baltimore, Maryland 21205.** Deadline for applications is 15 September 1983. *Equal Opportunity/Affirmative Action Employer.*



# Research Scientists

**Kuwait Institute for Scientific Research** is a non-profit organization with a staff of more than one thousand employees engaged in applied research in the fields of Environmental and Earth Sciences, Food Resources, Engineering, Petroleum, Petrochemicals and Materials and Techno-Economics. Presently, Kuwait Institute has three research positions available for those scientists seeking challenging careers.

## Research Scientist Agronomy

### Major Duties:

- To investigate production of forage crops under saline conditions, develop and refine appropriate irrigation technologies.
- To initiate, develop and be responsible for effective processing of projects in seed testing, cereals and food crops.

## Research Scientist Horticulture, Vegetable Crops

### Major Duties:

- To study vegetable production under desert conditions, and initiate heat and salt tolerance studies in vegetables.
- To implement recent developments in growing techniques and select new cultivars that help in the expansion of food production in desert areas.

## Research Scientist Plant Genetics/Breeding, Plant-Tissue Culture

### Major Duties:

- To establish a Plant-Tissue Culture Laboratory and initiate tissue-culture studies with specific reference to date-palms.

### Qualifications and Experience:

The candidates should possess a minimum of 3-4 years of related experience in order to be placed in the above positions.

Kuwait Institute offers attractive salaries which are commensurate with qualifications and experience, and generous benefits which will include a guaranteed annual bonus of a months' salary, a free air-conditioned and furnished accommodation, school tuition fees, contribution to a savings plan, air tickets, six weeks' annual paid leave and free medical care. Minimum contract is for two years, and is renewable.

Qualified applicants are invited to send their resumes with supporting information no later than one month from the date of this publication to: **Mr. Habeeb Al-Sahhaf, Personnel Manager, Kuwait Institute for Scientific Research, P.O. Box 24885, Safat, Kuwait.**

## Kuwait Institute for Scientific Research

## AUSTRALIA

### OFFICE OF THE SUPERVISING SCIENTIST ALLIGATOR RIVERS REGION RESEARCH INSTITUTE DARWIN OR JABIRU, N.T.

The Supervising Scientist for the Alligator Rivers Region is a statutory office established by the Environment Protection (Alligator Rivers Region) Act, 1978, responsible directly to the Minister for Home Affairs and Environment. The supervising scientist is responsible for co-ordinating and supervising activities concerned with the protection of the environment, mine workers, and members of the public in the Alligator Rivers Region from the effects of uranium mining operations. The supervising scientist is also responsible for the research necessary to establish standards and protection measures and for defining practical and effective programs to monitor the environmental impact of uranium mining operations.

The focus of these research activities is the Alligator Rivers Region Research Institute. A well-equipped temporary laboratory is established adjacent to the Ranger minesite near the recently constructed regional centre of Jabiru. Permanent laboratory facilities are proposed at Jabiru with a small component of staff located in Darwin. Staff located in Darwin will spend a significant amount of their time in the Region.

Jabiru has a growing population which currently stands at approximately 1250. It is located 260 kilometers east of Darwin within the Kakadu National Park (an area included in the World Heritage List) and provides all the community facilities expected in a modern town. Local residents of the Region have available to them past-time activities such as boating, fishing, photography, bird watching, bushwalking, and studying Aboriginal art sites.

Applications are invited for the following vacancies.

### Mathematical Modeller

#### (Senior Research Scientist/Principal Research Scientist)

**Duties:** To oversee the acquisition and analysis of environmental and ecological data and to develop comprehensive models to assist in the prediction and evaluation of the effects that uranium mining and milling may have on the environment of the Region in the short, medium, and long term. The models will simulate the transfer of contaminants (for example, heavy metals and radionuclides) through various pathways to critical elements of the environment and to man and will need to take account of source terms (and their variation in time), environmental transport mechanisms, both physical and biological, and contaminant deposition, recycling and accumulation in target organisms. Parallel research programs in appropriate research areas will provide input data to the models. Long term assessment will include the modelling of radionuclide and heavy metal migration from spoil heaps, waste rock dumps and mill tailings, so that options for ultimate disposal and rehabilitation can be studied.

**Qualifications:** Applicants should possess a Ph.D. or equivalent qualifications and have a recognised scientific reputation with substantial research publications in relevant fields such as limnology, hydrology, micrometeorology, aerosol/dust transport and mathematical modelling in a multidisciplinary biophysical environment. A minimum of 7 to 12 years of postdoctoral research experience is desirable for appointment within the proposed range.

**Salary:** The successful applicant will receive a salary within the range A\$29,810 to A\$40,470 per annum, depending on qualifications and experience.

### Ecosystems Analyst

#### (Research Scientist/Senior Research Scientist)

**Duties:** To undertake modelling of tropical ecosystems and subsystems at micro, meso and macro scales. The research is aimed at determining the functional interrelationships controlling ecosystems maintenance and estimates of system resilience to perturbation that might result from natural causes and from the effects of uranium mining and milling. Critical pathway analysis for trophic level transfer of contaminants to man will be developed. The ecological models so developed will be incorporated into a larger environmental modelling scheme.

**Qualifications:** Applicants should possess a Ph.D. or equivalent qualifications and have a recognised scientific reputation with substantial research publications in relevant fields. A minimum of 4 to 7 years of postdoctoral research experience is desirable.

**Salary:** The successful applicant will receive a salary within the range A\$23,340 to A\$34,330 per annum depending on qualifications and experience.

**Location:** The location of these positions is yet to be decided either in Darwin or Jabiru. **Summary of Conditions:** Successful applicants for the above vacancies may be appointed as a permanent officer of the Australian Public Service or engaged on a fixed term temporary arrangement. As appropriate, successful applicants will be recruited within the classifications and salary ranges nominated depending on qualifications and experience. Conditions of service include 5 weeks and 2 days of annual leave at Jabiru (5 weeks at Darwin); annual leave loading; annual leave fare assistance; accumulative sick leave; and district allowance. Fares and removal expenses to take up duty will be payable by the Office. Government accommodation is available at Jabiru. In Darwin, Government accommodation may be available or a temporary accommodation allowance may be payable. **Applications** (including curriculum vitae and nominated professional referees): Should reach: **The Supervising Scientist, P.O. Box 387, Bondi Junction, N.S.W. 2022, Australia**, no later than three weeks after date of publication of this journal.

**VACANCY ANNOUNCEMENT  
NATIONAL INSTITUTES OF HEALTH  
PUBLIC HEALTH SERVICE  
DEPARTMENT OF HEALTH AND  
HUMAN SERVICES**

The National Institutes of Health is requesting applications for the position of Director, Division of Equal Opportunity, Office of the Director, NIH. The National Institutes of Health conducts, fosters, and supports a national program of research and research training on the causes, prevention, diagnosis, and treatments affecting the health of the American people. Efforts cover the spectrum of basic, applied and developmental research carried out through intramural laboratory research and extensive extramural program activities. NIH is a complex multi-program, multi-level organization of approximately 14,000 employees in a broad range of occupations and pay systems, located at the Bethesda, Maryland, headquarters and a number of field locations, with an annual budget of approximately \$3.8 billion. This is a Civil Service position at the GS-260-15 grade level with a salary range of \$48,553 to \$63,115 per annum.

The Director, Division of Equal Opportunity, is responsible for planning, implementing, directing, analyzing, and evaluating the total NIH Equal Opportunity Program which encompasses Equal Employment Opportunity, Affirmative Action, Civil Rights and Contract Compliance.

This position serves as the expert advisor to the Director, NIH, on the direction, design and implementation of NIH policies and programs under the Equal Employment Opportunity and Civil Rights authorities.

Further information about the position and qualifications requirements may be obtained by contacting Ms. Diane White at 301-496-6521. Applications (SF-171, Personal Qualifications Statement) should be submitted to Ms. Diane E. White at: National Institutes of Health; OD Personnel Office; 9000 Rockville Pike; Building 31, Room 1C-15; Bethesda, Maryland 20205.

Applications must be postmarked not later than June 30, 1983. (The SF-171 form is available at all Federal Personnel Offices and Job Information Centers.) Applications from women, minority and handicapped candidates are solicited.

—An Equal Opportunity Employer—

**RESEARCH ASSOCIATE IN NUTRITION AND  
FOOD SCIENCE**

for position involving biochemical scientific research into development of a novel, immobilized enzyme system to remove potentially toxic chemicals, such as heparin, in extracorporeal therapy. Will conduct studies of the toxicology and physical properties of degraded heparin. Duties include designing day to day experiment approaches (candidates must have ability to practically implement these plans as well as to evaluate experimental results and incorporate such observations in planning further work); will carry joint responsibility for successful completion of research project; and supervise highly qualified research team and graduate students. Requires Ph.D. in biophysical chemistry, plus detailed familiarity with latest developments in biochemical and physical biochemical experimental techniques, including highly sophisticated laboratory techniques in: electron microscopy, Fourier transform nuclear magnetic resonance (NMR) and INFRARED (IR), high-pressure liquid chromatography (HPLC), reverse phase liquid chromatography (RPLC), ultraviolet-visible spectrophotometry (UV-VIS), light scattering photometry, liquid scintillation spectrometry; and advanced chromatographic techniques, isoelectric focusing, electrophoresis, and diffusion and analytical centrifugation; and familiarity with physical methods such as differential scanning dilatometry, conductance, surface tension measurements and viscometry. Candidates should also have demonstrated excellence in research, including an ability to grasp abstract concepts easily and to adopt new ideas rapidly. Proven creativity in generating ideas and translating them into practicable experiments, plus strong writing and analytical skills for describing activities and results for scientific publication, are essential. Scientific journal publications plus animal and chemical testing experience also vital. Salary range: \$17,500 to \$21,000. Please submit two copies of résumé (Attention: Job Number R1046) to: Vera J. Ballard, Massachusetts Institute of Technology (MIT), Personnel Office, E19-239, 77 Massachusetts Avenue, Cambridge, Mass. 02139. MIT is an Equal Opportunity/Affirmative Action Employer.

**POSITIONS OPEN**

**ANATOMY AND PHYSIOLOGY/HISTOLOGY.** Temporary, 1-year appointment starting 12 September 1983 to 10 June 1984. Teaching responsibilities: anatomy and physiology, histology, and general biology. Ph.D. preferred. Salary and rank commensurate with experience. Deadline for completed applications: 1 July 1983. Send curriculum vitae and arrange to have three letters of recommendation sent to: **Dr. Judith E. Gordon, Department of Biology, Augusta College, Augusta, Georgia 30910. An Affirmative Action/Equal Opportunity Institution.**

Applicants invited for tenure-track position—**ASSISTANT PROFESSOR** level. Seek someone with background/postdoctoral training in molecular biology with emphasis on immunobiology. Candidates should be motivated towards excellence in teaching basic and applied microbiology to dental students and toward development of a strong, independent research program. Applicants send curriculum vitae, statement of research and teaching interests, and names of three references to: **Dr. B. F. Hammond, Department of Microbiology, School of Dental Medicine, University of Pennsylvania, 4001 Spruce Street, Philadelphia, Pennsylvania 19104. An Equal Opportunity/Affirmative Action Employer.**

Tenure-track position, **ASSISTANT/ASSOCIATE PROFESSOR**, available immediately. Joint position in College of Agriculture and School of Medicine. D.V.M. or Ph.D. with postdoctoral experience in bacteriology/virology to develop a competitive research program in the molecular biology of infectious diseases. Will have shared teaching responsibilities in an intercollegiate graduate program in molecular biology. Submit curriculum vitae by 1 July 1983 to: **R. L. Taylor, D.V.M., Chairman, School of Veterinary Medicine, 5305 Mill Street, Reno, Nev. 89502. The University of Nevada, Reno, is an Affirmative Action/Equal Opportunity Employer.**

**VISITING ASSISTANT PROFESSOR**—One-year position in molecular biology to teach virology, biochemical genetics, a course in candidate's area of specialization, and to participate in a freshman level course (genetics and development). Ph.D. preferred; ABD considered. Applicants should send letter of application, résumé, undergraduate and graduate transcripts, and three letters of recommendation to: **Chairman, Biology Department, Bucknell University, Lewisburg, Pa. 17837, by 24 June 1983. Affirmative Action/Equal Opportunity Employer.**

**ASSISTANT PROFESSOR OF PHARMACOLOGY.** Northeastern Ohio Universities College of Medicine, Program in Pharmacology, invites applicants for tenure-track appointment at the assistant professor level. Applicants must have Ph.D. and/or M.D. degree with a record of productivity in research, preferably in the areas of psychopharmacology or neurophysiology. Candidate should be capable of teaching outside area of research expertise to medical and graduate students. Applicant should submit curriculum vitae, bibliography, statement of teaching and research goals, research funds, and names of three references by 15 July 1983 to: **Office of the Provost, Northeastern Ohio Universities College of Medicine, Rootstown, Ohio 44272. An Equal Opportunity/Affirmative Action Employer.**

**DEVELOPMENTAL CELL BIOLOGIST**

The C. V. Whitney Laboratory of the University of Florida invites applications to fill a 12-month, tenure-track, full-time research position. Candidates with expertise and interest in quantitative aspects of cell-cell or cell-matrix interactions, or in membrane receptor function, particularly those using marine models, are especially encouraged to apply. The Whitney Laboratory is dedicated to the use of marine organisms for solving basic problems in biology and medicine; its major research interests are in neurobiology, membrane transport, and developmental biology. All members of the Laboratory hold regular faculty appointments in academic departments at the University of Florida. The present position is at the rank of assistant professor; salary is competitive. Letters of application, together with curriculum vitae, a statement of research interests and plans, and three letters of reference, should be sent to:

**Dr. Michael J. Greenberg, Director  
C. V. Whitney Laboratory  
University of Florida  
Rt. 1, Box 121  
St. Augustine, Fla. 32084**

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

**POSITIONS OPEN**

**Indiana University—Purdue University at Indianapolis (IUPUI)  
VISITING ASSISTANT PROFESSOR OF  
PHYSICS**

Applications are invited for the position of visiting assistant professor of physics at IUPUI for the academic year 1983–1984. The Physics Department desires either a researcher who will contribute to one of its existing programs while carrying a modest teaching load, or a full-time teacher. IUPUI is a joint urban campus of Indiana and Purdue Universities at Indianapolis. It is a rapidly growing university with a total enrollment of approximately 23,000 students. The Physics Department has a full-fledged undergraduate program and a master's program is expected to start this fall. The physics faculty (11 full-time and 7 part-time) has research interests in biological, solid-state, nuclear, and high-energy physics. The current major research projects with external funding are in biological magnetic resonance and photosynthesis, and active collaborations exist with the medical school and local hospitals. The department expects approval of a regular tenure-track position for the academic year 1984–1985. Applications containing full particulars and names of references should be sent as soon as possible, but not later than 31 July 1983, to: **Professor R. M. Pearlstein, Chairman, Physics Department, IUPUI, Indianapolis, Ind. 46223. IUPUI is an Equal Opportunity/Affirmative Action Employer.**

**ASSISTANT OR ASSOCIATE  
PROFESSOR OF PSYCHOLOGY**

The Department of Psychology at Mount Allison University seeks an experimentalist with a strong and active background in the psychology of perception, learning, or memory.

The appointment will be of interest to those who like to teach undergraduates with lively minds, who can use the time and facilities which are available here to conduct research, and who, in addition, may also be attracted by the excellent programmes in music and the fine arts which can be enjoyed in this University.

Please send curriculum vitae and names of three referees to: **Dr. Henry James, Psychology Department, Mount Allison University, Sackville, New Brunswick, Canada E0A 3C0.**

*In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens.*

**CHAIRPERSON  
DEPARTMENT OF BIOCHEMISTRY  
THE UNIVERSITY OF TEXAS  
HEALTH SCIENCE CENTER AT DALLAS  
SOUTHWESTERN MEDICAL SCHOOL**

Applications and nominations are invited for the position of **professor and chairperson** of the Department of Biochemistry. Candidates should have an outstanding record of research accomplishments and be dedicated to the provision of leadership in research and teaching for a department that currently includes more than 25 faculty. Nominations and applications will be received until the position is filled and should be addressed to: **Alfred G. Gilman, Chairman of the Biochemistry Search Committee, Department of Pharmacology, The University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235. An Equal Opportunity Employer.**

**EDITOR-IN-CHIEF**

Unique opportunity to interact with leading research scientists and educators and to work with dedicated editorial and business staff members and management in attractive, modern publishing offices in San Francisco Bay Area. This long-established publisher of scholarly works in the sciences seeks a full-time editor-in-chief and invites applications from well-qualified candidates. Strong academic background in scientific publishing, extensive direct involvement with segments of the scientific community, and substantial editorial experience and achievement are essential. The editor-in-chief serves as liaison between the editors of the publications and the Board of Directors to maintain the quality and the integrity of the company's existing publications and to develop new projects designed to enhance its services to science and scholarship. Salary is commensurate with qualifications. Deadline for applications is 31 July 1983. Résumés and references should be sent to: **Chairman, Search Committee, Box 10139, Palo Alto, California 94306. An Equal Opportunity Employer.**

## POSITIONS OPEN

### CHAIRMAN, BEHAVIORAL SCIENCES DEPARTMENT

The Armed Forces Radiobiology Research Institute is seeking an individual to serve as chairman, Behavioral Sciences Department. This Institute, a command of the Defense Nuclear Agency, is the principal radiobiology research laboratory for the Department of Defense. The Behavioral Sciences Department is responsible for research on the effects of ionizing radiation on behavior, and on the interaction between chemical or pharmacological factors and the psychobiological response to radiation. Chairman is responsible for a multidisciplinary research program in experimental animal models ranging from operant conditioning techniques to methods in physiological psychology, neurochemistry, and neurophysiology. Candidate will be expected to plan, initiate, and direct a multidisciplinary research program, supervise a scientific and technical staff comprised of military and civilian personnel, and conduct personal research in an area of radiobiology. Desirable qualifications include a Ph.D. in psychology or a related biological science, a strong publication record, and management experience. This Civil Service position is available immediately. Salary ranges from \$41,277 to \$63,115. Direct inquiries to: **Vince Ackermann, telephone: 202-295-1426**. Submit application, including SF-171 and curriculum vitae, by 15 July 1983 to: **The Armed Forces Radiobiology Research Institute, Civilian Personnel Office, Bethesda, Md. 20814**. Reference announcement number 27/83. *Equal Opportunity Employer.*

Wanted: **CHIEF EXECUTIVE OFFICER/DIRECTOR** for the Museum of Northern Arizona (MNA). Position requires person with at least one advanced degree, several years of experience in institutional management, and familiarity and interest in at least one field of MNA activity (geology, ecology, archaeology, anthropology, art, and public programs in museum education). Competence in internal operations, budget and personnel management, public relations, and delegation of responsibility to staff of 80 is important. Applicants apply with curriculum vitae to: **Search Committee, Board of Trustees, Museum of Northern Arizona, Route 4, Box 720, Flagstaff, Ariz. 86001**. Applications accepted until 30 June 1983.

### CURATOR OF COLLECTIONS/ADJUNCT ASSISTANT PROFESSOR

A new position for a qualified and responsible individual to oversee the astronomy, paleontology, geology, mineralogy, zoology, and anthropology collections of Cranbrook Institute of Science. The appointment will be as curator or as collections manager depending on qualifications. Responsibilities include assessing, cataloging, and coordinating loans of current collections and expanding collections with an emphasis on Michigan and the Great Lakes region. The position will also include an appointment as adjunct assistant professor or as adjunct instructor of biological science at Oakland University with initial responsibility for teaching introductory biology courses. Candidates should have a minimum of a master's degree in zoology or biology. A Ph.D. degree is desirable. Three years of experience in working with museum collections is required as well as previous experience in teaching biology at the introductory college level. Candidates must also demonstrate reliability, responsibility, attention to detail, integrity, and the ability to work with professional staff and volunteers. Cranbrook Institute of Science is a museum of natural history and science with emphasis on education, exhibition, research, publications, and collections. Salary is competitive. Send résumé and letters of recommendation to: **Dr. Dennis M. Wint, Director, Cranbrook Institute of Science, 500 Lone Pine Road, P.O. Box 801, Bloomfield Hills, Mich. 48013**. Closing date: 15 July 1983.

**DIRECTOR, KRESGE HEARING RESEARCH INSTITUTE**—This position is vacant following Dr. Merle Lawrence's retirement. The candidate should be an established investigator with an international reputation in the area of auditory or vestibular research. The director is expected to provide scientific and administrative leadership for the Institute and to develop and coordinate the research programs at the Institute and the Department of Otorhinolaryngology. Send curriculum vitae by 31 August 1983 to: **Dr. Jochen Schacht, Chairman, Search Committee, Kresge Hearing Research Institute, Box 28, University of Michigan, Ann Arbor, Michigan 48109**. *The University of Michigan is a nondiscriminatory, Affirmative Action Employer. Code 04.*

10 JUNE 1983

## POSITIONS OPEN

### FACULTY POSITION AVAILABLE ASSISTANT PROFESSOR OF MATERIALS SCIENCE AND ENGINEERING

The Materials Science and Engineering Department of The Johns Hopkins University invites applications for a tenure-track faculty position at the rank of assistant professor.

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

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

**Professor Robert E. Green, Jr.  
Materials Science and Engineering Department  
The Johns Hopkins University  
Baltimore, Md. 21218**

### CHAIRPERSON OF MICROBIOLOGY

The School of Medicine at the State University of New York (SUNY) at Stony Brook is seeking an individual to assume the chair of microbiology. Qualifications include an established record of research accomplishment and the administrative ability to provide leadership to a vigorous, molecularly oriented department with major teaching responsibilities in an all-university department. Applications and nominations should be sent to:

**Sidney Strickland, Ph.D.  
Department of Pharmacology  
State University of New York at Stony Brook  
Stony Brook, New York 11794**

*SUNY, Stony Brook, is an Equal Opportunity/Affirmative Action Employer. AK 615A.*

### UNIVERSITY OF HAWAII-MANOA DIRECTOR, INSTITUTE FOR ASTRONOMY

The University of Hawaii-Manoa invites nominations, and solicits applications, for the position of director, Institute of Astronomy. The position carries overall responsibility for the research program of the Institute, for operation of the University's observing facilities on Haleakala and Mauna Kea, including the NASA-funded Infrared Telescope Facility, and for liaison with other existing and proposed telescope facilities on Mauna Kea. Applicants must have a distinguished record of achievement in personal research in astronomy; extensive experience in working with funding agencies; a demonstrated aptitude for administration of a scientific research program; and ability to work well with faculty, administrators, and external agencies. Some experience in working in multi-institutional and multi-national scientific environment would also be valuable. Applications containing names of at least three people from whom professional references can be obtained should be forwarded to: **Chairman, Search Committee, c/o Director, Institute for Astronomy, 2680 Woodlawn Drive, Honolulu, Hawaii 96822**. Closing date for applications is Friday, 15 July 1983. The successful candidate will be encouraged to take up post as soon as possible after 1 September 1983. Further details may be obtained from: **Dr. John T. Jefferies, telephone: 808-948-8566**.

*An Equal Opportunity Employer*

### FACULTY POSITION

The Section of General Surgery of the University of Michigan Medical School has an opening for an instructor/assistant professor. The position is research oriented with clinical, teaching, and administrative responsibilities. An applicant must be Board-certified in general surgery, have special expertise and training in peripheral vascular surgery, have experience in endothelial cell culture, and have proven ability to supervise an endothelial cell laboratory. All inquiries should be directed to: **Robert H. Bartlett, M.D., Professor and Head, Section of General Surgery, Department of Surgery, University of Michigan Hospitals, D-2255 SACB, Box 46, Ann Arbor, Mich. 48109**. *The University of Michigan is a nondiscriminatory, Affirmative Action Employer. PCN 205.*

## ASSOCIATE DIRECTOR FOR RESEARCH NATIONAL AIR AND SPACE MUSEUM

The National Air and Space Museum (NASM) seeks an associate director to oversee the research activities of the Museum, with the goal of making it an internationally recognized center for the history of aerospace science and technology and for earth and planetary studies. The associate director will be the chief advisor to the director in all matters pertaining to research and will guide the historical and scientific research activities of the Departments of Aeronautics, Space Science and Exploration, and Earth and Planetary Studies. The associate director will also establish a center of historical documentation for scholars and monitor the NASM archival collections. The successful candidate will have a high degree of academic attainment either in the history of science and technology or in an appropriate scientific discipline; have a demonstrated ability in planning, organizing, and administering research programs; and will have shown a capacity to advance programs of research in several diverse departments. Salary is GM-15, \$48,553 to \$63,115, depending on qualifications. Send Federal SF-171, a bibliography, and a supplemental information sheet giving examples of relevant experience, training, and personal achievements by 15 July to:

**Smithsonian Institution  
Office of Personnel Administration  
900 Jefferson Drive, SW, Room 1410  
Washington, D.C. 20560  
Attention: MPA-83-248-F**

*The Smithsonian is an Equal Opportunity Employer.*

THE NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM, INTRAMURAL PROGRAM at the NIH CLINICAL CENTER invites applications from highly qualified individuals with an M.D. or M.D., Ph.D., who are seriously interested in pursuing careers in academic medicine and research. Studies will focus on investigations of diagnosis, consequences and treatments of alcohol abuse and alcoholism. Clinical and laboratory research training opportunities are available in clinical pharmacology, genetic studies, neuroscience, neuropsychiatry and medical biochemistry.

Appointments are available for 2 to 3 years beginning July 1, 1983 with an initial salary of \$30,000 up to a maximum of \$34,000 for the third year. Applicants should call collect for applications.

## NATIONAL INSTITUTES OF HEALTH

**Medical Staff Fellowship Program  
Bldg. 10, Room 2N220  
9000 Rockville Pike  
Bethesda, MD 20205  
(301) 496-2427**

*AN EQUAL OPPORTUNITY EMPLOYER*



## POSITIONS OPEN

### DEVELOPMENTAL GENETICIST

Whitehead Institute for Biomedical Research  
and the Department of Biology,  
Massachusetts Institute of Technology (MIT)

Candidates are sought for a junior-level, tenure-track faculty position in the developmental genetics of *Drosophila*. Applicants should have carried out significant postdoctoral research using both organismal and molecular genetics to approach problems of development.

Candidates will be considered for joint academic appointment between the Whitehead Institute for Biomedical Research and the Department of Biology, Massachusetts Institute of Technology. The successful applicant will be expected to conduct a research program in developmental biology and to assume normal academic responsibilities. Send résumé to: **Dr. Gerald R. Fink, MIT, Department of Biology, Building 56, Room 337, Cambridge, Mass. 02139.**

*Equal Opportunity/Affirmative Action Employers*

**THE ENVIRONMENTAL SCIENCE AND ENGINEERING PROGRAM** at University of California at Los Angeles (UCLA), now 10 years old, is an interdisciplinary program in the School of Public Health. We are seeking applications for three tenure-track positions to conduct graduate-level interdisciplinary environmental teaching and research. Emphasis is currently given to problem-solving. The priority areas for recruitment are:

- 1) **Environmental engineer or applied scientist** with background in a field such as mechanical or chemical engineering, physical chemistry, or other scientific engineering field which has foundations in physical science;
- 2) **Applied environmental biological scientist** with background in biology, botany, agriculture, or other related field; and
- 3) **Environmental social scientist** with background in sociology, political science, law, or related fields.

Applicants should have interest in interdisciplinary studies. Rank and salary commensurate with experience. A doctoral degree is required. The first appointment will be at a senior level and this person will head the program. The second and third positions will be at the assistant or associate professor level. Closing date for applications is 1 July 1983. *The University of California is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minority groups.* Interested applicants should submit curriculum vitae and three references to:

**Dr. John R. Froines**  
Chair, Search Committee  
School of Public Health  
University of California  
Los Angeles, Calif. 90024

**FACULTY POSITION: Veterinary parasitologist** with D.V.M. and/or Ph.D. degree(s) or equivalent degree(s) with a demonstrated ability to conduct independent, competitive research in parasitology, especially at molecular level. Rank will be assistant or associate professor. Applicant must have ability to train graduate students and to contribute to the teaching of veterinary parasitology to veterinary students. He/she will also be expected to assist in the service responsibilities of the department. Closing date for applications will be 1 July 1983 or until a suitable candidate is chosen. Submit curriculum vitae and names of three references to: **Dr. Bruce Hammerberg, Chairman of Search Committee, School of Veterinary Medicine, North Carolina State University, 4700 Hillsborough Street, Raleigh, North Carolina 27606.**

*An Equal Opportunity/Affirmative Action Employer*

**IMMUNOLOGIST/MICROBIOLOGIST** with experience in mucosal immunity, diarrheal diseases, and/or allergies to direct research projects on the effect of acute and chronic diarrheal episodes on the secretory immune response, immune complex phenomenon, autoimmune diseases, and/or allergies. U.S. citizenship is required. Ph.D. preferred. The appointment for this permanent position will be made at GS-12 (\$29,374) or GS-13 (\$34,930) level. Submit applications (SF-171) and curriculum vitae with bibliography by 30 June 1983 to: **Dr. D. B. Shah, Microbial Biochemistry Branch, Food and Drug Administration, 1090 Tusculum Avenue, Cincinnati, Ohio 45226; telephone: 513-684-8488.** *The U.S. Food and Drug Administration is an Equal Opportunity Employing Agency.*

## POSITIONS OPEN

### ELECTRON MICROSCOPE TECHNICIAN II

Position available in the Electron Microscopy Center for individual experienced in supervising students and technicians in operating transmission and scanning electron microscopes and energy-dispersive x-ray analyzers and maintaining EM equipment in a research and training unit. Send résumé by 1 July to: **Washington State University, Staff Personnel, 134 French Administration Building, Pullman, Wash. 99164-1014.** *An Equal Opportunity Employer.*

### ENDOCRINE CELL BIOLOGY

Position for a **POSTDOCTORAL FELLOW OR RESEARCH ASSOCIATE** to work on mechanism of hormone secretion by pituitary cells. Experience with at least one of the following techniques is required: electron microscopy, immunocytochemistry, or cell separation and culture. Salary up to \$20,000 depending on qualifications and training. Send curriculum vitae, reprints, and statement of experience and goals to: **Dr. J. D. Neill, Department of Physiology and Biophysics, University of Alabama in Birmingham, Birmingham, Ala. 35294.** *An Equal Opportunity/Affirmative Action Employer.*

## FERMENTATION MICROBIOLOGIST

Qualified candidates will have a BS and at least 5 years' experience or an MS and 2 years' experience with optimization of growth parameters and laboratory scale fermentations for production of secondary metabolites. Additional experience in isolation of products from fermentation mixtures, enzyme production, microbial transformations or microbial physiology is desirable. The opening involves an interdisciplinary program in our Agricultural Research Department. Submit resume and salary requirements to: **K.K. Kiger, MONSANTO COMPANY, Bldg. 03H, 800 N. Lindbergh, St. Louis, Missouri 63167.** *An Equal Opportunity Employer M/F/V/H.*

**Monsanto**

### IMMUNOLOGY—JUNIOR FACULTY

Expanding program in basic and clinical immunology offers positions for postdoctoral fellows and junior faculty.

Send curriculum vitae to: **Marc E. Weksler, M.D., Cornell University Medical College, New York, N.Y. 10021.**

The Department of Surgery, Southwestern Medical School, is seeking applicants for:

**INSTRUCTOR—M.D.,** accredited general surgery residency, interest in peripheral vascular surgery. Deadline for submission of applications for 1984–1985 is 30 June 1983; for 1985–1986, 30 October 1983; and for 1986–1987, 1 January 1984. Contact: **William J. Fry, M.D., Hudson-Penn Professor and Chairman, Department of Surgery, 5323 Harry Hines Boulevard, Dallas, Texas 75235.** *The University of Texas Health Science Center at Dallas is an Equal Opportunity Employer.*

**JUNIOR FACULTY,** tenure track, fall 1983, in Department of Human Oncology, University of Wisconsin Medical School. Ph.D. or M.D. Laboratory investigator sought whose research interests may include immune cell surfaces, membrane receptors, analytical immunological chemical techniques, regulation of cell growth, or differentiation and metastatic potential. Applicants should have a strong postdoctoral research record, be prepared to develop an independent research program, and participate in departmental Ph.D. training program. Send résumé, statement of research interests, and names of three references to: **Cell Biologist Search Committee, c/o Mayvis Schneider, Wisconsin Clinical Cancer Center, K4/666, 600 Highland Avenue, Madison, Wis. 53792.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

**Bendel State University, Ekpoma, Nigeria.** Positions are available at all academic levels in the newly established **COLLEGE OF MEDICAL SCIENCES** of the Bendel State University. Remunerations and conditions of service available on request. Forward applications with curriculum vitae, copies of publications, and certificates to: **Rector, College of Medical Sciences, Bendel State University, P.M.B. 14, Ekpoma, Nigeria.** References should be forwarded by three referees directly to the Rector.

## POSITIONS OPEN

### MICROBIAL ECOLOGIST

Assistant or associate professor in plant pathology (80 percent research, 20 percent teaching) to develop a research program on the use of microorganisms to control diseases of important Kansas field crops. Teaching will include an introductory course in field-crop pathology. Available 1 September 1983. Apply before 15 July 1983 to: **Dr. William W. Bockus, Search Committee, Department of Plant Pathology, Kansas State University, Manhattan, Kans. 66506.** *Equal Opportunity/Affirmative Action Employer.*

**MOLECULAR GENETICS/MICROBIOLOGY** assistant professor. Tenure-track position available fall 1984. Ph.D. required. Primary responsibilities will be teaching undergraduate and graduate courses in genetics, microbiology, and introductory courses, and advising students. Send curriculum vitae, statement of teaching experience, official transcripts, and three current letters of reference by 31 December 1983 to: **E. Bruce McLean, Chairman, Department of Biology, John Carroll University, Cleveland, Ohio 44118.** *An Equal Opportunity Employer.*

### ST. GEORGE'S UNIVERSITY SCHOOL OF MEDICINE GRENADA, WEST INDIES

**PATHOLOGY AND HISTOLOGY DEMONSTRATORS** required for fall semester beginning mid-August 1983.

Posts would be especially suitable for recent M.S.C., Ph.D., medical, or veterinary graduates.

Appointments for 6 or 12 months or longer. Salary by arrangement. Write immediately to: **The Vice-Chancellor, St. George's University, School of Medicine, c/o Foreign Medical School Services Corporation, One East Main Street, Bay Shore, New York 11706.**

### DEPARTMENT OF PATHOLOGY University of Arizona College of Medicine

Applications are solicited for a tenure-track faculty position in the following area: assistant or associate professor, clinical pathology, with a major commitment to clinical chemistry and clinical and forensic toxicology. Minimum requirements are medical degree; American Board of Pathology certification in clinical pathology (anatomic and clinical pathology certification desirable); certification in clinical chemistry or a master's degree in toxicology desirable with at least 2 years of experience in practical analytical procedures and consultation in toxicology and poison control; and research and teaching experience. The position will require student and house-officer contact. Applicants should send curriculum vitae to: **Jack M. Layton, M.D., Head, Department of Pathology, University of Arizona College of Medicine, Tucson, Arizona 85724.** *An Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.*

The **DEPARTMENT OF PHARMACOLOGY AND INTERDISCIPLINARY TOXICOLOGY** at the University of Arkansas for Medical Sciences has two positions available at the level of instructor, assistant professor, or associate professor. Preference will be given to individuals with research interests in clinical pharmacology, pharmacokinetics, or antibiotic chemotherapy, but individuals with a strong record of research accomplishment and proven ability in the instruction of medical students and graduate students also will be considered. Candidates should send curriculum vitae to: **Dr. Donald E. McMillan, Chairman, Department of Pharmacology and Interdisciplinary Toxicology, College of Medicine, University of Arkansas for Medical Sciences, 4301 West Markham Street, Slot 638, Little Rock, Arkansas 72205.**

*Equal Opportunity/Affirmative Action Employer*

### PLANT MOLECULAR BIOLOGIST/ BIOCHEMIST

The Institute of Food and Agricultural Sciences, Fruit Crops Department, at the University of Florida is seeking applicants for a full-time, tenure-track associate or assistant professor. The appointee will direct a research program in area of specialization, applying molecular techniques to some aspect of the genetics, biochemistry, or physiology of fruit crops (principally citrus) and will participate in graduate training/teaching. A Ph.D. with expertise in molecular or biochemical techniques is required. Send a letter of interest, curriculum vitae, a list of publications, and three letters of reference by 5 September 1983 to: **Dr. G. A. Moore, Fruit Crops Department, 1143 HS/PP Building, University of Florida, Gainesville, Fla. 32611.**



## AGRIGENETICS™ CORPORATION

As part of a strategy to perfect crop improvement methods embodying cell and tissue culture technologies, our Applied Genetics Laboratory in Boulder, Colorado has established research groups in somatic cell genetics and micropropagation. A new research team in PLANT DEVELOPMENTAL BIOLOGY & CELL CULTURE REGENERATION is currently being formed to work jointly with these groups. The following career positions are immediately available.

### Senior Scientist/Project Leader

- Ph.D. with extensive research experience in cell culture regeneration systems and strong credentials in plant developmental biochemistry and molecular biology; working knowledge of plant genetics and breeding and experience with somatic embryogenesis.
- Responsible for research activities in developmental biology as applied to regeneration of plants from cell culture.

### Research Scientists and Assistants

- Ph.D. with postdoctoral experience; and M.S. with research experience. Demonstrated expertise in regeneration essential.

Agrigenetics™ seeks exceptional candidates to join its strong and enthusiastic organization conducting collaborative research focused on practical goals. The overall scientific program integrates with work at the company's Advanced Research Laboratory (Madison, WI), eight plant breeding stations, and sponsored research at various universities.

A resume, references, and statement of professional interests should be sent promptly to:

**Director, Applied Genetics Laboratory**  
Agrigenetics Corporation, 3375 Mitchell Lane,  
Boulder, CO 80301

## REGULATORY AFFAIRS MANAGER

Rapid growth in our new animal health and nutrition products programs has created a unique opportunity for a skilled professional to assume complete control of regulatory affairs for these products on a world wide basis.

The ideal candidate must possess an advanced degree or equivalent experience in a biological or animal science, preferably veterinary medicine, and 2-10 years of regulatory experience with a major firm in the animal health area. Demonstrated expertise in managing INAD's, NADA's and other submissions through US and ex-US regulatory processes and a comprehensive knowledge of FDA regulations and procedures are also required. Applicant should have proven leadership, communications and negotiation skills as well as the ability to interface effectively with multi-disciplinary groups.

We are a large Fortune 500 Company that offers competitive salaries and benefits including a liberal relocation program to our Midwestern location.

Please send resume, including salary history in confidence to:

**BOX 132, Science**

An Equal Opportunity/Affirmative Action Employer M/F/H/V

## AFGL SCEEE

### AIR FORCE GEOPHYSICS LABORATORY RESEARCH SCHOLAR PROGRAM 1983 - 84

The Air Force Geophysics Laboratory (AFGL) and The Southeastern Center for Electrical Engineering Education (SCEEE) announce that applications are invited for research appointments during the 1983-1984 year in the Geophysics Scholar Program. This new program will provide research opportunities of 11 months duration for selected Engineers and Scientist to perform research in residence at the AFGL, Hanscom AFB, near Boston, Massachusetts. Scholars will be selected primarily from such fields as Geophysics, Atmospheric Physics, Meteorology, Ion Chemistry, Applied Science, Mathematical Modeling using Computers, and Engineering. To be eligible, candidates must be a U.S. citizen and have a Ph.D. or equivalent in an appropriate technical field. All qualified applicants will receive consideration without regard to race, color, religion, sex, or national origin. SCEEE supports Equal Opportunity/Affirmative Action. Application Deadline: July 15, 1983. For further information and application forms contact: SCEEE, 1101 Massachusetts Avenue, St. Cloud, FL 32769, Telephone: (305) 892-6146.

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  - ☐ \$155 air-surface delivery via Holland

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## POSITIONS OPEN

**PHYSIOLOGICAL ECOLOGIST.** Assistant professor, tenure track. Approximately equal commitment to research and instruction. This faculty member is expected: (i) to develop a research program oriented to **wildlife** population dynamics that includes modeling interrelationships between physiological and environmental variables and (ii) to develop and teach undergraduate- and graduate-level courses in physiological ecology. Salary (\$28,000 to \$30,000) contingent on previous experience and performance. Application deadline: 1 October 1983. Submit résumé to: **Chairman, Department of Wildlife Ecology, University of Wisconsin, Madison, Wis. 53706.** *An Equal Opportunity/Affirmative Action Employer.*

### PLANT PHYSIOLOGY

The Department of Biology, McGill University, invites applications for an assistant professor position. The position is funded and available immediately. The successful candidate will be expected to develop a strong research program in his/her speciality and to teach an undergraduate course in plant physiology.

Interested applicants should forward curriculum vitae, brief summary of current and future research, reprints, and three letters of reference to: **Dr. W. C. Leggett, Chairman, Department of Biology, McGill University, 1205 Avenue, Dr. Penfield, Montreal, Quebec, Canada H3A 1B1.**

McGill is an English language university and has a strong commitment to excellence in both teaching and research. *In accordance with Canadian Immigration Regulations, applicants who are Canadian citizens or landed immigrants will be considered first in this competition.*

**POSTDOCTORAL FELLOW.** Grant position available immediately in active research laboratory studying control in lipogenesis. Areas of work experience should include primary cell culture and measurement of enzyme activities and amounts. Knowledge of enzyme kinetics and experience with enzyme isolation and antibody production will be useful. Salary: \$18,820/annual. Send résumé to: **CHILDREN'S HOSPITAL MEDICAL CENTER, Personnel Department, 51st and Grove Streets, Oakland, Calif. 94609.**

*Equal Opportunity Employer, M/F.*

**POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE.** Ph.D. or M.D. with research experience to work cloning cDNA and genomic DNA. Project concerns gene structure, evolution, and regulation, and analysis of mutations causing endocrine disease. Send curriculum vitae and references to: **Dr. Walter Miller, Endocrine Research Division, 671 HSE, University of California, San Francisco, Calif. 94143.**

**TWO POSTDOCTORAL POSITIONS** available immediately. (i) To work on research involving gastrointestinal responses to oral chemoreceptor stimulation. A strong background in gastrointestinal motility and/or blood flow is required. (ii) To study sensory irritation produced by volatile chemicals. Background in electrophysiology is desirable. Send curriculum vitae and the names of three references to: **Dr. Rose M. Threatte, Monell Chemical Senses Center, 3500 Market Street, Philadelphia, Pa. 19104.**

**POSTDOCTORAL POSITION** to study peptide hormone-receptor interactions and signal transmission in cell membranes. Studies will utilize receptor binding, affinity labeling, and monoclonal antibodies to receptors. The background of the successful candidate may be immunological, biological, or biochemical. Send curriculum vitae and names of three references to: **Dr. David Donner, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, New York 10021.**

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

## POSITIONS OPEN

**TWO POSTDOCTORAL POSITIONS** available after 1 July 1983, to study genetics, immunochimistry, and molecular biology of *Escherichia coli* Shiga-like toxin. Background in genetics, molecular biology, immunology, or biochemistry preferred. Some knowledge of bacterial pathogenesis also helpful. Research programs in the laboratories of Dr. Alison O'Brien and Dr. Randall Holmes. Submit curriculum vitae and names of three references to: **Dr. Randall K. Holmes, Chairman, Department of Microbiology, c/o Personnel/Manpower Division, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20814.** Curriculum vitae will not be returned. *Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available 1 December 1983, for study of the role of neuropeptides in normal and abnormal brain function. Training available in radioimmunoassay, HPLC, and other neurochemical techniques, as well as behavioral neuropharmacology. Experience in stereotaxic surgery and statistics preferred. Anticipate interaction with clinical psychiatric research program. Submit curriculum vitae and have three letters of recommendation sent to: **Charles B. Nemeroff, M.D., Ph.D., Departments of Psychiatry and Pharmacology, Duke University Medical Center, P.O. Box 3950, Durham, N.C. 27710.**

**POSTDOCTORAL POSITION.** Joint appointment, Dana-Farber Cancer Institute and Harvard Medical School. Available September 1983 to study the biochemical basis, regulation, and expression of differential characteristics of nerve cells in continuous culture using biochemical, genetic, and immunological approaches. Interest in protein biochemistry, membrane biology desirable. Please send curriculum vitae and one reference letter to: **Dr. John Wagner, DANA-FARBER CANCER INSTITUTE, 44 Binney Street, Boston, Mass. 02115.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available to study involvement of contractile and fibrous proteins in neurotransmitter release. Projects include isolation characterization of tubulin, myosin, and so forth, in synaptic subfractions and changes in synaptic poly-peptides during release. Available for 1 to 2 years. Send curriculum vitae and three references to: **Dr. J. A. Babitch, Chemistry Department, Texas Christian University, Ft. Worth, Texas 76129.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITIONS** available for recent Ph.D.'s to participate in an active research program on the regulation of DNA repair in relation to human carcinogenesis. Current research efforts focus on the use of monoclonal antibodies for biochemical and cellular studies of DNA repair in normal human cells and in cells from cancer-prone individuals. Interested individuals should submit curriculum vitae and the names of two references to: **Dr. Michael A. Sirover, Fels Research Institute, Temple University School of Medicine, Philadelphia, Pa. 19140.** *Equal Opportunity Employer.*

**POSTDOCTORAL RESEARCH ASSOCIATE** position available for 2 years beginning September 1983 for collaborative studies in murine male reproductive toxicology. Utilizing flow cytometry electron microscopy and nucleic acid/protein separation techniques [see *Science* 210:1131; *J. Histochem. Cytochem.* 31:248]. Background in one or more of these areas desirable. Salary negotiable. Send curriculum vitae, including university transcripts and three letters of recommendation, to: **Dr. Donald P. Evenson, Chemistry Department, P.O. Box 2202, South Dakota State University, Brookings, S.D. 57007.** Closing date: 1 July 1983, or until filled. *Affirmative Action/Equal Opportunity Employer, F/M.*

### PRESIDENT

The Board of Regents of New Mexico State University (NMSU) invites nominations and applications for the position of president at the State's land-grant institution. The president is the chief executive officer of the university and reports to the Board of Regents. The position will be available 1 July 1984, upon the retirement of Gerald W. Thomas after 14 years of presidential service.

Applications, nominations, and inquiries will be received in confidence. Formal expressions of interest in becoming a candidate for the position will be received through 31 August 1983 by: **Dr. Peggy Elder, Chair, Presidential Search Committee, Box 3923, New Mexico State University, Las Cruces, N.M. 88003; telephone: 505-646-1722.** *NMSU is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available to participate in studies of molecular structure and organization of the extracellular matrix, using x-ray diffraction, electron microscopy, and computer analysis. Experience in x-ray scattering or crystallography is desirable. Interested candidates should send a letter describing research experience with curriculum vitae and three letters of recommendation to: **B. Brodsky, Ph.D., UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY—Rutgers Medical School, P.O. Box 101, Piscataway, New Jersey 08854.** *An Equal Opportunity/Affirmative Action Employer, M/F.*

**POSTDOCTORAL POSITION** available immediately, to join active research group studying the influences of diet and hypolipidemic drugs on lipid/lipoprotein metabolism. Experience in lipid/protein biochemistry, cell culture useful. U.S. citizen or permanent resident visa necessary. Contact:

**D. Roger Illingworth, M.D., Ph.D.**  
Department of Medicine—L465  
The Oregon Health Sciences University  
3181 S.W. Sam Jackson Park Road  
Portland, Oregon 97201  
*An Equal Opportunity Employer*

**POSTDOCTORAL RESEARCH ASSOCIATE—** Works on molecular biology of glucocorticoid receptors. Send curriculum vitae and names of three references to: **Gerald Litwack, M.D., Fels Research Institute, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, Pa. 19140.** Experience in molecular biology preferred. Stipend negotiated on basis of experience. *Temple University is an Equal Opportunity Employer.*

**POSTDOCTORAL RESEARCH ASSOCIATE** position available immediately to study the **BIOCHEMISTRY OF EXOCYTOSIS IN THE CHROMAFFIN CELL.** Protein phosphorylation, calcium-binding proteins, and membrane interactions [see *JCB* 91: 247 and 95: 391a]. Send curriculum vitae and names of references to: **Dr. Carl E. Creutz, Department of Pharmacology, University of Virginia, Charlottesville, Virginia 22908.** *Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available immediately to study cell membrane antigens on rat leukemia cells. Homologous antigens on human leukemia will also be investigated. Background in membrane antigen purification and hybridoma technology desired. Applicants should forward curriculum vitae and names of three references to:

**Robert J. Johnson, M.D., Ph.D.**  
Wood Basic Science Building, Room 713  
Subdepartment of Immunology  
The Johns Hopkins School of Medicine  
725 North Wolfe Street  
Baltimore, Maryland 21205

**POSTDOCTORAL RESEARCH SCIENTIST** position immediately available for studying the regulation of the biotin operon, specifically the interaction of the purified biotin repressor protein and the operator site. Background in biochemistry and molecular biology desirable. Position available for 2 years and salary is commensurate with experience and qualifications. Send curriculum vitae and three letters of recommendation to: **Dr. Max A. Eisenberg, Department of Biochemistry, College of Physicians and Surgeons, Columbia University, 630 West 168 Street, New York, New York 10032.** *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL STUDENT POSITION AVAILABLE** for studies on the influence of hormones and extracellular matrix on normal and neoplastic endometrial cells. Special emphasis will be placed on studies of the regulation of gene expression using techniques of molecular biology. Please send curriculum vitae and references to: **Dr. T. V. Rajan and Dr. L. Reid, Albert Einstein College of Medicine, 601 Chanin Cancer Center, 1300 Morris Park Avenue, Bronx, New York 10461.**

**PROFESSIONAL RESEARCH** series position may be available in 1983–1984 in environmental physiology, cardiovascular physiology, or stress physiology. Ph.D., or M.D. and postdoctoral experience required. Potential for extramural funding helpful. Send résumé and names of three persons who can write a letter of recommendation to: **Steven M. Horvath, Institute of Environmental Stress, University of California, Santa Barbara, Calif. 93106.** Apply by 24 June 1983. *An Equal Opportunity/Affirmative Action Employer.*

# MOLECULAR BIOLOGISTS

The Upjohn Company's expanding Molecular Biology Research Group has positions open for molecular biologists at all levels. Molecular Biology Research is a technology-oriented group with two-fold responsibility: develop state-of-the-art capabilities in the field of modern molecular biology within The Upjohn Company; and interact with therapeutic research groups to provide molecular biology as a research tool for solving therapeutic problems.

Positions open include:

**RESEARCH MANAGER.** Must be a Ph.D. or M.D. with a record of substantial accomplishments in the field of molecular biology. Candidates for this position should also have leadership experience. Responsibilities include expanding the Molecular Biology Research Group; development of interactions with management of therapeutic research programs; and maintaining an active research program.

**SCIENTISTS.** Must have a Ph.D. with postdoctoral research experience and publications. Particular attention will be given to applicants with experience in expression of cloned genes in *E. coli*, yeast, or gram positive bacteria. Because of the broad research base of the Molecular Biology Group, consideration will be given to accomplished scientists in other areas of molecular biology as well. These positions will involve development of a research program in molecular biology, as well as interaction with scientists in therapeutic research projects.

**ASSISTANTS.** Must have M.S. or B.S. in biochemistry, microbiology, or related field. In addition, laboratory experience in some aspect of molecular biology is required. These positions demand individuals with a demonstrated ability to work independently.

All of these positions offer the challenging opportunity to practice modern molecular biology and interact with the Upjohn scientific community to use molecular biology to study problems in human and animal health.

The Upjohn Company is a leader in worldwide research, marketing, and production of pharmaceuticals, health care products, chemicals, and agricultural products. Upjohn offers an excellent salary, commensurate with experience, and an outstanding benefits package. Kalamazoo, a mid-sized Michigan community, provides a mix of excellent cultural, educational and recreational pursuits.

For confidential consideration, please call toll free 1-800-253-8600 ask for extension 3-6767, (from Michigan call collect 616/323-6767) to request a specialized employment application that will be sent to you immediately. Please refer to ad number 15125 when calling. An Equal Opportunity Employer M/F.

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## POSITIONS OPEN

### ENDOWED PROFESSORSHIP FOR CANCER RESEARCH

The University of Kansas College of Health Sciences is seeking a highly qualified scientist who will devote 80 percent effort to cancer research. Candidates must have a Ph.D., M.D. or M.D./Ph.D. and be able to establish a productive program in basic cancer research. Expertise in molecular genetics, immunology, or toxicology is preferred. Extensive laboratory space, developmental funds, and faculty appointment with tenure are available. Submit curriculum vitae, three references, and a letter describing interests and needs to: **Dr. Larry H. Baker, University of Kansas Cancer Center, 39th and Rainbow Boulevard, Kansas City, Kansas 66103.** An Equal Opportunity/Affirmative Action Employer.

**RESEARCH ASSOCIATE.** Position available immediately for a Ph.D. to study the relationships between CNS neuropeptide systems and behavior in nonhuman primates. Experience in behavior neuropharmacology and/or neurobiology is desirable. Send curriculum vitae and names of two references to: **Dr. Ned Kalin, Department of Psychiatry, Clinical Sciences Center, 600 Highland Avenue, University of Wisconsin, Madison, Wisconsin 53792.** Salary range: \$16,000 to \$18,000. An Affirmative Action/Equal Opportunity Employer.

### RESEARCH ASSOCIATE

Postdoctoral position available after 1 August 1983 for an individual with training in biochemistry, cell biology, and/or immunology. Studies will focus on membrane transformations of mammalian spermatozoa during epididymal maturation and capacitation in the female reproductive tract. Send résumé and three letters of reference to: **Dr. J. K. Voglmayr, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

An Equal Opportunity/Affirmative Action Employer

**RESEARCH ASSOCIATE II** located in Farmington, New Mexico. Ph.D. degree in agronomy or agricultural engineering preferred with major emphasis on the water and fertility requirements of crops or M.S. with experience. Experience in soil, water, and fertility areas of crop production and knowledge about the design and operation of irrigation systems. Conduct research on water and fertility requirements of crops under full and deficit irrigation. Develop irrigation scheduling computer models under full and deficit irrigation and different fertility levels. Will be responsible to the principal investigator of a research project that relates to the station mission of conserving water. Individual must be willing to support the overall program direction administered by the superintendent of San Juan Branch Station and the associate director of the Agricultural Experiment Station. When acceptable with station superintendent, candidate may help on other projects located on station and at other locations. Salary commensurate with experience (\$18,000 to \$24,000). Send résumé and three letters of recommendations to: **Joe Gregory, Superintendent, San Juan Branch Station, New Mexico State University, P.O. Box 1018, Farmington, New Mexico 87401.** Deadline for applications: 24 June 1983. An Equal Opportunity/Affirmative Action Employer.

**RESEARCH ASSOCIATE.** Studies of fibronectin and fibrin and interactions of plasma components, using physical techniques. Ph.D. with experience either in physical chemistry of proteins or in research in hemostasis/thrombosis. **Dr. Jan Hermans, Department of Biochemistry, University of North Carolina, Chapel Hill, N.C. 27514.** Equal Opportunity/Affirmative Action Employer.

**RESEARCH ASSOCIATE.** Isolate, purify, and characterize toxins produced by fungi (mycotoxin). Will prepare derivatives isolated toxins and further characterize such derivatives. Will then conjugate derivatives to macromolecules and perform further characterization of toxin-macromolecule adducts. Will perform analysis of mycotoxin of foods and feeds. Requires bachelor's degree in physical chemistry. Applicant must also have either Ph.D. in biochemistry or 3 to 4 years of research experience in organic synthesis. Must have complete knowledge of TLC, GC, and HPLC techniques as well as ability to interpret MS and NMR data. Must also have education or research knowledge of polymeric, radioactive, and crystal chemistry; 40 hours per week at \$13,500 per year salary. Please send résumé to: **Bill Janek, Wisconsin Job Service, 206 North Broom, Madison, Wisconsin 53703.**

## POSITIONS OPEN

**RESEARCH ASSOCIATE, POSTDOCTORAL, IN NEUROCHEMISTRY,** available on 1 September. 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 not required for the position. Salary: \$13,000 to \$15,000 per year, commensurate with experience. 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: 15 August 1983. *Oregon State University is an Affirmative Action/Equal Opportunity Employer which complies with section 504 of the Rehabilitation Act of 1973.*

**RESEARCH ASSOCIATE (POSTDOCTORAL).** Position available to study retinal photoreceptor renewal and transduction using optical probes (fluorescence polarization, birefringence, light scattering, and so forth). Ph.D. required. Membrane biophysics or biochemistry experience helpful. Send résumé and two letters of reference to: **Dr. Michael W. Kaplan, Neurological Sciences Institute, Good Samaritan Hospital & Medical Center, 1120 N.W. 20 Avenue, Portland, Ore. 97209.**

**RESEARCH ASSOCIATE** position available immediately in the Stanford Heart Disease Prevention Program at Stanford University School of Medicine. Individual will supervise operation of the Lipoprotein Laboratory and conduct research in the general area of exercise and lipoprotein metabolism. Candidates must have a Ph.D. in biochemistry, physiology, or organic chemistry and, preferably, two or more years of relevant research experience. Please submit curriculum vitae and names of three references to: **Dr. Peter D. Wood, Deputy Director, Stanford Heart Disease Prevention Program, 730 Welch Road, Suite B, Palo Alto, Calif. 94304.** *Stanford University is an Equal Opportunity Employer and welcomes applications from women and minority groups.*

### VIROLOGIST

Immediate opening. Individual needed to perform serological and tissue culture tests to confirm impressions of viral infections. Position requires at least an M.S. and 4 years of pertinent laboratory experience, two of which are recent virology experience in a clinical laboratory. Résumé to: **Thomas J. McGimpsey, County of Westchester, Department of Laboratories and Research, Valhalla, N.Y. 10595.** Include salary requirements. *Equal Opportunity Employer.*

## FELLOWSHIPS

### POSTDOCTORAL FELLOWS, CARDIOVASCULAR

Fellowships (\$13,380 and up) presently available in cardiovascular pharmacology. Research areas include membrane biology and biophysics, study of excitation-contraction coupling and contractile proteins, Ca homeostasis in heart and vascular muscle, hormone receptors, normal and pathological cardiac electrophysiology and electropharmacology, Ca blockers in vascular muscle contraction,  $Ca^{2+}$ - $Mg^{2+}$ -ATPase mechanism, and ionophores and drugs in hemodynamic studies. Active cardiovascular group. Write: **Dr. A. H. Caswell, Director of Training Grant, Department of Pharmacology (R-189), University of Miami School of Medicine, P.O. Box 016189, Miami, Florida 33101.** An Equal Opportunity/Affirmative Action Employer.

### RESEARCH FELLOWSHIPS IN BIOLOGY

The Department of Biology, McGill University, invites applications from Canadian citizens and landed immigrants to Canada who wish to be sponsored for NSERC University Research Fellowships. The department has special strength in the areas of cell and molecular biology, ecology and behavior, and neurobiology and human genetics. Applications in these areas will be favoured, but others are welcomed. NSERC University Research Fellowships are awarded for 5 years, carry a salary at the assistant professor level, and include financial support for research.

Send curriculum vitae, representative reprints, and names of three referees by 1 August 1983 to: **Dr. W. C. Leggett, Department of Biology, McGill University, 1205 Avenue Docteur Penfield, Montreal, Quebec, Canada H3A 1B1.**

## FELLOWSHIPS

### POSTDOCTORAL FELLOWSHIP

Psychophysical and physical optics. Two-year fellowship beginning July 1983 or later. Postdoctoral training in color vision and assessment of vision in clinical population. Send curriculum vitae and supporting material to:

**Joel Pokorny, Ph.D., University of Chicago, Department of Ophthalmology, 939 East 57 Street, Chicago, Ill. 60637.**  
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## SUMMER INSTITUTE

**Summer Institute in Risk Management in Environmental Health and Protection,** 27 to 29 July 1983. Managerial and decision-making skills to identify and develop solutions for risk problems of hazardous materials. Bachelor's degree or equivalent required. Faculty drawn from the medical and natural sciences, law, economics, psychology, and management. Call or write: **Professor Rae Zimmerman, Graduate School of Public Administration, New York University, 4 Washington Square North, New York, N.Y. 10003; telephone: 212-598-3725.**

## DOCTORAL PROGRAM

### DOCTORAL PROGRAM IN MICROBIAL AND BIOCHEMICAL SCIENCES GEORGIA STATE UNIVERSITY

Stipends are available for qualified applicants to the doctoral program offered by the Laboratory for Microbial and Biochemical Sciences at Georgia State University. The program is interdisciplinary, integrating the traditional disciplines of microbiology, physiology, genetics, bioorganic chemistry, biochemistry, and biophysical chemistry. The program trains students to deal with fundamental questions and current problems in the microbial and biochemical sciences. Write: **Director, Laboratory for Microbial and Biochemical Sciences, Box 1036, Georgia State University, University Plaza, Atlanta, Georgia 30303.** *Georgia State University, a unit of the University System of Georgia, is an Equal Opportunity Affirmative Action Employer.*

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PATHOLOGY**

**MICROBIOLOGY  
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IMMUNOLOGY**

Doctorate and minimum of 2 years teaching experience (medical school) required. Language of instruction is English. Interviews will be held in London and Houston.

Salaries are highly competitive and negotiable. Benefits include free furnished housing, educational allowances, air tickets to and from Saudi Arabia once each year for family of four, 60-day paid vacation, and liberal overweight baggage allowance. No Saudi income tax.

Send curriculum vitae with day and evening telephone numbers and the names and addresses of three references to:

**Dr. Tawfik Tamimi  
Dean, College of Medicine  
c/o U.S. Recruiting Office  
2425 West Loop South, Suite 540  
Houston, Texas 77027**

or

**c/o U.K. Recruiting Office  
29 Belgrave Square  
London, S.W.1X, 8QB, England**

## Immunochemist Hybridoma Group

Genentech, Inc., a recognized leader in recombinant DNA research and manufacturing, has an immediate opening for a Biochemist with strong experience in working with immunoglobulins.

This position involves the purification and immunochemical characterization of polyclonal and monoclonal antibodies from various species. Additional responsibilities will include the development of strategies and techniques for deriving immunogenic peptides from proteins of known amino acid sequence. This work will be carried out in a strong multidisciplinary team environment.

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For immediate consideration please send curriculum vitae and list of publications to **Human Resources, Position #SCI-417.**

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# BIOTECHNOLOGY RESEARCH

In response to the enthusiastic support advanced by members of the health care industry, Unigene Laboratories is expanding its research staff. We are inviting applications from highly qualified, Ph.D.-level candidates, with strong backgrounds in either of the following disciplines:

## MOLECULAR BIOLOGY

Extensive experience in recombinant DNA technology required. Training in bacterial and yeast genetics, construction of prokaryotic/eukaryotic expression vectors, or animal virology desirable.

## PROTEIN CHEMISTRY

Minimum 2 years post-doctoral experience with background in enzyme characterization and a distinguished publication record in protein purification (classical and HPLC), modification and sequence analysis. Familiarity with peptide synthesis or protein immobilization techniques desirable.

## The Company

Unigene Laboratories is a financially independent, academically-committed corporation directed by scientists. Our new facility is located in rural Fairfield, N.J. We have established a creative, interactive environment in an institution which is exclusively devoted to the performance of in-house and contract-supported research. In addition to an excellent benefit and compensation program, qualified scientists will receive equity positions. For a unique opportunity to grow with a young, yet established company, please send C.V. to Ms. V. Ray (Molecular Biology) or Dr. B. N. Jones (Protein Chemistry) c/o Unigene Laboratories, Inc., 110 Little Falls Road, Fairfield, NJ 07006.

All applications will be handled in strictest confidence.

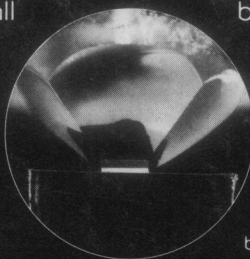
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