

mon context. "Dotaku," which is correctly explained in the text as denoting a bell-shaped ceremonial object in bronze, is for some reason translated as a "copper bell" under the series of figures on pp. 219-221 and 246, and bronze points are called "copper" points on p. 233 and "nickel alloy" points on p. 272.

Prehistory of Japan unquestionably is a vast improvement over the last book-length overview in English of Japanese prehistory, which had its own share of errors and is now hopelessly out of date. In the face of papers such as those by Turner and Ledyard that have appeared recently in English, the book does put the relative importance of continental influence "into a more realistic perspective," and it certainly serves its stated objective of publicizing, "in English as a language of international communication, some of the more salient aspects of Japan's long and fascinating prehistory" (p. x).

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Carbon Dioxide Fixation

Organic and Bio-organic Chemistry of Carbon Dioxide. SHOHEI INOUE and NOBORU YAMAZAKI, Eds. Kodansha, Tokyo, and Halsted (Wiley), New York, 1982. xii, 280 pp., illus. \$49.95.

Dwindling fossil fuel reserves and concern over the potential hazards of increasing atmospheric concentrations of carbon dioxide now provide powerful incentives for chemists to imitate the carbon dioxide fixation of simple organisms. It is no mere coincidence that the seven authors contributing to this book are natives of a country essentially devoid of fossil fuel resources.

The purpose of the book is to summarize the current status of efforts to develop laboratory and industrial processes for the chemical utilization of carbon dioxide fixation.

Following a brief introduction, the first major chapter, by Haruki, surveys recent advances in organic syntheses with carbon dioxide, focusing particularly on base-promoted carboxylations of active hydrogen compounds, phenols (Kolbe-Schmitt reaction), and amines (giving ureas). This extensive coverage is punctuated by numerous tables of yields and sample general procedures, especially from the author's own work with diazobicycloundecane-promoted

carboxylation of active hydrogen compounds. Unfortunately, the promised answer to the question "What directions should future research pursue?" is never provided.

A chapter by Ito and Yamamoto reviews the stoichiometric and catalytic reactions of carbon dioxide with organometallic compounds, particularly of the transition metal variety. In first assessing the thermodynamic feasibility of carbon dioxide reactions (mostly with hydrogen and organics) the authors make the serious error of using enthalpies rather than free energies. Indeed, many of the exothermic reactions listed have positive (unfavorable) free energies. The authors do provide a very complete coverage (unfortunately only through 1978) of the coordination chemistry of carbon dioxide and its insertion into M-H, M-C, M-O, and M-N bonds. The final section, on the design of catalytic processes using carbon dioxide, nicely suggests future areas of investigation within a reasonable mechanistic framework.

Yamazaki, Higashi, and Inoue then discuss the rapidly developing field of polymer syntheses incorporating carbon dioxide. The preparation of polyureas and polycarbonates under mild condition using carbon dioxide is covered, followed by copolymerization reactions of carbon dioxide with epoxides, aziridines, and other important monomers. Japanese workers have been pioneers in this subject of considerable industrial importance.

The final two chapters deal with biological carboxylations and model studies of such reactions. Asada provides a current overview of the utilization of carbon dioxide in biological processes, namely hydration-dehydration (mediated by carbonic anhydrase) and carboxylations both photosynthetic and nonphotosynthetic. The biological significance and details of the carbon dioxide acceptors, carboxylated products, participating enzymes, and mechanisms are discussed. The chapter is well written and provides interesting and understandable reading especially for nonbiochemists.

The final chapter, by Inoue, appropriately seeks to integrate the chemistry in the earlier chapters by comparing biochemical carbon-dioxide-fixing reactions and those of simpler organic and organometallic models. The length of the chapter (it is only 21 pages long) underscores our rather limited success thus far in modeling and understanding the natural processes, and the chapter serves to make clear the many subjects that need attention.

Collecting together organic, organo-

metallic, and biochemical aspects of carbon dioxide utilization was an excellent idea and may stimulate novel and interdisciplinary approaches to this important problem. The book is recommended reading for both academic and industrial chemists already active in the field and for those considering entering it.

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Chestnut Hill, Massachusetts 02167

Books Received

An Atlas of the Birds of the Western Palearctic. Colin Harrison. Design and cartography by Crispin Fisher. Princeton University Press, Princeton, N.J., 1982. 322 pp. \$25.

Atomic and Molecular Collision Theory. Proceedings of an institute, Arezzo, Italy, Sept. 1980. Franco A. Gianturco, Ed. Plenum, New York, 1982. x, 506 pp., illus. \$59.50. NATO Advanced Study Institutes Series B, vol. 71.

Be Stars. Papers from a symposium, Munich, Apr. 1981. Mercedes Jaschek and Hans-Günter Groth, Eds. Reidel, Boston, 1982 (distributor, Kluwer Boston, Hingham, Mass.). xvi, 524 pp., illus. Cloth, \$56.50; paper, \$28.50. International Astronomical Union Symposium No. 98.

Behavioral Medicine. Assessment and Treatment Strategies. Daniel M. Doleys, R. L. Meredith, and Anthony R. Cimminero, Eds. Plenum, New York, 1982. xx, 628 pp., \$42.50.

Crib Death. The Sudden Infant Death Syndrome. Warren G. Guntheroth. Futura, Mount Kisco, N.Y., 1982. xvi, 224 pp., illus. \$26.50.

Crustal Evolution of Southern Africa. 3.8 Billion Years of Earth History. A. J. Tankard and 5 others. Springer-Verlag, New York, 1982. xviii, 524 pp., illus. \$45.80.

Cultural Practices and Infectious Crop Diseases. Josef Palti. Springer-Verlag, New York, 1981. xvi, 244 pp., illus. \$39.80. Advanced Series in Agricultural Sciences 9.

Designing Machines and Dies for Polymer Processing with Computer Programs. FORTRAN and BASIC. Natti S. Rao. Hanser, Munich, 1981. 208 pp., illus. \$29.

Development Without Destruction. Evolving Environmental Perceptions. Mostafa Kamal Tolba. Tycooly, Dublin, 1982. x, 198 pp. Cloth, \$31; paper, \$22. Natural Resources and the Environment Series, vol. 12.

Experiments in Gothic Structure. Robert Mark. MIT Press, Cambridge, Mass., 1982. x, 136 pp., illus., + plates. \$15.

Exploring the Earth and the Cosmos. The Growth and Future of Human Knowledge. Isaac Asimov. Crown, New York, 1982. xii, 340 pp. \$13.95.

Extended Linear Chain Compounds. Vol. 1. Joel S. Miller, Ed. Plenum, New York, 1982. xvi, 482 pp., illus. \$52.50.

Feedback. Fred D. Waldhauer. Wiley-Interscience, New York, 1982. xviii, 652 pp., illus. \$47.50.

A Field Guide to the Atlantic Seashore. Invertebrates and Seaweeds of the Atlantic Coast from the Bay of Fundy to Cape Hatteras. Text and illustrations by Kenneth L. Gosner. Houghton Mifflin, Boston, 1982. xviii, 330 pp. + plates. Paper, \$9.95. Peterson Field Guide Series, 24. Reprint of the 1978 edition.

Guide to Sources for Agricultural and Biological Research. J. Richard Blanchart and Lois Farrell, Eds. University of California Press, Berkeley, 1982. xii, 736 pp. \$47.50.

Guide to the History of Psychology. John D. Lawry. Littlefield, Adams, Totowa, N.J., 1982. xii, 114 pp. Paper, \$3.95.

Handbook of Multiphase Systems. Gad Hetsroni, Ed. Hemisphere, Washington, D.C., and McGraw-Hill, New York, 1982. Various pages, illus. \$64.50.

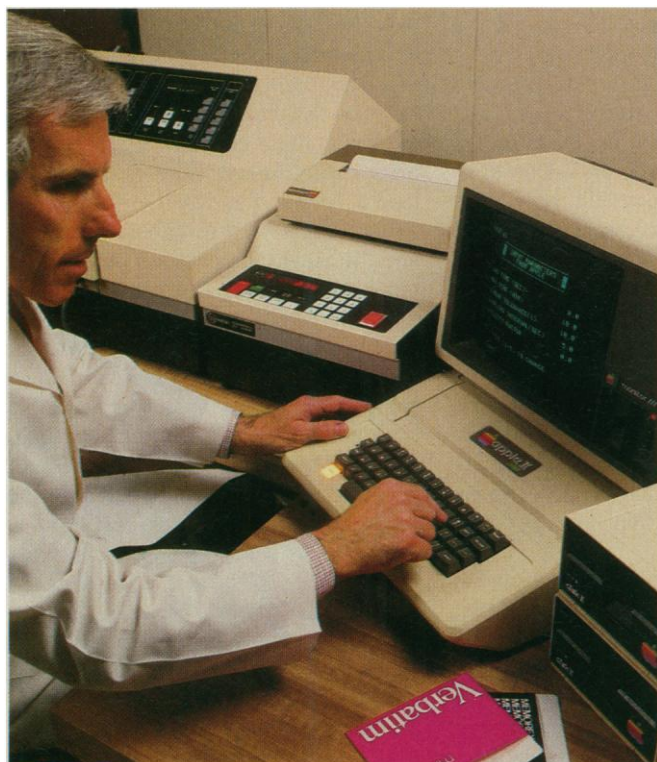
Henry E. Kyburg, Jr., and Isaac Levi. Radu J. Bogdan, Ed. Reidel, Boston, 1982 (distributor, Kluwer Boston, Hingham, Mass.). xii, 324 pp., illus. Cloth, \$49.50; paper, \$24.50. Profiles, vol. 3.

Interferon. Vol. 3, 1981. Ion Gresser, Ed. Academic Press, New York, 1981. x, 154 pp., illus. Paper, \$19.

Intermediate Algebra for College Students. Karl J.

(Continued on page 182)

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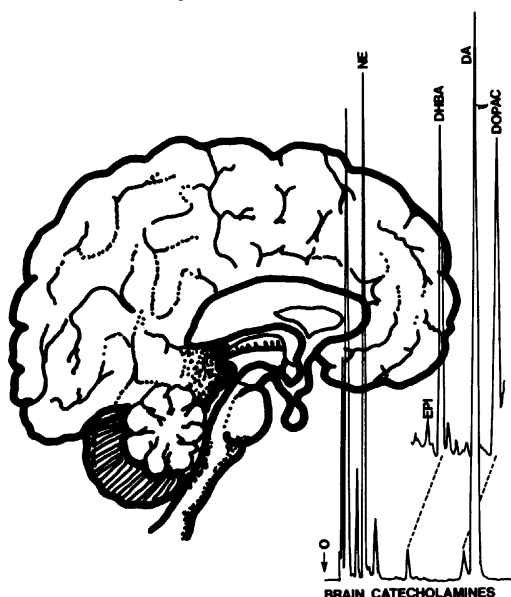
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Smith and Patrick J. Boyle. Brooks/Cole, Monterey, Calif., ed. 2, 1982. xiv, 460 pp., illus. \$19.95.

An Introduction to Biological Control. Robert van den Bosch, P. S. Messenger, and A. P. Gutierrez. Plenum, New York, 1982. xiv, 248 pp., illus. \$18.95. Revision of *Biological Control* (1973).

Introduction to Economics. Alec Cairncross and Peter Sinclair. Butterworths, Boston, ed. 6, 1982. xii, 466 pp., illus. \$31.

Mammals of the National Parks. Richard G. Van Gelder. Johns Hopkins University Press, Baltimore, 1982. xviii, 310 pp., illus., + plates. Cloth, \$24.50; paper, \$8.95.

Man under Vibration. Suffering and Protection. Proceedings of a symposium, Udine, Italy, Apr. 1979. G. Bianchi, K. V. Frolov, and A. Oledzki, Eds. Elsevier, New York, and Polish Scientific Publishers, Warsaw, 1981. xiv, 438 pp., illus. \$74.50. Studies in Environmental Science, vol. 13.

Multiple Bonds Between Metal Atoms. F. Albert Cotton and Richard A. Walton. Wiley-Interscience, New York, 1982. xiv, 466 pp., illus. \$47.50.

Municipal Wastewater in Agriculture. Proceedings of a conference, Morelos, Mexico, Dec. 1980. Frank M. D'Itri, Jorge Aguirre Martínez, and Mauricio Athié Lábarri, Eds. Academic Press, New York, 1981. xiv, 492 pp. \$39.50.

Mycobacterial Diseases. John M. Grange. Elsevier/North-Holland, New York, 1981. x, 116 p., illus. \$29.50. Current Topics in Infection Series.

Nature's Second Kingdom. Explorations of Vegetality in the Eighteenth Century. François Delaporte. Translated from the French edition (Paris, 1979) by Arthur Goldhammer. MIT Press, Cambridge, Mass., 1982. xiv, 266 pp., illus. \$20.

Problems in General Surgery. Jack Pickleman. Plenum, New York, 1982. xviii, 364 pp., illus. \$39.50. Reviewing Surgical Topics.

Proceedings of the Second Workshop on Micro-Nutrients and Plant Nutrition. Mariut, Egypt, June 1979. Mohamed M. El-Fouly, Ed. National Research Centre Egypto-German Project, Cairo, 1982. xii, 350 pp., illus., + appendix. Paper.

Production, Marketing and Use of Finger-Jointed Sawnwood. Proceedings of a seminar, Hamar, Norway, Sept. 1980. C. F. L. Prins, Ed. Published from the United Nations by Nijhoff/Junk, The Hague, 1982 (U.S. distributor, Kluwer Boston, Hingham, Mass.). x, 282 pp., illus. \$42. Forestry Sciences.

Progress in Anatomy. Vol. 2. R. J. Harrison and V. Navaratnam, Eds. Cambridge University Press, New York, 1982. viii, 220 pp., illus. \$59.50.

Protein Biosynthesis in Eukaryotes. Proceedings of an institute, Maratea, Italy, Sept. 1980. R. Pérez-Bercoff, Ed. Plenum, New York, 1982. xx, 502 pp., illus. \$59.50. NATO Advanced Study Institutes Series A, vol. 41.

Sensation and Perception. An Integrated Approach. Harvey Richard Schiffmann. Wiley, New York, ed. 2, 1982. xii, 540 pp., illus. \$24.95.

A Short History of Medicine. Erwin H. Ackernecht. Translated from the German edition (Stuttgart). Johns Hopkins University Press, Baltimore, ed. 2, 1982. xx, 278 pp., illus. Paper, \$7.95.

Social Insects. Vol. 2. Henry R. Hermann, Ed. Academic Press, New York, 1981. xiv, 492 pp., illus. \$55.

Soil Conservation Policies, Institutions, and Incentives. Papers from a symposium, Zion, Ill., May 1981. Harold G. Halcrow, Earl O. Heady, and Melvin L. Cotner, Eds. Published for the North Central Research Committee 111 by Soil Conservation Society of America, Ankeny, Iowa, 1982. xii, 330 pp. \$6.

The Solar Decision Book of Homes. A Guide to Designing and Remodeling for Solar Heating. Richard H. Montgomery with Walter F. Miles. Wiley, New York, 1982. xx, 332 pp., illus. Paper, \$15.95.

Statistical Thinking. A Structural Approach. John L. Phillips, Jr. Freeman, San Francisco, ed. 2, 1982. xviii, 182 pp., illus. Cloth, \$13.95; paper, \$6.95. A Series of Books in Psychology.

Tunnel Engineering Handbook. John O. Bickel and T. R. Kuesel, Eds. Van Nostrand Reinhold, New York, 1982. x, 670 pp., illus. \$52.50.

U.S. Household Consumption, Income, and Demographic Changes 1975-2025. Philip Musgrove with the assistance of Adele Shapanka. Resources for the Future, Washington, D.C., 1982 (distributor, Johns Hopkins University Press, Baltimore). xii, 252 pp., Paper, \$10.

Who Speaks for the Child. The Problems of Proxy Consent. Willard Gaylin and Ruth Macklin, Eds. Plenum, New York, 1982. xii, 316 pp. \$25. The Hastings Center Series in Ethics.

Women's Sexual Experience. Explorations of the *Dark Continent*. Martha Kirkpatrick, Ed. Plenum, New York, 1982. xvi, 328 pp. \$25. Women in Context.

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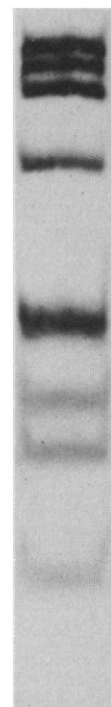
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UNIVERSITY OF BRITISH COLUMBIA DEPARTMENT OF OCEANOGRAPHY

Applications are invited for a 12-month position, available 1 January 1983, at the beginning assistant professor level in the Department of Oceanography. Of primary interest is a person having training in one of the following areas: (i) marine microbiology (heterotrophic production, microbial ecology), (ii) benthic processes (chemical, physical, and biological interactions in the benthic boundary layer), or (iii) marine sedimentology/geochemistry (sedimentary processes, isotopes). However, applications submitted by qualified persons in any oceanographic specialty will also be considered. Candidates should have a Ph.D. qualification and relevant postdoctoral experience and will be expected to help establish and to teach in a new combined undergraduate programme in oceanography.

In accordance with Canadian immigration requirements, the advertisement is directed to Canadian citizens and permanent residents. Closing date for applications is 30 September 1982. Submit curriculum vitae and the names and addresses of three referees to:

**Dr. S. E. Calvert, Head
Department of Oceanography
University of British Columbia
6270 University Boulevard
Vancouver, British Columbia, Canada V6T 1W5**

ASSISTANT OR ASSOCIATE PROFESSOR OF PHARMACOLOGY

The Department of Pharmacology and Toxicology, West Virginia University Medical Center, has a tenure-track position to be filled during the 1982-1983 academic year. Applicants should have a Ph.D. or M.D. and a minimum of 2 years of postdoctoral research experience. A significant amount of the training should have been in pharmacology. Strong preference will be given to applicants whose research interest and experience is either in microelectrophysiology or in biochemical aspects of smooth muscle function. Proven ability to develop an independent research program is essential. In addition to independent research, duties of the position would include collaborative research and the teaching of professional and graduate students. Curriculum vitae and three letters of recommendation should be sent to: **Dr. William W. Fleming, Chairman, Department of Pharmacology and Toxicology, West Virginia University Medical Center, Morgantown, W.Va. 26506.** The closing date for applications is 15 August 1982. *West Virginia University is an Equal Opportunity/Affirmative Action Employer.*

ASSOCIATE RESEARCH BIOLOGIST—Sanitary Engineering and Environmental Health Research Laboratory (SEHRL), University of California, Berkeley.

Determine effects of pollutants on estuarine biota. Minimum qualification is a Ph.D. in limnology/oceanography/fisheries plus at least 10 years of experience in applied aquatic ecology. Position is not necessarily full time and may be for only 1 year. Reply to: **Professor A. J. Horne, SEHRL, University of California, Richmond Field Station, Building 112, 47th and Hoffman Boulevard, Richmond, Calif. 94804.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

OBSTETRICS/GYNECOLOGY

Position available in immunology, reproductive in obstetrics/gynecology beginning 1 July 1983 in a major Northeastern, urban medical center and medical school. Salary, space, and technical support are all available and guaranteed. Candidates will be evaluated on level of experience and record of publication. These should be sufficient for designation as principle investigator and worthy of attaining noninstitutional funding. Reply to: **Box 181, SCIENCE.**

An Equal Opportunity Employer

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR— MICROBIOLOGY

The Department of Biochemistry, Microbiology, Molecular and Cell Biology of The Pennsylvania State University invites applications for a tenure-track position at the assistant or associate professor level. Candidates should be trained in bacteriology (microbiology), have postdoctoral experience, and be capable of developing a competitive research program. Individuals with research interests in microbial toxins are encouraged to apply. Applications should include curriculum vitae, copies of recent publications, a brief but detailed description of research goals, and the names of four individuals from whom we may request letters of recommendation. Applications will be accepted until 1 September 1982, or until the position is filled thereafter. Send to: **Dr. R. W. Bernlohr, Department of Biochemistry, Microbiology, Molecular and Cell Biology, The Pennsylvania State University, 108B Althouse Laboratory, University Park, Pennsylvania 16802.**

An Affirmative Action/Equal Opportunity Employer

ASSISTANT OR ASSOCIATE PROFESSOR OF MICROBIOLOGY

The Mount Sinai School of Medicine plans to fill a faculty vacancy with an individual whose expertise falls into the broadly defined areas of the genetics and/or biochemistry of prokaryotic or eukaryotic organisms. This position offers an exceptional opportunity to conduct original research in an environment of active research and teaching located in a modern facility on Manhattan's upper East Side. The Microbiology Department, which currently has major strengths in virology and immunology, seeks to expand and develop its program in microbial genetics and biochemistry, including, for example, basic research with *Escherichia coli*, *Bacillus subtilis*, yeast, fungi, or pathogenic microorganisms. Those interested should submit curriculum vitae, a list of publications, a summary of current research interests, and names of three references who may be contacted to: **Dr. James G. Wetmur, Search Committee Chairman, Department of Microbiology, Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, New York 10029.** *The Mount Sinai School of Medicine is an Equal Opportunity/Affirmative Action Employer.* Application deadline is 1 September 1982.

ASSISTANT PROFESSOR: MOLECULAR BIOLOGY/GENETICS OF IMMUNE SYSTEMS. Tenure-track position open in Department of Microbiology for molecular/developmental biologist (2 to 5 years of postdoctoral experience) to do research and teaching in genetics and/or regulation of immune responses. Available are a large well-equipped laboratory, supporting cloning and computerized sequencing facilities, and well-funded graduate and postdoctoral training programs. Send résumé to: **Robert R. Wagner (Chairman), Department of Microbiology, University of Virginia School of Medicine, Charlottesville, Va. 22908.** *An Equal Opportunity/Affirmative Action Employer.*

DIRECTOR OF LABORATORIES. The Department of Biological Chemistry, Harvard Medical School, is seeking applications for a Director of Laboratories. Candidate must provide academic and administrative leadership. Responsibilities entail supervising personnel, administration of departmental research grants, allocating resources, and establishing collaborative research projects. Candidate must be an investigator with sound scientific achievements. An M.D. or Ph.D. or equivalent advanced degree required, with several years of research, teaching, and administrative experience. Send résumé and letter of application, postmarked by 14 August 1982, to: **Dr. Charles C. Richardson, Department of Biological Chemistry, Harvard Medical School, 25 Shattuck Street, Boston, Mass. 02115.** *An Equal Opportunity/Affirmative Action Employer.*

ELECTRON MICROSCOPE TECHNICIAN for Department of Anatomy. Candidate must know how to thin-section and operate TEM. Knowledge of SEM procedures desirable. Candidates also will be taught freeze-fracture techniques if not trained in that area. Salary: \$17,076. Send curriculum vitae and names of two references before 23 July 1982 to:

**Gary E. Wise, Ph.D.
Professor and Chairman
Department of Anatomy
Texas College of Osteopathic Medicine
Camp Bowie at Montgomery
Fort Worth, Texas 76107**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

ASSISTANT PROFESSOR OF PLANT PATHOLOGY

Initially, research fluctuations in genetic populations of fungal pathogens; investigate the changing population of pathogens in relation to pesticide and cultivar usage. Teaching an advanced course in genetics of host-pathogen interactions, or population genetics of plant pathogens, and graduate student advisement are expected. Qualifications include Ph.D. degree in plant pathology with co-major, minor, or postdoctoral experience in genetics. Salary competitive. Closing date: 1 September 1982. Send applications, including biographical, professional, and personal data, original transcripts, a complete list of publications, and three letters of reference, to:

**Dr. Wiley N. Garrett
Head, Department of Plant Pathology
University of Georgia
Athens, Georgia 30602**

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

HARVARD SCHOOL OF PUBLIC HEALTH Assistant Professor of Toxicology

Applications are being accepted from persons with graduate training, postdoctoral experience, and proven accomplishment in toxicology or the following sciences related to toxicology: chemistry, biological chemistry, genetics, immunology, molecular biology, and pharmacology. Applicants should have a strong interest in research and teaching in areas related to the mechanisms of action of environmental chemicals on biological systems.

Expression of interest is particularly invited from qualified women and minority candidates.

Send curriculum vitae, a résumé of past accomplishments, a statement of future interests in research and teaching, and the names and addresses of three evaluators to:

**Professor Armen H. Tashjian, Jr.
Laboratory of Toxicology
Harvard School of Public Health
665 Huntington Avenue
Boston, Mass. 02115**

CELLULAR IMMUNOLOGIST

University of Nebraska, Department of Internal Medicine, is searching for Ph.D. scientists as research assistant/associate professors to establish a research program within the Laboratory of Experimental Immunology. Preference will be given to candidates whose research will complement ongoing studies of immunoregulation in autoimmune disease, mechanisms of graft-versus-host responses, and the regulation of cellular immune responses by lymphokines. Applicants should have a Ph.D. and appropriate research experience in immunobiology and have demonstrated independent research abilities. Salary is negotiable according to the qualifications of the applicant.

Please submit curriculum vitae, description of past training, and summary of current research activities to: **Lynell W. Klassen, M.D., Section of Rheumatology and Immunology, Department of Internal Medicine, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, Neb. 68105.** *An Equal Opportunity/Affirmative Action Employer.*

IMMUNOLOGIST and VIROLOGIST. Two positions open. Immunologist responsibilities include setting up experimental protocols, isolation and growth of hybridoma cells for monoclonal antibody production, and assay of antibodies. Virologist will grow, purify, and characterize vertebrate viruses. Some clinical experience helpful. Successful candidate for either position should have an M.S. or Ph.D. in immunology or microbiology with strong emphasis in cellular immunology or virology and a minimum of 3 years of experience. For consideration, please send résumé to: **Diagnostic Products Corporation, Immunology Department, 5700 West 96 Street, Los Angeles, Calif. 90045.**

Ph.D. IN LIFE SCIENCES, preferably in the neurosciences, with experience in neuroanatomy a plus. Focus: regeneration and development of noradrenergic neurons in spinal cord. Salary from \$17,000 to \$20,000 per year; funding stable for 2 years, beginning summer 1982. Send curriculum vitae and three letters of reference to: **Louis T. Giron, Jr., M.D., Neurology Service, Veterans Administration Medical Center, 4801 Linwood Boulevard, Kansas City, Mo. 64128.** *Equal Opportunity/Affirmative Action Employer.* Deadline for applications is 1 September 1982.

The International Laboratory for
Research on Animal Diseases
(ILRAD)
P.O. Box 30709
NAIROBI, KENYA
Director of Research
Reference: DG/DR/82/1

The Board of Directors is activating the position of **director of research** and invites applications.

The director of research will assume major responsibility for the research programs on trypanosomiasis and theileriosis and for all research support activities. Principal duties will include: the organization of regular reviews and appraisals of program activities to ensure their continuing relevance to ILRAD's objectives; preparation of proposals for new research projects and reports for donor agencies; and participation in recruitment, appraisal of research staff, and review of their research publications.

Applicants should be accomplished scientists with sufficient knowledge of African trypanosomiasis and theileriosis to give comprehensive and imaginative program leadership. They should also have adequate administrative experience to manage complex scientific activities and a diverse staff.

The Board of Directors will appoint the director of research and determine the terms of service. The director of research will be responsible in carrying out duties to the Director General.

This is an international staff position with the salary paid in U.S. dollars. Moving, housing, commutation, and education allowances are paid and there are medical and retirement benefits. Applications, including current curriculum vitae and names and addresses of three referees, should be sent before 15 August 1982 to:

The Director General
ILRAD
P.O. Box 30709
Nairobi, Kenya

THE UNIVERSITY OF CALGARY Announces The Julia McFarlane Chair in Diabetes Research

Applications are invited from established clinical or basic science investigators for this endowed position. The person selected will be expected to provide leadership and promote collaborative research in the field of diabetes mellitus, develop an independent research program in this field, and promote educational and treatment programs for diabetes in children and adults. Applicants must have the administrative ability and interest to recruit additional faculty and to assist in their academic development.

Applicants are requested to submit their curriculum vitae, a brief statement of interest, and the names of three references by September 1, 1982.

"Citizens and permanent residents of Canada will be given preference."

Reply in confidence to:

Dr. C.A. Guenter
Chairman, Advisory Selection Committee
Julia McFarlane Chair in Diabetes Research
Department of Medicine
Faculty of Medicine
The University of Calgary
Calgary, Alberta T2N 4N1

MARINE BIOLOGICAL LABORATORY Woods Hole, Massachusetts



Mariculture: Culture of Marine
Invertebrates for Research Purposes
September 21 - 26, 1982

This residential one-week program provides both detailed review of the latest information on the culture of marine invertebrates and intensive laboratory training in techniques for their culture and for the maintenance of mariculture systems. The course is intended for scientists and advanced technicians and is limited to 20 participants. Students will have the opportunity to visit several active research laboratories involving mariculture in the Woods Hole area. The Instructor in Chief will be Carl J. Berg of MBL. Guest Lecturers include Judith Capuzzo, Roger Mann, and Nancy Marcus, Woods Hole Oceanographic Institution; Roger Doyle, Dalhousie University; John Hughes, Massachusetts Lobster Hatchery; Roger Hanlon, University of Texas; Robert Guillard, Bigelow Labs; and Louis Leibovitz, Cornell University.

For further information on course content and applications materials, write the Admissions Office, Marine Biological Laboratory, Woods Hole, Massachusetts 02543 or call 617-548-3705.

MBL is an Equal Opportunity Institution.

INTERNATIONAL HEALTH CARE LEADER SEEKS TEAM PLAYER FOR APPLIED RESEARCH EFFORTS

MICROBIOLOGIST/ BIOLOGIST

Abbott Laboratories has a key position available at its headquarters facility for an individual to work on biological test method development related to hospital products and materials evaluation. Responsibilities will include tissue culture studies, biochemical assays, radioactive isotope studies and routine microbiological testing.

To qualify, you should have a Ph.D. or equivalent experience in Microbiology or Biochemistry and prior exposure to the development of experimental design for product development. Strong knowledge of cell cultures, biochemical assays and spectrophotometer / chromatography equipment also preferred.

Abbott Park, Abbott's headquarters, is located in an attractive suburban setting on the Lake Michigan shoreline, 30 miles north of Chicago. We offer an excellent salary and full benefits package including profit sharing and relocation assistance. Send a resume with salary history, in confidence to: **Sue Hart-Wadley / Corporate Placement.**

ABBOTT
ABBOTT PARK ILL. 60064

Abbott is an Affirmative Action Employer

Nucleic Acid Sequence

Immediate opening for individual with experience in nucleic acid sequences. Should have BS degree in Chemistry or Biochemistry. Please send resume to:

Human Resource Department

BIODGEN

Biogen Inc.
241 Binney Street
Cambridge, MA
02142

CALIFORNIA BIOTECHNOLOGY INC.

Cal Biotech invites application from individuals at the Ph.D. level with training and experience in recombinant DNA technology including gene isolation, sequencing and expression and in protein purification.

Cal Biotech is a recently established company created to apply techniques of molecular genetics to several areas of commercial importance. New research laboratories are located in the San Francisco Bay area.

Cal Biotech offers a stimulating research environment, competitive salaries and fringe benefits, and the possibility of equity participation for highly qualified personnel.

Positions are also available at the BS and MS level.

Highly qualified applicants should send a curriculum vitae and a list of publications in strict confidence to:

Director of Research
California Biotechnology Inc.
Two Palo Alto Square, Suite 400
Palo Alto, California 94304
Attn: Alan Earhart

An Equal Opportunity Employer

POSITIONS OPEN

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE ST. LOUIS, MISSOURI DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS CHAIRPERSON

Applications and nominations are invited for the position of chairperson of the Department of Physiology and Biophysics. Candidates should be distinguished as scholars and scientists with demonstrated commitment to medical and graduate education.

Curriculum vitae and bibliography may be submitted to:

M. M. King, M.D.
Dean

Washington University School of Medicine
660 South Euclid Avenue
St. Louis, Missouri 63110

An Equal Opportunity/Affirmative Action Employer

FACULTY POSITIONS COLLEGE OF MEDICINE UNIVERSITY OF KENTUCKY

CHAIRMAN—DEPARTMENT OF BIOCHEMISTRY. The College of Medicine, University of Kentucky, invites applications and nominations for the position of professor and chairman for the Department of Biochemistry. Applications should be received no later than 15 September 1982. Send résumé to:

Donald T. Frazier, Ph.D.
Chairman, Biochemistry Search Committee
University of Kentucky
College of Medicine
800 Rose Street
Lexington, Kentucky 40536

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

DIRECTOR OF METHODS DEVELOPMENT FOR THE AMERICAN OIL CHEMISTS' SOCIETY (AOCS)

Duties: Interpreting, organizing, and coordinating a program to revise and maintain the AOCS Official and Tentative Methods; formulating a plan to collect, evaluate, and publish relevant methodology; maintaining liaison with related technical and industrial groups; and facilitating the efforts of technical committees involved in methods development. Reports to the executive director and Uniform Methods Committee.

Desired qualifications: Self-starter; experience in analytical chemistry, including fats, oils, and their derivations; experience in methods development; excellent oral and written communication skills; and ability to work with volunteers.

Send résumé and salary history to:

Search Committee
c/o Executive Director
508 South Sixth Street
Champaign, Ill. 61820

ST. JUDE CHILDREN'S RESEARCH HOSPITAL, MEMPHIS, TENNESSEE MARROW TRANSPLANTATION RESEARCH

A new position is available at assistant professor level for a Ph.D. or M.D. to establish and supervise a tissue-typing laboratory for the Marrow Transplant Program of St. Jude Children's Research Hospital. The major responsibility will be the establishment of a research program directed towards the study of the major histocompatibility complex, its relationship to transplantation, and the specific problems of graft-versus-host disease and graft-versus-leukemia. A joint appointment will be offered in the Departments of Hematology-Oncology and Immunology.

Interested candidates should send their curriculum vitae to: **Dr. F. Leonard Johnson, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, Tennessee 38101.**

RESEARCH FELLOW—Position available for individual to design and perform scientific experiments using advanced techniques in immunology and in protein and nucleic acid biochemistry to elucidate structural and functional components of immune systems of higher vertebrates. M.D. and Ph.D. plus 3 years of experience in immunology and genetics required. Salary: \$19,650 per annum. Qualified applicants should submit résumés to: **PHILADELPHIA JOB BANK, Order Number 3551977, 1709 South Broad Street, Philadelphia, Pa. 19148. Equal Opportunity Employer.**

POSITIONS OPEN

TRUDEAU INSTITUTE, INC.

A position exists for an **IMMUNOBIOLOGIST** at the **ASSISTANT PROFESSOR** level to develop an independent research program related to immunity to cancer or infectious diseases. Applicants should have at least 3 to 4 years of postdoctoral experience and provide visible evidence that they already have been scientifically productive. Funds are available to support the successful applicant for at least a 3-year period. The Trudeau Institute is a not-for-profit, pure research institute situated on the shore of Saranac Lake, 10 miles from Lake Placid, N.Y. Send résumé and names of three references to:

Dr. R. J. North, Director
Trudeau Institute, Inc.
P.O. Box 59
Saranac Lake, N.Y. 12983

WANTED

PHYSICIAN/BIOCHEMICAL PHARMACOLOGIST—M.D., Ph.D. to conduct studies on human mast cell mediator release with clinical relevance. Must have at least 10 years of clinical and research experience. Salary: \$16,000 to \$20,000 per annum. Apply to:

Box 180, SCIENCE

TWO POSTDOCTORAL POSITIONS for studies on molecular basis of maternofetal transfer of IgG: isolation and characterization of membrane Fc receptor and of receptor recognition unit of IgG. Background in protein chemistry, cell membrane chemistry, enzymology, or immunochemistry. Salary: \$17,000. Send curriculum vitae, description of research experience, and names of three references to: **Dr. Max Schlamowitz, Department of Biochemistry, University of Texas System Cancer Center, Houston, Texas 77030.**

POSTDOCTORAL POSITION available to study DNA alkylation by *N*-nitrosamines. The project involves determination of alkylated bases by HPLC and/or RIA. Ph.D. with interest in production and purification of polyclonal and monoclonal antibodies, RIA, DNA biochemistry. Send curriculum vitae and names of three references to: **Dr. Andre Castonguay, American Health Foundation, Dana Road, Valhalla, N.Y. 10595. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION—FISHERIES. Research in oceanographic influences on abundance in California salmon fisheries with some effort on causes of cyclic fluctuations in California Dungeness crab fisheries. Ph.D. in fisheries or related area. Background in salmon, oceanography, population models, multivariate statistics, crustacean fisheries, and time-series analysis desirable. Send curriculum vitae and names of three references to: **Louis W. Botsford, Department of Wildlife and Fisheries Biology, University of California, Davis, Calif. 95616. Final filing date: 1 September 1982.**

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

POSTDOCTORAL POSITIONS are available in a training program related to cardiovascular injury mechanisms to study arachidonic acid and prostaglandin metabolism in one of the following areas: (i) neutrophil and macrophage function and their relation to receptor binding (Dr. R. P. Rubin and Dr. R. J. Freer) and (ii) cerebrovascular function (Dr. E. F. Ellis). Those interested should send their résumé and names of three references to: **Dr. Ronald P. Rubin, Department of Pharmacology, Medical College of Virginia, Richmond, Virginia 23298. An Equal Opportunity/Affirmative Action Institution.**

PROJECT ASSOCIATE. The Experimental High Energy Physics Group invites applications for a full-time (40 hours per week) project associate position. The person filling the position will collaborate with members of the experimental high energy physics group on the study of weak and electromagnetic interactions. The person will be responsible for designing, constructing, operating, and maintaining particle-detection apparatus, supervising installation, and performing data analyses. Applicants must hold a Ph.D. in experimental high energy physics. Annual salary: \$24,500. Send résumé to: **Sath Menon, Job Service Wisconsin, 206 North Broom Street, Madison, Wis. 53703. Telephone: 608-266-2341. The state of Wisconsin is an Equal Opportunity/Affirmative Action Employer.**

INDOOR AIR QUALITY SCIENTIST

The Lawrence Berkeley Laboratory, a major multi-purpose laboratory operated by the University of California for the U.S. Department of Energy, is seeking an individual to contribute to the formulation and accomplishment of scientific goals in the Ventilation and Indoor Air Quality Program. Will take responsibility initially for development of the program's project on organic pollutants, including methodologies for characterization of emissions from a wide variety of building materials and for field sampling of airborne organics in office buildings. May participate in additional projects. Should have exhibited excellence in previous independent research and writing, and possess strong indications of potential for scientific leadership. Substantial instrumental background required. Familiarity with GC and GC-MS would be an asset, as would be experience in environmental chemistry or air quality monitoring or modeling. Prefer Ph.D in physical organic chemistry, analytical chemistry, or physical chemistry.

To apply send two copies of resume, including salary history, to: Employment Office, Lawrence Berkeley Laboratory, One Cyclotron Road, Berkeley, California 94720. PLEASE specify job #A-0320. An equal opportunity employer, M/F/H.



LAWRENCE
BERKELEY
LABORATORY

SENIOR RESEARCH SCIENTIST

Molecular Biology

A uniquely demanding and rewarding opportunity has recently become available at Alpha Therapeutic Corporation as a result of continued growth and expansion of the scientific research staff. Recognized as an international leader in the research and manufacture of human plasma products, our current and future projects include development of artificial blood, interferons and monoclonal antibodies.

Reporting directly to the Director of Cell Biology, successful candidate will be responsible for development of protocols, facilities, equipment & supplies, and staffing of a new department to be involved with producing rDNA-derived protein products. Assay development, isolation of gene products and development of nucleotide sequencing capabilities will be performed with aid of a multi-disciplinary team.

Position requires a recent PhD in Molecular Genetics (Molecular Biology, Biochemistry, Bacterial Genetics), as well as knowledge and experience in recombinant DNA methodology, gene isolation, cDNA synthesis, nucleotide sequencing and plasmid or vector manipulation. Post-doctoral experience preferred.

For the individual possessing the creativity and initiative to contribute new ideas and concepts, we offer an excellent compensation and comprehensive benefits. For immediate consideration please send resume or curriculum vitae to **David Goodkin, Manager, Human Resources Staffing.**

 **Alpha**
THERAPEUTIC CORPORATION

5555 Valley Blvd.
Los Angeles, CA 90032
Equal Opportunity Employer M/F

Toxicologists

Consider a new career with Mary Kay Cosmetics in Dallas

Self-discovery and self-fulfillment are the hallmarks of a Mary Kay career. We provide you with the opportunity to be all that you can be. We've got the growth pattern and the type of working environment that you will truly enjoy and we are looking for only the very best people, the ones with the skills, knowledge and attitude necessary to prosper in this very competitive business.

The cosmetics business offers countless opportunities for development, and with the emphasis on growth at Mary Kay, your potential, and ours, is virtually unlimited.

Today, we are searching for a Toxicologist with a minimum of three years industrial toxicology experience or five years of post graduate work, with a PhD in Toxicology or Pharmacology. Degrees in other health related life sciences will be considered. You should possess experience in designing safety programs for consumer products using animal models and be able to

extend these programs to human clinical studies. A background in dermatology, physiology, immunology and statistics will be assets for this position.

Consider what Mary Kay offers you in Dallas, the third-fastest growing city in America, a city peopled by achievers who thrive on hard work, innovation and a vibrant lifestyle that meshes with the excitement of your Mary Kay working environment.

Please send a resume and letter of interest, including salary history to: Professional Placement, Mary Kay Cosmetics, 1330 Regal Row, Dallas, Texas 75247 or call (214) 638-6116 for immediate confidential consideration.



The evolution of a corporate legend.
Equal Opportunity Employer M/F/H/V.

POSITIONS OPEN

POSTDOCTORAL POSITION

The Department of Physiology, Uniformed Services University of the Health Sciences, Bethesda, Maryland, is seeking applicants for a postdoctoral position available for research on membrane transport and membrane biochemistry. Position will be available in fall 1982 for the duration of the grant. Send curriculum vitae and names of three references to: Director, Civilian Personnel/Manpower, attention: C. S. Lo, Ph.D., Department of Physiology, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20814. Applications will not be returned. *The Uniformed Services University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Applications are invited for an opportunity for a postdoctoral immunologist, immunochemist, or appropriately oriented molecular biologist interested in participating in a colorful program on selective gene expression in development with respect to the contractile proteins in muscle, as determined by functional influences. Possible career development toward physiology and developmental biology envisaged. Candidates with 0 to 3 years of postdoctoral experience are invited to write and send curriculum vitae and names of three references to: Professor Wilfried F. H. M. Mommaerts, University of California, Department of Physiology, 53-259 CHS, Los Angeles, California 90024.

An Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.

RESEARCH ASSOCIATE

Research associate (Ph.D.) to join an active group in the Departments of Biochemistry and Pathology, to integrate electron microscopic, chemical, and immunochemical studies of extracellular matrix. Training in specific disciplines will be available. Send curriculum vitae and two references to: Dr. Sidney Goldfischer, Department of Pathology, ALBERT EINSTEIN COLLEGE OF MEDICINE, 1300 Morris Park Avenue, Bronx, New York 10461. *An Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS to study structure/function in experimental neural disorders. One requires experience in intracellular electrophysiology; the other in neuromorphology at light and EM levels. Send curriculum vitae to: H. E. Lowndes, Department of Pharmacology, University of Medicine and Dentistry-New Jersey Medical School, 100 Bergen Street, Newark, New Jersey 07103. *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL (research associate) position is open for experimental and/or theoretical work on the conformation of nucleic acids. Please send curriculum vitae and three letters of recommendation to: W. Curtis Johnson, Department of Biochemistry and Biophysics, Oregon State University, Corvallis, Oregon 97331. *Oregon State University is an Affirmative Action/Equal Opportunity Employer complying with Section 504 of the Rehabilitation Act of 1973.*

Research Institute of Pharmaceutical Sciences. **RESEARCH ASSISTANT PROFESSOR**, immediately, to develop a strong program of research in the evaluation of efficacy of herbal remedies and the role of traditional medicine in the health care system. Ph.D. in botany with strong background in ethnobotany and anthropology required; field experience in medical ethnobotany, particularly herbal remedies of native populations, highly desirable. Salary is competitive. Application deadline: 9 August 1982. Contact: Mahmoud A. Elsohly, Ph.D., Research Institute of Pharmaceutical Sciences, University of Mississippi, University, Mississippi 38677. *Equal Opportunity Employer.*

Position available immediately: Ph.D. for research associate position in the Department of Biochemistry, Duke University Medical Center. Research will address biological functions of DNA methylation and mechanisms of DNA-protein interaction. Experience in molecular genetics or enzymology desirable. Salary: \$14,500 to \$15,500 plus fringe benefits, depending on experience. Send curriculum vitae and names of three references to: Dr. Paul Modrich, Department of Biochemistry, Box 3711, Duke University Medical Center, Durham, N.C. 27710. *Duke University is an Equal Opportunity Employer.*

POSITIONS OPEN

A BEHAVIORALLY ORIENTED NEUROSCIENTIST for tenure-track position in a medical school Department of Behavioral Science. Candidate must be able to teach a comprehensive neuroscience course for medical students, including physiological and anatomical as well as behavioral aspects. He or she must also be an established investigator with current grant support. Starting date: 1 July 1983, but negotiable. Rank is associate or full professor; salary negotiable. Send curriculum vitae by 1 September 1982 to: Marshall B. Jones, Ph.D., Department of Behavioral Science, P.O. Box 0-3, The Pennsylvania State University College of Medicine, Hershey, Pa. 17033. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION in reproductive physiology. Available 1 September 1982, 1 to 3 years. Research on adrenal-gonad interaction during sexual differentiation and prenatal influences on reproduction and aging in mice. Experience with steroid RIA and tissue perfusion techniques preferred. Send curriculum vitae and three letters of recommendation to: Dr. Frederick vom Saal, Lefevre Hall, Division of Biological Sciences, University of Missouri, Columbia, Mo. 65211.

RESEARCH ASSOCIATE position available immediately for cardiovascular physiologist with strong electronic instrumentation background. Long-term position in established research program in area of coronary arteriography, myocardial ischemia, coronary blood flow regulation, and fluid dynamics using animal models. Facilities include complete angiographic laboratory for animal research and on-site computer. Surgical experience in transducer implantation desirable. M.S. degree with laboratory experience or Ph.D. or equivalent experience preferred. Send curriculum vitae and two letters of reference to:

K. Lance Gould, M.D.
Professor and Director
Division of Cardiology

University of Texas Health Science Center at Houston
P.O. Box 20708
Houston, Texas 77025

VICE PRESIDENT FOR RESEARCH AND GRADUATE STUDIES THE UNIVERSITY OF WYOMING

The University of Wyoming invites nominations and applications for the position of Vice President for Research and Graduate Studies. The vice president for research and graduate studies will report to the president and will participate with the president, vice president for academic affairs, and the vice president for finance in policy development and general management of the University. In addition, he/she has responsibility for: (i) administration of certain larger University interdisciplinary research programs, (ii) support of the University's research grants and contracts programs, (iii) administration of the Graduate School and the Computer Center, (iv) administration of the patents and copyrights policy, and (v) compliance with regulatory procedures relating to research including that involving radionuclides, human subjects, animals, and controlled substances.

Qualifications for the position include an earned doctorate, a record of outstanding achievement in research, demonstrated proficiency in graduate education and undergraduate teaching, demonstrated academic leadership and administrative ability, an ability to communicate effectively with internal and external constituents, and a commitment to the interdependence of research and effective teaching. Knowledge of and participation in the federal grants and contracts peer review process is highly desirable.

The University of Wyoming is an expanding university and encompasses a broad range of academic programs leading to bachelor's, master's, and doctoral degrees offered through eight colleges, the Graduate School, and the School of Extended Studies and Public Service. It serves approximately 9300 students (80 percent undergraduates and 20 percent graduates) in the on-campus setting and has strong off-campus obligations.

Nominations, applications, and supporting materials will be accepted until 17 September 1982 and should be addressed to:

Dr. Thomas G. Dunn, Chairman
Search Committee for the Vice President
for Research and Graduate Studies
The University of Wyoming
Box 3434, University Station
Laramie, Wyoming 82071

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**NEW ZEALAND
MINISTRY OF RESEARCH & FISHERIES
SCIENTIST —
ANIMAL BREEDING
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CENTRE, MOSGIEL**

A vacancy exists for an Animal Breeding Scientist in the Southern South Island region. Animal research activities will encompass techniques to increase fecundity of sheep flocks, leanness in export lamb production, wool production as well as management and selection of high performance sheep and deer, and post-partum fertility of beef cattle.

The successful applicant should develop a practically orientated research programme in animal genetics (predominantly sheep) utilising the considerable animal facilities available. In addition, the scientist will collaborate and advise in genetic aspects of ongoing research programmes. There is a need to become involved in extension activities within industry and to liaise closely with Farm Advisory Officers, Breed Societies and technical groups associated with the existing national sheep and cattle recording schemes.

Qualifications: Honours degree, with preferably a PhD in animal genetics. Experience with practical animal agriculture an advantage.

Applications should be in writing and give full details of academic qualifications, all publications, and the names of three referees from whom confidential references may be requested. Please send applications to:

**Senior Executive Officer (Personnel Services)
Ministry of Agriculture and Fisheries
Private Bag
WELLINGTON.**

Applications close on September 3rd, 1982.

**NEW ZEALAND
MINISTRY OF AGRICULTURE & FISHERIES
SCIENTIST —
HORTICULTURE
INVERMAY AGRICULTURAL RESEARCH
CENTRE, MOSGIEL**

A vacancy exists for a Horticultural Scientist in the Southern South Island region. The successful applicant will be expected to co-ordinate research programmes throughout the region and to co-operate closely with Department of Scientific and Industrial Research personnel on local research orchards. It is envisaged that research programmes undertaken will be both on research orchards as well as on farmer properties. The position will include responsibilities for extension of horticultural production information to the industry.

Qualifications: Honours Degree or PhD with substantial research experience in Applied Horticultural Science.

Applications should be in writing and give full details of academic qualifications, all publications, and the names of three referees from whom confidential references may be sought. Please send applications to:

**Senior Executive Officer (Personnel Services)
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Applications close on September 3rd, 1982.

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Faculty members of the Mount Sinai School of Medicine will serve as sponsors or preceptors for the Revson Fellows. Further information and application forms may be obtained from individual members of our faculty with whom an individual wishes to study.

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Sought by the Department of Ocean Engineering at the Massachusetts Institute of Technology (MIT), for openings effective 1 September 1982.

EXPERT IN WELDING TECHNOLOGY to participate in projects in welding technology and analysis of welded structures. This individual will generate new research concepts, as well as take on leadership role in carrying out research projects. Candidates should have a doctorate in engineering, with formal training or experience in the design of ships and other marine structures, numerical analysis of complex structures, welding processes and techniques, properties of high-strength steels, and the impact of steel fabrication processes on structural design. Annual salary: \$33,000 (Job number R786).

EXPERT IN ACOUSTICS TECHNOLOGY to assist with and help lead research in Arctic acoustics technology. Candidates should have doctorate in engineering or science, with experience relevant to signal analysis digital data acquisition and processing, marine acoustics, marine seismics, and/or oceanography. Demonstrated ability to generate and develop concepts independently and to perform independent research, including at-sea experiments, also essential. Annual salary: \$33,000 (Job number R787).

Please submit two copies of résumé or curriculum vitae, designating job number, to: Lauren Stevens, MIT Personnel Office, E19-239, 77 Massachusetts Avenue, Cambridge, Mass. 02139. MIT is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITY OF ALBERTA DEPARTMENT OF GENETICS RESEARCH SCHOLARS

Applications are invited for biomedical research scholarships from individuals who have obtained a Ph.D. or M.D. degree within the last 5 years. A candidate who is recommended for an Alberta Heritage Foundation for Medical Research award will be eligible to apply for Establishment and Major Equipment grants. The research scholar is expected to support applications for studentships and postdoctoral fellowships to assist his/her research. The scholar may also apply for additional external funding of research.

A Heritage Medical Research Scholar will be appointed for an initial term of 5 years and have the benefits of an academic staff member with the exception that this is not a tenurable position. Salary will be commensurate with qualifications and experience.

We are seeking an outstanding candidate in any relevant area of genetic research. Individuals whose research is in one of the following subjects are particularly encouraged to apply: (i) genetics of animal viruses, (ii) molecular genetics of mammalian cells, and (iii) gene organization in eukaryotes. We are interested in complementing existing departmental research activities.

A letter of application, including the names and addresses of three references who will write letters of support, and curriculum vitae should be sent to: Dr. Curtis Strobeck, Chairman, Department of Genetics, University of Alberta, Edmonton, Alberta, Canada T6G 2E9. The University of Alberta is an Equal Opportunity Employer. Closing date: 15 August 1982.

SYSTEMATIC ENTOMOLOGIST POSITION ANNOUNCEMENT

The Department of Entomology, Smithsonian Institution, has a professional opening in *Lepidoptera* or soil arthropods. The candidate should have an established research program in collection based evolutionary systematics, with a demonstrated interest in its theory and a knowledge of computer applications. Preference will be given to an applicant with a Ph.D. Salary range (GS-11/12) will depend on experience and qualifications. Smithsonian entomology offers opportunities for development of field programs, interdisciplinary collaboration, and use of a worldwide collection and an excellent library. Special facilities include SEM, TEM, Smithsonian publication series, computer services, and potential for teaching courses and for advising graduate students. Interested applicants should send a statement of current and future goals, curatorial interests, curriculum vitae, Standard Form 171 (Personal Qualifications Statement), the names of three references, and a set of reprints to: Dr. Wayne N. Mathis, Chairman, Department of Entomology, NHB 105, Smithsonian Institution, Washington, D.C. 20560. The Smithsonian Institution is an Equal Opportunity Employer. Closing date: 15 August 1982.

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SYMPOSIUM

Reclamation and the Phosphate Industry

Symposium will be held in Clearwater, Florida, 26 to 28 January 1983. Emphasis will be on the current state of phosphate-mined land reclamation, including abandoned land reclamation, concurrent mining and reclamation, and new mine reclamation planning. Topics include regional reclamation planning, habitat restoration, hydrology, planting and maintenance techniques, evaluating reclamation success, and so forth. Information and/or "Call for Papers" (Abstracts due 15 August 1982) available from: Dr. David Robertson, Florida Institute of Phosphate Research, 1855 West Main, Bartow, Florida 33830.

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18 to 20 August 1982; Massachusetts Institute of Technology, Cambridge. Sponsored by International Federation of Organic Agriculture Movements. Papers from ten countries on organic wastes, soils and fertilizers, energy, cropping systems, tree crops, nonchemical pest control, and nutrition. For information and registration forms: William Lockeretz, School of Nutrition, Tufts University, Medford, Mass. 02155. Telephone: 617-381-3223.

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Please send curriculum vitae, representative publications, a statement of research goals, and the names of three references to: Dr. Don M. Gash, Department of Anatomy, Box 603, University of Rochester School of Medicine and Dentistry, 601 Elmwood Avenue, Rochester, New York 14642.

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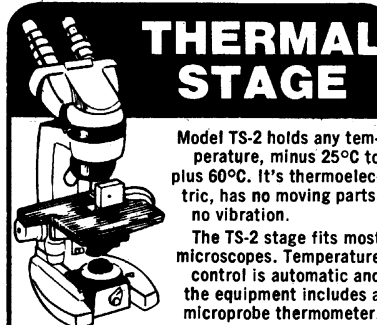
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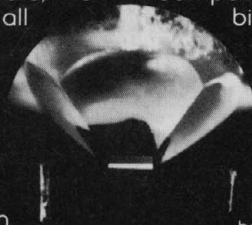
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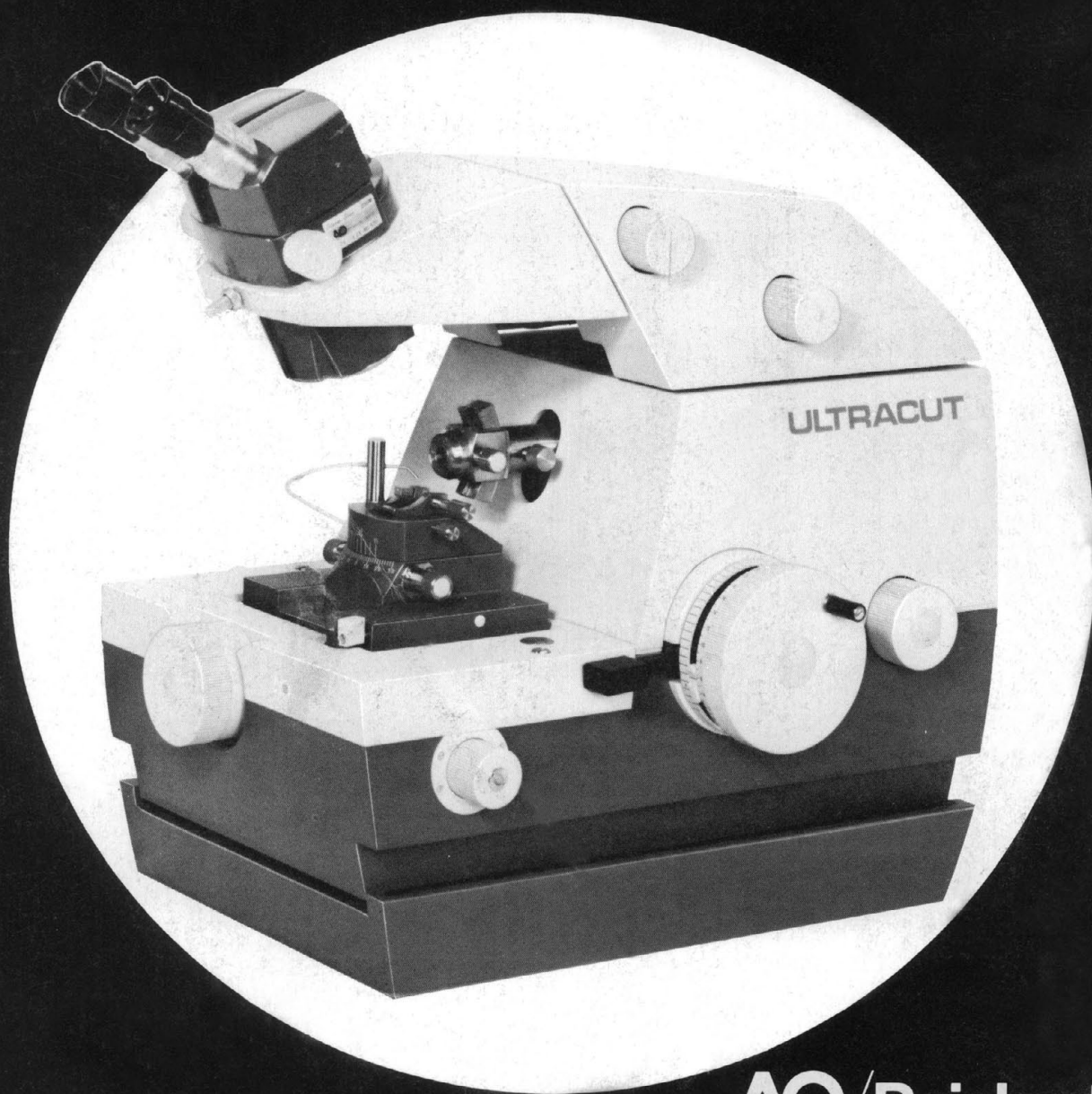
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