

The succeeding Dorset sequence is represented as comprising early, middle, and late phases during which diffusion seems to account for remarkably widespread stylistic horizons. These "cultures" are in fact stages in the development of a single, unified late Paleo Eskimo culture. Problems like the absence of Middle Dorset occupations in north-central arctic regions and their dominance in Newfoundland and Labrador during a relatively warm period; the periodic re-emergence of formal mid-passage houses; and the retention of archaic tool types like the spalled burins in certain regions continue to confound the model of directional stylistic change that is accepted for Dorset archeology. Perhaps ethnicity or faulty archeological assumptions feature in these conundrums.

Later prehistory is presented in a more cursory fashion that betrays the author's sympathy for things "Dorset." The Thule culture's entry from Alaska along a High Arctic route; its subsequent expansion southward, overwhelming and probably partly absorbing Dorset culture; and changes leading to the historic period are given less detailed treatment than the Paleo Eskimo developments, and much recent literature on Thule economics is missing. The author's choice not to describe developments after the arrival of Europeans (excepting Norse) establishes this book as a "prehistory" rather than an "archeology." This decision reflects an unfortunate lack of attention by archeologists to the period of greatest relevance to Inuit peoples today, the study of which holds much promise for integrated approaches to anthropology and history.

This reviewer notes the author's fine reconstructions of technologies and lifeways of prehistoric cultures, which breathe life into the dry archeological data and also reveal significant gaps. Maxwell also performs a service by assembling detailed descriptions of his and others' sites, including some not previously published. His tables of radiocarbon dates are extremely useful, as is his discussion of problems involved in radiocarbon dating of arctic materials.

These strengths make *Prehistory of the Eastern Arctic* invaluable both as a layperson's introduction and as a specialist's reference. It is in the latter regard that flaws are more noticeable: duplication and poor quality of many illustrations; thin use of text citations and incomplete bibliography; cursory treatment of art and ideology; limited use of Inuit myth and oral traditions; less than equal time for Greenland; over-emphasis on climate as the cause of culture change; little attention to the role of local and inter-regional economic exchange of scarce commodities in promoting cultural horizons;

and limited use of settlement and subsistence data.

What is most important is that Maxwell has filled the void between site reports and popularized accounts. Its accuracy and fairness ensure the work's usefulness for many years. No one can read this volume without appreciating the breadth of the author's contributions and the stimulation he has given to the field.

This book demonstrates that the Eastern Arctic has great potential for contributing to our understanding of adaptive and evolutionary aspects of cultural development. Contrary to previous belief, the region's prehistory, even as known today, was dynamic, and its cultures were resourceful and durable, producing their own fine artistic traditions and where environmental conditions permitted societies as complex as many known in the Western Arctic. The Eastern Arctic's diverse environments, large area, excellent site and material preservation, and long periods of relative equilibrium and isolation from external influences and the relationships it exhibits between ecologically productive regions and centers of development and dispersal (core-periphery/colonization-extinction models) offer attractive prospects for study leading toward the broader socioeconomic and demographic understanding that will be needed in the next generation of research.

WILLIAM W. FITZHUGH
National Museum of Natural History,
Smithsonian Institution,
Washington, DC 20560

Books Received

Amphibian Species of the World. A Taxonomic and Geographical Reference. Darrel R. Frost, Ed. Allen Press, Lawrence, KS, and Association of Systematics Collections, Lawrence, KS, 1985. vi, 732 pp. \$85.

Angiographic Anatomy of the Anterior Inferior Cerebellar Artery. Jan J. Heimans, Jaap Valk, and Anthony H. M. Lohman. Springer-Verlag, New York, 1985. viii, 93 pp., illus. Paper, \$23. Advances in Anatomy, Embryology and Cell Biology, vol. 92.

Animal Intelligence. L. Weiskrantz, Ed. Clarendon (Oxford University Press), New York, 1985. vi, 223 pp., illus. \$39.95. Oxford Psychology Series, no. 7. First published in *Philosophical Transactions of the Royal Society of London*, series B, vol. 308. From a meeting, Oxford, England, June 1984.

The Art of Planning. Selected Essays of Harvey S. Perloff. Leland S. Burns and John Friedmann, Eds. Plenum, New York, 1985. xiv, 364 pp. \$39.50. Cities and Development.

Assessing Medical Technologies. Committee for Evaluating Medical Technologies, Institute of Medicine. National Academy Press, Washington, DC, 1985. xviii, 573 pp., illus. \$42.50.

Assessment of Ventricular Function. Angelo Raineri, Robert D. Leachman, and Jan J. Kellermann, Eds. Plenum, New York, 1985. xii, 347 pp., illus. \$59.50. Ettore Majorana International Science Series. Life Sciences, vol. 21. From a symposium, Erice, Sicily, Oct. 1983.

Ataxia-Telangiectasia. Genetics, Neuropathology, and Immunology of a Degenerative Disease of Childhood. Richard A. Gatti and Michael Swift, Eds. Liss, New York, 1985. xxiv, 407 pp., illus. \$79. Kroc

Foundation Series, vol. 19. From a conference, Solvang, CA, Jan. 1984.

Biotechnology. Principles and Applications. I. J. Higgins, D. J. Best, and J. Jones, Eds. Blackwell Scientific, Palo Alto, CA, 1985. xii, 422 pp., illus. \$60; paper, \$29.

Catalyst Characterization Science. Surface and Solid State Chemistry. Marvin L. Deviney and John L. Gland, Eds. American Chemical Society, Washington, DC, 1985. xii, 616 pp., illus. \$89.95. From a symposium, Philadelphia, Aug. 1984. ACS Symposium Series 288.

The Cereal Rusts. Vol. 2. Diseases, Distribution, Epidemiology, and Control. Alan P. Roelfs and William R. Bushnell, Eds. Academic Press, Orlando, FL, 1985. xxiv, 606 pp., illus. \$74.50.

Cereal Tissue and Cell Culture. S. W. J. Bright and M. G. K. Jones, Eds. Nijhoff/Junk, Dordrecht, Netherlands, 1985 (U.S. distributor, Kluwer, Hingham, MA). viii, 304 pp., illus. \$42.50.

Cerebral Cortex. Vol. 3. Visual Cortex. Alan Peters and Edward G. Jones, Eds. Plenum, New York, 1985. xiv, 424 pp., illus. \$65.

Chemistry of Coal Conversion. Richard H. Schlosberg, Ed. Plenum, New York, 1985. xii, 336 pp., illus. \$52.50.

The Great School Debate. Which Way for American Education? Beatrice and Ronald Gross, Eds. Simon and Schuster, New York, 1985. 544 pp. Paper, \$7.95. A Touchstone Book.

Growth and Defect Structures. V. V. Osiko et al., Eds. Springer-Verlag, New York, 1985. vi, 150 pp., illus. \$44.50. Crystals 10.

Growth Factors and Transformation. James Feramisco, Brad Ozanne, and Charles Stiles, Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1985. xviii, 450 pp., illus. Paper, \$70. From a meeting, Cold Spring Harbor, NY, Cancer Cells 3.

Handbook of Marine Mammals. Vol. 3, The Sirenia and Baleen Whales. Sam H. Ridgway and Richard Harrison, Eds. Academic Press, Orlando, FL, 1985. xviii, 362 pp., illus. \$64.50.

Health in an Older Society. National Academy Press, Washington, DC, 1985. x, 241 pp. Paper \$19.50. America's Aging.

Introduction to Computer Mathematics. Russell Merris. Computer Science Press, Rockville, MD, 1985. x, 284 pp., illus. Student's text, \$27.95; teacher's edition, \$32.95. Computers and Math Series.

Introduction to Detonation Theory. Wildon Fickett. University of California Press, Berkeley, 1985. xvi, 249 pp., illus. \$29.95.

Medicine Man. A Young Doctor on the Brink of the Twenty-First Century. David Black. Franklin Watts, New York, 1985. viii, 183 pp. \$14.95.

Memoirs of a Computer Pioneer. Maurice V. Wilkes. MIT Press, Cambridge, MA, 1985. x, 240 pp., illus. \$19.95.

Memory Function Approaches to Stochastic Problems in Condensed Matter. Myron W. Evans, Paolo Grigolini, and Giuseppe Pastori Parravicini, Eds. Interscience (Wiley), New York, 1985. xvi, 556 pp. \$84.95. Advances in Chemical Physics, vol. 62.

Metal Forming and Impact Mechanics. William Johnson Commemorative Volume. S. R. Reid, Ed. Pergamon, New York, 1985. xiv, 348 pp., illus. \$50.

Molecular Structure of the Number 21 Chromosome and Down's Syndrome. George F. Smith, Ed. New York Academy of Sciences, New York, 1985. viii, 250 pp., illus. Paper, \$55. Annals of the New York Academy of Sciences, vol. 450. From a conference, New York, Nov. 1984.

Monoclonal Antibodies. Diagnostic and Therapeutic Use in Tumor and Transplantation. Satya N. Chatterjee, Ed. PSG Publishing, Littleton, MA, 1985. xiv, 175 pp., illus. \$50. From a conference, San Francisco, Sept. 1983.

Principles of Computer Design. Leonard R. Marino. Computer Science Press, Rockville, MD, 1986. xiv, 578 pp., illus. \$37.95.

Principles of Electron Tunneling Spectroscopy. E. L. Wolf. Oxford University Press, New York, 1985. xiv, 576 pp., illus. \$80. International Series of Monographs on Physics.

Principles of Health Risk Assessment. Paolo F. Ricci, Ed. Prentice-Hall, Englewood Cliffs, NJ, 1985. xiv, 417 pp., illus. \$50.

Problems and Solutions in Electromagnetic Theory. C. M. Lerner. Wiley-Interscience, New York, 1985. xii, 614 pp., illus. Paper, \$34.95.

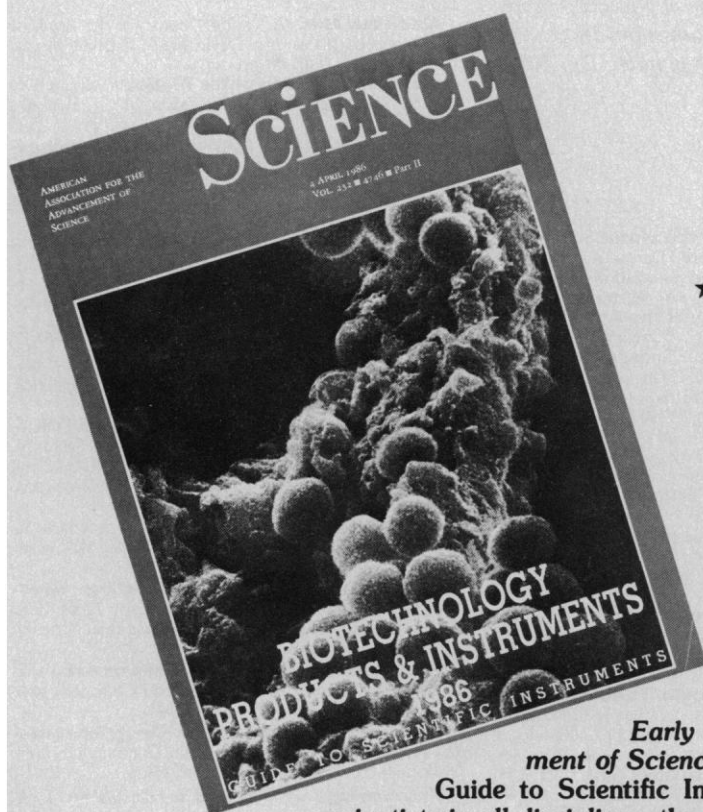
Proceedings of Physics in Collision 4. A. Seiden, Ed. Editions Frontières, Gif sur Yvette, France, 1985. x, 516 pp., illus. \$55. From a conference, Santa Cruz, CA, Aug. 1984.

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The Department of Bioengineering at the University of Pennsylvania has an opening for a tenure-track position at the level of assistant professor in the area of orthopaedic biomechanics. The department is part of the School of Engineering and Applied Science, and maintains academic programs at the bachelor, master's, and doctoral levels. Applicants must have a Ph.D. or equivalent degree in engineering or physics, with a background in the area of biomechanics. The applicant should be qualified to teach both undergraduate and graduate engineering courses and are expected to participate in ongoing research, as well as initiate their own research programs. A secondary appointment in the Department of Orthopaedic Surgery will also involve participation in the teaching programs of that department. Applicants should send a résumé, including the names of three references, to:

Dr. Mitchell Litt
Department of Bioengineering
University of Pennsylvania
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The University of Osteopathic Medicine and Health Sciences invites applications to fill a tenure-track position at the level of assistant/associate professor. Position requires an earned doctorate, teaching experience in anatomical sciences, and evidence of productive research experience with funding potential. Teaching responsibilities include gross anatomy and neuroanatomy.

Send curriculum vitae and references to: **William J. Dyche, Ph.D., University of Osteopathic Medicine and Health Sciences, 3200 Grand Avenue, Des Moines, Iowa 50312.**

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ASSISTANT PROFESSOR IN BACTERIAL GENETICS: As part of the rapidly expanding research and graduate training programs in the basic sciences of Emory University School of Medicine, the Department of Microbiology and Immunology is seeking to fill a new tenure-track **FACULTY POSITION** in bacterial genetics at the assistant professor level by September 1986. Candidates should be prepared to develop a vigorous research program using the latest molecular approaches in bacterial systems. Please submit curriculum vitae along with a brief summary of research plans and have three letters of reference forwarded to: **Dr. June R. Scott, Bacterial Genetics Search Committee, Department of Microbiology and Immunology, Emory University School of Medicine, Atlanta, GA 30322.** Deadline for application is 28 February 1986, or until the position is filled.

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ASSISTANT PROFESSOR—A tenure-track position is open for a qualified individual to teach in the area of neurophysiological approaches to patient care and human neuroanatomy-neurophysiology to students in the Physical Therapy Program, School of Life and Health Sciences, University of Delaware. In addition to instructional responsibilities, the successful candidate will be expected to establish an independent research program in his/her specialty. Applicants must hold a master's degree (Ph.D. preferred), must have clinical experience and must be licensed or be eligible for state licensure in Delaware. Salary is commensurate with experience and qualifications. This is an academic appointment (9-month) and begins 1 September 1986. Interested applicants should send curriculum vitae, a statement of research interests and reprints of publications, and three letters of evaluation by 1 March 1986 to: **Dr. Steven D. Skopik, School of Life and Health Sciences, UNIVERSITY OF DELAWARE, Newark, DE 19716.** *The University of Delaware is an Equal Opportunity Employer which encourages applications from qualified minority groups and women.*

ASSISTANT/ASSOCIATE PROFESSORS. Applications are being accepted for two tenure-track positions available 1 July 1986. Applicants should possess a Ph.D. degree in physiology or pharmacology with previous teaching experience. Physiologist to teach muscle and neurophysiology to 1st-year medical students. Pharmacologist to teach core and systems pharmacology to 1st and 2nd-year medical students. Research is encouraged. Salary is competitive and commensurate with experience. Send curriculum vitae and names of three references by 1 April 1986 to: **Dr. G. H. Nelson, Chairman, Physiology/Pharmacology Search Committee, College of Osteopathic Medicine of the Pacific, College Plaza, Pomona, CA 91766.**

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IMMUNOLOGY POSITION OPENING

The Department of Microbiology and Immunology of Emory University School of Medicine seeks highly qualified applicants for a tenure-track position at the level of assistant/associate professor. Applicants using the tools of molecular biology to answer relevant immunological questions are especially encouraged to apply, although others may be considered. Please send curriculum vitae, a one-page statement of research interests, and three letters of reference to: **Dr. Robert B. Fritz, Department of Microbiology and Immunology, Emory University School of Medicine, Atlanta, Georgia 30322.** Deadline for application is 28 February 1986, or until the position is filled. *Emory University is an Equal Opportunity/Affirmative Action Employer.*

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ASSISTANT PROFESSOR (tenure track), Department of Sports Management and Communication and Division of Physical Education, The University of Michigan. Qualifications: Ph.D. degree preferred; academic preparation and experience in sports management and the administration of internships in sports management and communication. Candidates with expertise in sports marketing, sports communication and legal aspects in sports will also be considered. Responsibilities: assist in developing new undergraduate courses and a master's program; assist in planning and implementing internships for undergraduates; teach courses and conduct research in sports management and communication. Salary commensurate with qualifications and experience. Nine-month appointment, possibility of summer school opportunities. Deadline for applications: 1 March 1986. Interested persons should send a letter of application, résumé, and three letters of recommendation that attest to academic preparation and professional experiences to: **Stephen J. Galetti, Chairperson, Department of Sports Management and Communication, The University of Michigan, Central Campus Recreation Building, 401 Washtenaw Avenue, Ann Arbor, MI 48109-2214. Telephone: 313-764-4472. A non-discriminatory/Affirmative Action Employer.**

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Send curriculum vitae and three letters of recommendation to: **William Drake, Chair, Search Committee, 412 Roberts Hall, Cornell University, Ithaca, NY 14853. Closing Date: 1 March 1986.**

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ASSISTANT PROFESSOR—BIOCHEMISTRY

The Department of Biochemistry at Virginia Commonwealth University is seeking applicants for a tenure-track assistant professor appointment. The specific areas of research competence being sought are structure-function of proteins, including membrane assembly, with a strong basis in physical approaches. Other areas of interest are biocatalysis on solid supports or related aspects of biocatalysis and molecular/physical basis of neurobiology. The successful applicant will have demonstrated excellence in research and exhibit strong potential for establishing a superior research program complementary to existing research areas in the department. Candidates will also be judged on their ability to participate effectively in the teaching programs of the department including graduate, health professions, and undergraduate students. A doctoral degree and at least 2 years of postdoctoral experience in biochemistry, molecular biology, chemistry, or a related field is required. Applicants should submit curriculum vitae, a brief description of future research plans, and arrange to have letters of recommendation from three qualified scientists sent to the search committee. Applications should be sent before 1 May 1986 to:

**Search Committee
Department of Biochemistry
Box 614 Medical College of Virginia
Virginia Commonwealth University (VCU)
Richmond, Virginia 23298**

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ASSISTANT PROFESSOR OF BIOLOGY for 15 August 1986. Ph.D. required. Seeking an individual to develop undergraduate courses in immunology and biochemistry. Additional teaching duties according to department needs. Research expected. Within 3 weeks after advertisement appears, send copies of undergraduate and graduate transcripts, statement on teaching/research interests, equipment needs, curriculum vitae, and names of three references to: **Dr. James Watrous, St. Joseph's University, Philadelphia, PA 19131. Equal Opportunity/Affirmative Action Employer.**

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ASSISTANT PROFESSOR OF APPLIED MICROBIOLOGY

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ASSISTANT PROFESSOR BIOMEDICINAL CHEMISTRY

The School of Pharmacy and Comprehensive Cancer Center, University of Southern California, are seeking candidates with Ph.D. in chemistry or biochemistry for a tenure-track position. Candidates conducting research on gene amplification, cell proliferation, growth factors, and drug resistance are encouraged to apply. Teaching biomedical chemistry at professional (Pharm.D) and graduate (Ph.D.) levels is required. Send three letters of reference, curriculum vitae, brief summary of research accomplishments, and future goals by 31 March 1986 to: **Joon H. Rho, Ph.D., School of Pharmacy, University of Southern California, 1985 Zonal Avenue, Los Angeles, CA 90033-1086. Equal Opportunity Employer/ M/F/H.**

ASSISTANT/ASSOCIATE PROFESSOR OF PHARMACOLOGY: Applications are being solicited for a 12-month, tenure-track position at the assistant/associate professor level in pharmacology at the Muncie Center for Medical Education, a division of Indiana University School of Medicine. The successful applicant will have an earned doctorate in pharmacology and have the potential to develop an independent research program. A major portion of time will be spent teaching pharmacology to 2nd-year medical students. Experience in educational activities is therefore desirable. Position available 1 July 1986; application deadline 1 March 1986. Submit curriculum vitae, a résumé of research interest, and three letters of reference to: **Dr. Eugene S. Wagner, Muncie Center for Medical Education, Maria Bingham Hall 315, 2300 West Gilbert, Muncie, IN 47306. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

ASSOCIATE PROFESSOR—PLANT MOLECULAR BIOLOGY. Tenure-track position available September 1986. The successful candidate will be expected to establish a vigorous research program and direct graduate students. Candidate can be working in plant molecular biology. Teaching will involve a core course in science and in the area of specialty. Send curriculum vitae, statement of research interest, and names of three references to: **Dr. Thomas E. Jensen, Chairman, Department of Biological Sciences, Lehman College, The City University of New York, Bronx, NY 10468. Application deadline: 17 February 1986. Salary: \$32,726 to \$40,505.**

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ASSISTANT PROFESSOR—IMMUNOLOGY—The Department of Medicine at Jefferson Medical College has an opening for a tenure-track position in immunology. The successful applicant will join a multidisciplinary research team studying protein toxins. The new faculty member will be expected to interact with the research team, but will also have time to develop independent interests. Preference will be given to candidates with experience in developing synthetic vaccines or in synthesizing immunotoxins. Financial support is available for both salary and equipment. Potential applicants should submit a brief statement of their own research interests, curriculum vitae with a list of publications, and the names of three persons who can provide letters of reference. These materials should be mailed to: **Dr. Lance L. Simpson, Professor of Medicine and Pharmacology, Jefferson Medical College, 1025 Walnut Street, Philadelphia, PA 19107. Equal Opportunity Employer.**

ASSISTANT SCIENTIST with Ph.D. in material science to carry out studies in the area of metallurgical characterization of superconductive NbTi alloys and composites; be responsible for transmission electron microscopy, Auger electron spectroscopy, and other electron analytical studies. Includes performing work on superconductor fabrication, microstructure, and physical property characterization; training and supervising students and other staff members in electron microscopy techniques; run metallographic laboratory; produce publishable scientific material. Requirements: minimum 3 years of research or work experience in transmission electron microscopy and microanalysis, and Auger electron microscopy; minimum of two original publications in field. Minimum 40 hours per week. Salary: \$30,000 per year. Begin 1 May 1986. *Affirmative Action/Equal Opportunity Employer.* Résumé and three references due by 3 March 1986 to: **E. Breitweizer, Job Service, 206 North Broom Street, Madison, WI 53703. This is an employer-paid ad.**

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Further particulars and application forms from: **The Secretary, The University, Aberdeen, Canada AB9 1FX**, with whom applications (two copies) should be lodged by 14 March 1986.

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Associate Dean, School of Graduate Studies

Meharry Medical College is seeking an experienced scientist to serve as associate dean of the School of Graduate Studies. The primary duties of the associate dean will be to direct the office of Research Support Services and serve as deputy director of the Research Centers in Minority Institutions grant (RCMI).

RCMI is a 5-year grant of \$3.5 million to strengthen the research infrastructure at Meharry Medical College; it funds a research focus in neuroscience, the purchase of major research equipment, and the Office of Research Support Services (ORSS). The ORSS component is charged with developing an aggressive program of matching investigators with funding agencies; matching developing investigators with experienced consultant-mentors both on and off campus; serving as liaison with funding agencies; improving the processes of procurement and grants management; developing a data base on research activity at the college and efforts to obtain research support; stimulating clinical research; furnishing editing and word processing services to research faculty; and managing the campus committees pertinent to research grants and the conduct of research. As director of ORSS the associate dean will be responsible for staffing the ORSS and seeing that it carries out these tasks. The associate dean will also serve as deputy director of RCMI and in this capacity assist with the overall management of the award.

Candidates should hold a doctoral degree in the biomedical sciences and/or medicine; qualify for the rank of associate professor in one of the academic departments of the college; exhibit a distinguished record of scientific productivity; and have extensive experience in research administration in the biomedical setting. Salary commensurate with qualifications and experience. Applications should include a letter of interest, curriculum vitae, and the names of three references. Send applications by 1 March to:

Fred Jones, Ph.D.
Dean, School of Graduate Studies
Meharry Medical College
Nashville, Tennessee 37208

Meharry Medical College is an Equal Opportunity/Affirmative Action Employer.

U.S. Department of Energy
**Postgraduate
Research
Opportunities**

POSTDOCTORAL RESEARCH
AT THE
NATIONAL CENTER FOR
TOXICOLOGICAL RESEARCH

Opportunities are available for postdoctoral research appointments administered by Oak Ridge Associated Universities (ORAU) at the National Center for Toxicological Research (NCTR) in Jefferson, Arkansas. Appointments provide opportunities to carry out independent research in collaboration with the senior scientific staff at NCTR for periods of up to 2 years.

NCTR's research mission is to find solutions to problems in toxicology that have a significant impact on human health and the environment. Research involves a wide range of specialties in Biochemical, Genetic, Reproductive, Developmental, and Comparative Toxicology and related areas of Chemistry and Microbiology.

For more information and applications contact



ORAU Postgraduate Research
Program at NCTR
University Programs Division
Oak Ridge Associated Universities
P.O. Box 117
Oak Ridge, TN 37831-0117
(615) 576-3190

This is an equal opportunity program open to all qualified U.S. citizens and permanent resident aliens.

**Cell Culture Biologist
Research And Development**

Genetic Systems Corporation, a leader in the field of biotechnology and its application to the diagnosis and treatment of human disease, has immediate openings for Cell Culture Biologists in Research and Development.

Research. Ph.D. Cell Biologist for a position involving basic research in mammalian cell culture systems and technologies which will advance the state-of-the-art in monoclonal antibody generation and its application to biological products.

Development. Ph.D. scientist to lead a process development group in large scale culture of mammalian cells. Must have a thorough knowledge of and experience in *in vitro* pilot and/or industrial scale cell culture systems. The individual will be actively working at the bench as well as supervising and training others, therefore, strong managerial skills are required.

Genetic Systems Corporation offers excellent benefits and a challenging work environment. Please send curriculum vitae for consideration to: **Personnel, Genetic Systems Corporation, 3005 First Avenue, Seattle, Washington 98121.** Equal Opportunity Employer.



Genetic Systems
CORPORATION

**DIRECTOR, ARNOLD O. AND
MABEL M. BECKMAN
INSTITUTE FOR ADVANCED SCIENCE
AND TECHNOLOGY**

Applications and nominations are invited for this position at the University of Illinois at Urbana-Champaign. The institute is a new interdisciplinary venture made possible by a \$40-million gift augmented by another \$10 million from the State of Illinois—this amount to be devoted to a building to house the institute, plus state commitment for continuing operational support. The Beckman Institute will consist of two centers: a center for materials science, computers, and computation; a center for biology, neuroscience, and cognition. There will be continuous transition from research on the atomic and molecular levels to systems of increasing complexity and higher levels of organization. The ultimate objective: to focus on "intelligence." Although the opening date for the physical facility is 3 years away, it is important that the director be found as soon as possible so that early planning and development will reflect this individual's vision. The director should be a strong leader, widely recognized for both intellectual accomplishment and demonstrated ability to administer a complex, research-oriented organization; have the ability to think in terms of multi-investigator interdisciplinary research activities; be familiar with the academic environment with experience in administration; be broadly recognized and respected both in academic institutions and by peers in government and industry. Salary open. Position available immediately. Nominations/applications with curriculum vitae should be submitted by 28 February 1986 to: William F. Prokasy, Chair; Search Committee for the Director of the Beckman Institute; c/o Chancellor's Office; University of Illinois at Urbana-Champaign; Swanlund Building; 601 East John Street; Champaign, IL 61820; telephone: 217-333-1350.

Affirmative Action/Equal Opportunity Employer.

**Chemistry/
Biochemistry**

Neuroscience Research Lab presently isolating and characterizing transmitter substances from the mammalian brain seeks Research Chemist/Biochemist with expertise in H.P.L.C and/or other analytical techniques. In addition to collaborative investigations, with senior scientists responsibilities will include management of the Neurochemistry Core Facility which will involve adapting radio receptor and enzyme assays to specific studies. MS desired, but excellent BS candidates with substantial research experience in analytical chemistry may apply.

Salary and benefits commensurate with level of experience.

Send c.v. and references to:

Dr. Donald J. Reis/
Dr. Mary P. Meeley

Laboratory of Neurobiology



**Cornell University
Medical College**

445 East 69 Street New York, N.Y. 10021

an equal opportunity employer m/f/h

**POSTDOCTORAL FELLOWSHIPS
CANCER CYTOGENETICS AND
MOLECULAR BIOLOGY**

The Cytogenetics Laboratory, Section of Hematology/Oncology at the University of Chicago, is offering several postdoctoral fellowships for recent graduates (M.D. or Ph.D.) interested in cytogenetic and molecular analysis of human leukemias and lymphomas. The laboratory has been at the forefront of discovery in both areas, and it provides a challenging and productive environment for creative investigators.

Active laboratory research focuses on the characterization of chromosomal abnormalities in human tumors (particularly leukemias and lymphomas) and on the identification of various genes that are directly involved in chromosomal rearrangements. Genes of special interest include proto-oncogenes, transforming sequences, and growth factors, as well as the immunoglobulins, T-cell receptor, metallothionein, interferon, and transferrin/transferrin receptor; our emphasis is on the changes in structure and function of these genes related to chromosome rearrangements. Particular probes are localized with *in situ* chromosomal hybridization and are analyzed with a number of techniques including Southern blot. We are involved in cloning rearranged DNA sequences from breakpoint junctions. The association of genes at these junctions with heritable fragile sites is being investigated.

For the cytogenetics fellowship, previous experience in analysis of banded human chromosomes is **essential**; familiarity with cancer cytogenetics is desirable. Applicants for the molecular biology fellowship must have experience with the techniques of molecular genetics, including the analysis of gene expression and/or genomic and complementary DNA cloning. Interested applicants should send curriculum vitae and references to: **Dr. Janet D. Rowley, Box 420, Section of Hematology/Oncology, The University of Chicago, 5841 South Maryland Avenue, Chicago, Illinois 60637.** *The University of Chicago is an Affirmative Action Employer.*

POSITIONS OPEN

ASSOCIATE IN RESEARCH I. Section of Neuroanatomy. To conduct independent testing of specificity of various monoclonal and polyclonal antibodies, assays of immunocytochemical reactions, including optimal dilutions of reagents and antibodies and their screening, perfusion, fixation, cutting of fixed and frozen tissue, ultra-thin serial sections, and photographic documentation and use of electron microscope and qualitative and quantitative analysis of data. Requires B.S. or equivalent in biology or laboratory sciences and a minimum of 2 years of prior experience in the use of relevant biochemical equipment, light, and electron microscope, as well as ultramicrotomes and cyrostats for various assays and cellular analyses. Full-time position with annual salary of \$20,000. Interested applicants should submit their résumés to: **Dr. Pasko Rakic, Chairman, Yale University School of Medicine, Neuroanatomy, 333 Cedar Street, New Haven, Connecticut 06510. Yale University is an Equal Opportunity/Affirmative Action Employer.**

CELL AND MOLECULAR BIOLOGY

The Department of Biology, McGill University, invites applications for a tenure-track position at the assistant professor level, effective 1 September 1986, subject to budgetary approval. Applicants are sought who apply molecular or genetic approaches to understanding cell structure and function. We particularly encourage applications from candidates interested in nervous systems and/or human (mammalian) genes. *Applications are invited from all, although, in accordance with Canadian immigration regulations, applications from Canadian citizens or permanent residents will be considered first.*

Send curriculum vitae, statement of research interests and goals, representative reprints, and three letters of reference to: **Dr. Barid Mukherjee, Chairman, Department of Biology, McGill University, 1205 Avenue Docteur Penfield, Montreal, Quebec, Canada H3A 1B1. Deadline: 28 February 1986.**

CELL BIOCHEMIST

Protein Databases Inc., a new progressive/exciting biotechnology company, has a position available for a cell biochemist (Ph.D.) having one or more years of postdoctoral training in various aspects of cell biology (eukaryotic and/or prokaryotic, plant and/or animal), protein chemistry, and molecular biology of cells. Experience with two-dimensional gel analysis of proteins is essential. The person will be responsible for managing and executing database experiments on various cultured cell lines, immunoprecipitations, cell fractionation studies, cell growth studies, and protein isolation. The position offers responsibility for managing quality control studies and developing new techniques to analyze two-dimensional gels. Salary range \$25,000 to \$35,000.

Applicants should submit curriculum vitae, the names of three references, and a statement of career goals to: **The Laboratory for Cell Biochemistry, Protein Databases, Inc., 405 Oakwood Road, Huntington Station, NY 11746.**

DIRECTOR OF A RESEARCH CENTER

University of Montreal, Faculty of Veterinary Medicine, Research Center in Animal Reproduction. This is a renewable, 4-year term appointment. The director holds an academic position in one of the departments of the faculty. **Duties:** formulation and administration of policies designed to facilitate and promote research activities in the field of animal reproduction; expected to contribute actively to a broadening of the financial basis of the center; direct participation in the research and teaching activities of the center. **Qualifications:** Ph.D. or equivalent; adequate research experience in animal reproduction, preferably in molecular biology; leadership; capacity to attract and supervise graduate students. Since French is the working language of the faculty, the director should acquire a working knowledge of French within a year of his/her appointment. **Salary:** according to experience and qualifications. **Position available:** at a date to be discussed. **Application deadline:** 15 March, 1986. Applicants should forward a statement of interest, curriculum vitae, and copies of graduate diplomas. Send résumé to: **M. Raymond S. Roy, Dean, Faculty of Veterinary Medicine, University of Montreal, P.O. Box 5000, Saint-Hyacinthe (Quebec), Canada, J2S 7C6; telephone: 514-773-8521. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.**

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA, BERKELEY BIOLOGICAL SCIENCES COMPUTER SPECIALIST

Work with faculty in the areas of biochemistry, molecular biology, microbiology, biophysics, and immunology. As principal consultant and programmer, organize a protein-sequence database service and coordinate other biological computing programs and services. Ability to work collaboratively with faculty in instruction and research, supporting their computing needs, and 6 years of programming—experience in DEC and IBM environments. Salary range: \$41,000 to \$50,000. Job number 01-50/55.

University benefits include medical and dental, 3 weeks of paid vacation per year, and excellent retirement.

Deadline 14 February 1986

TO APPLY, send résumé (with job number) to: **Personnel Office, 2539 Channing Way, University of California, Berkeley, Berkeley, CA 94720.** If you need further information, call **Linda Vallee telephone: 415-842-7185. Equal Opportunity/Affirmative Action Employer.**

DIRECTOR DIVISION OF MARINE SCIENCES Harbor Branch Foundation, Inc.

Applications are invited for the position of **MARINE SCIENCE DIRECTOR** at Harbor Branch Foundation, an institution established primarily for research in the marine sciences and for the development of tools for underwater oceanographic research. The Division of Marine Science consists of 36 marine scientists, research assistants, and postdoctoral fellows, plus support staff. The successful candidate will oversee the development and coordination of ongoing interdisciplinary programs in lagoonal, shelf, and open ocean research, some of which involve shipboard and submersible operations on vessels and submersibles owned and operated by Harbor Branch Foundation.

Candidates must have an earned doctorate in a marine-related science, a distinguished research record, demonstrated administrative and leadership skills, and proven ability to attract outside funding. The director will be expected to maintain a vigorous research program in his/her area of specialty. Interested applicants should forward an application, including résumé, supporting materials, and names of three references by 1 March to:

**Dr. Kevin J. Eckelbarger
Search Committee Chairman
Harbor Branch Foundation, Inc.
RR 1, Box 196
Fort Pierce, Florida 33450**

Harbor Branch Foundation is an Equal Opportunity Employer

ECOLOGIST: Applications are invited for a postdoctoral research associate position. The successful candidate will participate in a project funded by NIH involving field manipulation of a complex of interactions among juvenile treehole mosquitoes (cannibalism, intraspecific competition, and larva-induced egg hatching inhibition) to assess the importance of those effects in resource tracking. Starting date is flexible, but field experiments will begin in the spring and summer of 1986. Support is available for 12 months, which may be supplemented by teaching opportunities. Ph.D. is required. Send curriculum vitae with addresses and telephone numbers of three referees, reprints, and a brief summary of research interests by 28 February 1986 to: **Dr. Todd P. Livdahl, Department of Biology, Clark University, Worcester, MA 01610. Clark University is an Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.**

ENGINEERING AND PUBLIC POLICY/CARNEGIE-MELLON UNIVERSITY. The Department of Engineering and Public Policy seeks the following new **FACULTY:** a digitally-oriented electrical engineer with research interests in telecommunication policy; a mechanical engineer with policy interests related to robotics and manufacturing; a computer scientist with technically focused policy interests; and persons interested in technical issues in international security. Résumé to: **M. Granger Morgan, Head, EPP, Carnegie-Mellon University, Pittsburgh, PA 15213.**

POSITIONS OPEN

ENVIRONMENTAL HEALTH. Tenure-track. Teaching, advising, research, and public service in comprehensive graduate and undergraduate program. Open 1 July. Doctorate in appropriate area, experience in environmental health program administration, and college teaching desired. Curriculum vitae, official transcripts, three reference letters to: **Dr. Kane, School of Allied Health, East Carolina University, Greenville, NC 27834. Affirmative Action/Equal Opportunity Employer.** Review begins 1 April 1986, and continues until vacancy is filled. **Telephone: 919-757-6961, or write for detailed announcement.**

EXECUTIVE DIRECTOR

Applications are being accepted for the position of Executive Director of the American Society of Plant Physiologists. This individual is the administrative officer of the society. The primary functions of the office include: coordination of the society's annual meeting, publication activities, and society committees; administration of the national headquarters; liaison with society members, other societies, government agencies, industry and the public. Qualified candidates should have a background in biological science research, and administrative experience. Salary will be competitive and is negotiable. Applications should include a letter of introduction, a résumé, and the names of three individuals whom the candidate has asked to submit letters of recommendation. The closing date for receipt of applications is 28 February 1986, and should be sent to: **Search Committee, ASPP, 15501-A Monona Drive, Rockville, MD 20855. Affirmative Action/Equal Opportunities Employer.**

ANNOUNCEMENT OF FACULTY POSITION.

The Department of Kinesiology at the University of Michigan in Ann Arbor invites applications from individuals with research interests in **motor control or biomechanics.** This is an exceptional opportunity to join a faculty which holds research as a high priority. This is a tenure-track position at the assistant professor level; salary will be commensurate with qualifications. The appointee is expected to establish an independent research program and teach in the undergraduate and graduate programs in his/her area of specialty with respect to human movement. Applicants must have a Ph.D. or M.D. degree and postdoctoral training or comparable experience. Submit curriculum vitae, statement of research interests, and arrange for three letters of reference to be sent to: **Timothy P. White, Ph.D., Chairman, Department of Kinesiology, The University of Michigan, 401 Washtenaw Avenue, Ann Arbor, MI 48109-2214.** Applications received by 28 February 1986 will be given full consideration. *A nondiscriminatory/Affirmative Action Employer.*

FACULTY POSITION— DEVELOPMENTAL BIOLOGY

The Biology Department at William Paterson College invites applications for a tenure-track position in developmental biology at the assistant professor level. Teaching and/or research interests should include developmental biology, mammalian anatomy and physiology, and either toxicology or molecular biology. Applicants must hold the Ph.D. The successful candidate will teach introductory level biology and in his/her area of specialization and must establish a research program involving undergraduates and master's level students. The minimum salary is \$22,621.86. Send curriculum vitae, statement of teaching and research interests, and three letters of recommendation by 1 March 1986 to: **Dr. Jean M. Werth, Chairperson, Biology Department, William Paterson College, Wayne, New Jersey 07470. William Paterson is an Affirmative Action/Equal Opportunity Employer.**

Tenure-track **FACULTY POSITION IN SOILS AND ECOLOGY.** Assistant professor. Ph.D. required. Start 1 September 1986. To teach Introduction to Soils, Population Ecology, Systems and Community Ecology, and other courses on main and satellite campus. Excellence in teaching and a scholarship record required. Closing date for receipt of application, résumé, and three letters of recommendation is 15 February 1986, or until a qualified candidate is found. Send all materials to: **Dr. Malcolm Fairweather, Director, Center for Earth and Environmental Science, c/o Office of Personnel and Affirmative Action, SUNY, Plattsburgh, NY 12901. An Equal Opportunity/Affirmative Action Employer.**

**DIRECTOR
OFFICE OF HEALTH RESEARCH
WASHINGTON, DC
\$61,296 to \$70,500**

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) is seeking highly qualified candidates for the position of director, Office of Health Research (OHR). OHR is responsible for the development and evaluation of toxicity test methods and for providing toxicity data to enable the agency to accurately identify hazards and determine human risk from environmental exposure. The director is responsible for an interdisciplinary staff in Washington and the Health Effects Research Laboratory (HERL) with divisions in Research Triangle Park, North Carolina, and Cincinnati, Ohio.

Applicants must have a bachelor's or higher degree in either the biological sciences, general health sciences, or physical sciences, plus substantial professional experience demonstrating scientific competence and senior executive management skills.

Mandatory Technical Qualifications:

1. Experience in health research program management to include issue identification, research needs identification, program goal setting, budget preparation.
2. Demonstrated leadership in the biological sciences, toxicology, epidemiology, or experimental medicine as exemplified by scientific publications, leadership roles in professional societies, organization of scientific seminars, and/or editorial responsibility for scientific publications.
3. Demonstrated experience as a planner or manager of complex multidisciplinary health research and development or technical programs and laboratories, preferably in the environmental health field.
4. Demonstrated ability to communicate technical and nontechnical information clearly and concisely, both orally and in writing, to technical and nontechnical persons and groups.

Submit completed SF-171 (Application for Federal Employment) to: Edna Morse, PM-224, Environmental Protection Agency, 401 M Street, SW, Washington, DC, 20460; telephone: 202-382-3328. Resumes without accompanying SF-171's will not be considered.

Applications must be postmarked by 15 February 1986. EPA is an Equal Opportunity Employer.

**FIVE RESEARCH ASSISTANT
POSITIONS**

The Armed Forces Radiobiology Research Institute (AFRRI) is seeking candidates for positions to assist principle investigators study the effects of ionizing radiation and tissue injury on various biologic functions and systems. The institute, a command of the Defense Nuclear Agency, is the principal radiobiology research laboratory for the Department of Defense. Three of the positions are located in the Experimental Hematology Department, which studies radiation effects on the hematopoietic system. Successful applicants for these positions (announcement Number 39A) will be able to apply knowledge of the principles of hematology, immunology, bacterial infection, and cell structure in performing tissue and cell culture techniques, and in independently developing/modifying experimental protocols. Computer literacy is desired. The other two positions are in the Behavioral Sciences Department, which conducts research studying mechanisms underlying behavioral decrements induced by ionizing radiation. Successful applicants for these positions (announcement Number 40A) will be able to apply knowledge of electrophysiology, biochemistry, and/or pharmacology in performing intracellular recording, isolating membranes from tissues, and other techniques relevant to the study of neuronal structures. These civil service positions are available immediately, are 1 to 4 years in length, and range in salary from \$18,000 to \$28,000. To apply, send curriculum vitae and/or SF-171, and reprints of representative research to: The Armed Forces Radiobiology Research Institute, Civilian Personnel Office, Bethesda, Maryland 20814-5145 by 28 February 1986. Indicate announcement Number 39A or Number 40B. Direct inquiries to: Vince Ackermann, Personnel Management Specialist, telephone 202-295-1426. The AFRRI is an Equal Opportunity Employer.



Yale UNIVERSITY

DEPARTMENT OF BIOLOGY

Requests Applications for a Tenured Position in

DEVELOPMENTAL GENETICS

Preference will be given to applicants using molecular-genetic approaches to the study of development in eukaryotes. We seek an able and enthusiastic teacher with a distinguished research record.

Send curriculum vitae, description of research interests and names of references by March 15, 1986 to:

**Arthur W. Galston, Chairman
Department of Biology
Yale University
Kline Biology Tower
P.O. Box 6666
New Haven, CT 06511**

Yale University is an Affirmative Action/Equal Opportunity Employer

**Post-Doctoral
Training in
Endothelial Cell
(EC) Biology**

Investigators located at a consortium of institutions in the Philadelphia area: the Wistar Institute (Dr. E. Levine), Jefferson Medical College (Drs. B. Jarrell, S. Shapiro, M. Silver, and S. Williams) and Merck Research Laboratories (Dr. W. Nichols) have one or more positions open in their laboratories for individuals with Ph.D., M.D. or V.M.D. degrees.

Research with cultured adult human EC involves one or more of the following areas: regulation of proliferation by growth factors, expression of angiotensin-I converting enzyme, cytogenetic properties and altered gene expression of cultured EC, arachidonic acid metabolism, Factor VIII: RAg and other coagulation components, vesicular ingestion capacity and insulin binding in human EC, effects of substrata on EC growth and function, and the endothelialization of prosthetic vascular grafts.

Stipends based on current NIH allowances. Send curriculum vitae, transcripts, and the names of three references to:

Dr. Elliot Levine

**THE WISTAR INSTITUTE
OF ANATOMY AND BIOLOGY
3601 Spruce Street, Philadelphia, PA 19104**

We are an Equal Opportunity Employer

**FACULTY POSITIONS
MOLECULAR BIOLOGY PROGRAM
MEMPHIS STATE UNIVERSITY**

The Department of Biology invites applications for two tenure-track positions at the rank of **assistant or associate professor**. These new positions are to complement the growing program in molecular biology, the foundation of which is an endowed chair. This program represents a major University commitment to promote excellence in the area of molecular biology and biotechnology.

PLANT MOLECULAR BIOLOGIST: Candidates with experience in gene transfer and expression in plants are sought. Expertise in transformation systems and plant regeneration is required.

DEVELOPMENTAL BIOLOGIST: Candidates using molecular approaches to the study of eukaryotic development are sought. Preference will be given to applicants with expertise in hybridoma techniques.

Candidates should have a Ph.D. in an appropriate field, and postdoctoral or equivalent experience is preferred. Applicants at the associate rank should have an established record of extramural funding and scholarly activity. The successful candidates will be expected to develop productive research programs with extramural funding and to participate in graduate and undergraduate teaching. Appointments are effective August 1986 or as negotiated. Curriculum vitae, statement of research interests, and three letters of reference should be sent to:

**Dr. Kent Gartner,
Molecular Biology Search Committee,
Biology Department,
Memphis State University,
Memphis, TN 38152.**

Applications should be postmarked by March 7, 1986.

An Equal Opportunity/Affirmative Action Employer

Nucleic Acid Chemist

Genetic Systems Corporation is seeking a Research Scientist/Project Leader in the area of nucleic acid chemistry. Applicants should possess the Ph.D. degree in a relevant field and three to five years' postdoctoral experience in one or more of the following areas:

- Modification of DNA and RNA
- DNA synthesis
- Solid phase hybridization

Industrial and supervisory experience are preferred but not required. Strong oral and written communication skills and the ability to work effectively in a multidisciplinary, cooperative setting are essential.

Genetic Systems Corporation offers excellent benefits and a challenging work environment. Please send curriculum vitae for consideration to: **Personnel, Genetic Systems Corporation, 3005 First Avenue, Seattle, Washington 98121.** Equal Opportunity Employer.



**Genetic Systems
CORPORATION**

NATIONAL SCIENCE FOUNDATION (NSF)

NSF's Division of Polar Programs is seeking qualified applicants for the following three positions:

**Program Manager, Polar Earth Sciences Program,
Program Manager, Polar Glaciology Program,
Associate Program Manager, Polar Operations Section.**

The Program Manager positions will be filled on a permanent, rotational basis, or Intergovernmental Personnel Act Assignment (IPA) in either the competitive or excepted service. Salary range from \$45,000 to \$70,000 per annum (limited by statute to \$68,700). The Associate Program Manager position will be filled on a rotational basis or IPA Assignment, \$40,000 to \$60,000 per annum.

Applicants for the Earth Sciences position should have a Ph.D. in one of the earth sciences plus several years of research experience. Applicants for the Glaciology position should have a Ph.D. in one of the following sciences: glacial geology, geophysics, geochemistry, geology, climatology and paleoclimatology. Applicants for the Associate Program Manager position should have a Ph.D. in environmental sciences and substantial experience in the management of logistics and operational support, facilities operation, or support systems associated with scientific research. Applicants should also have several years of research experience. A broad general knowledge of one or more of these fields, experience or familiarity with current polar research, and administrative experience are also required for each position. The person selected for each position must be able to pass the physical examination required for travel to Antarctica. Applications must be received by March 15. Previous applicants need not reapply. For information on how to apply telephone Stuart Solomon, 202/357-7840. Hearing impaired individuals should call 202/357-7492.

For further information, contact Dr. Peter E. Wilkniss, Division Director, Division of Polar Programs, 202/357-7766.

NSF is an Equal Opportunity Employer.

POSITION OPEN

Director

Postharvest Institute for Perishables

Institute at University of Idaho offers long-term position in AID-supported program to individual who will provide leadership in the planning, organization and management of international perishable crop loss reduction programs in developing countries, including technical assistance, training, adaptive research and information services. Will be responsible for developing collaborative R & D programs with AID Missions, LDC organizations, international donor organizations and U.S. universities. Some foreign and domestic travel will be required.

Qualifications: Individual must be a capable administrator, with upper level experience in international development in LDCs in relation to postharvest technology and management systems. Direct involvement with AID project development and/or management, as expatriate team leader or as frequent participant in foreign assistance projects, or other responsible foreign position experience with international donor organization is essential. Administrative experience must include personnel management, budget planning and control, and knowledge of technical or administrative report preparation.

Requires advanced degree (Ph.D. preferred or equivalent experience) in an agriculture-related discipline, 3 to 5 years experience in developing countries and experience in international private sector agricultural production, marketing or agribusiness. A working knowledge of Spanish and/or French desirable. Must be U.S. citizen or permanent resident.

Salary competitive. Position available April 1, 1986. Application deadline March 3, 1986. A complete application including resume and at least three letters of reference must be received by March 3, 1986 to be considered.

Chairman, Director Search Committee
Postharvest Institute for Perishables
103 Morrill Hall, University of Idaho
Moscow, Idaho 83843 (208-885-6791)

The University of Idaho is an equal opportunity/affirmative action employer and educational institution.

POSITIONS OPEN

FACULTY POSITION

The Department of Cellular and Structural Biology invites applications for a full-time, tenure-track position. Primary concern will be given to individuals with research expertise in molecular genetics in the areas of mammalian gene expression and regulation by nuclear proteins, but all applicants in related areas will be considered. We seek an investigator with promise of, or, with a record of scholarship and extramural funding success who will complement the research interests in our genetics program, which include gene characterization and expression, gene mapping, cytogenetics, somatic cell genetics, and immunogenetics. The investigator is expected to build a strong sponsored research program, supervise graduate students, and teach graduate level courses in his/her specialty.

Applicants should submit curriculum vitae, a statement of professional goals, a record of research support, names, addresses, and telephone numbers of at least three references by 28 February 1986 to:

**Barbara H. Bowman, Ph.D.
Professor and Chair**

**Department of Cellular and Structural Biology
The University of Texas Health Science Center at
San Antonio
7703 Floyd Curl Drive
San Antonio, Texas 78284**

An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION

Biochemist with subspecialty in inorganic and/or physical chemistry, to teach undergraduate biochemistry courses in the area of the subspecialty, and to direct undergraduate research in biochemistry. Ph.D. in chemistry or biochemistry required, and teaching experience or postdoctoral research preferred. A tenure-track appointment, initial appointment for 3 years beginning September 1986. Send curriculum vitae, transcripts, and three recommendations to: **Kenneth Hellman, Chair, Department of Chemistry, Smith College, Northampton, MA 01063.** Applications received before 1 February 1986 will receive first consideration. *An Equal Opportunity Employer. Women and minorities encouraged to apply.*

FACULTY POSITION: Organic chemist specializing in synthetic organic chemistry or natural products, to teach undergraduate organic chemistry, or the advanced laboratory course and to direct undergraduate research in organic chemistry. Ph.D. in organic chemistry required, and teaching experience or postdoctoral research preferred. A tenure-track position, initial appointment for 3 years, beginning September 1986. Send curriculum vitae, transcripts, and three recommendations to: **Kenneth Hellman, Chair, Department of Chemistry, Smith College, Northampton, MA 01063.** Applications received before 1 February 1986 will receive first consideration. *An Equal Opportunity Employer. Women and minorities encouraged to apply.*

YALE UNIVERSITY SCHOOL OF FORESTRY AND ENVIRONMENTAL STUDIES

**SAGE HALL
205 PROSPECT STREET
NEW HAVEN, CT 06511
Telephone: 203-436-0440**

The School of Forestry and Environmental Studies has been authorized to make a **tenured appointment in forest economics.** Potential candidates should contact: **John C. Gordon, Dean, School of Forestry and Environmental Studies, Yale University, 205 Prospect Street, New Haven, Connecticut 06511. Telephone: 203-436-0440** by 31 January 1986. *Yale University is an Affirmative Action/Equal Opportunity Employer.*

MICROBIOLOGY—BIOCHEMISTRY: Keuka College, a small private college in the Finger Lakes region of New York will have a tenure-track opening beginning August 1986. Responsibility will include courses in: Introduction to Microbiology, Biochemistry, Medical Microbiology, and Immunology (some of these courses offered alternate years). Entry level, Ph.D. preferred. Submit curriculum vitae and have three letters of recommendation and transcripts sent to: **Dr. James White, Division of Natural Sciences, Keuka College, Keuka Park, New York 14478,** closing date 1 April 1986. *Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITION—Assistant professor of oncology at the McArdle Laboratory of the University of Wisconsin—Madison. Applicants should be prepared to develop a strong, independent research program involving eukaryotic cellular, developmental, and/or molecular biology; be committed to contributing to an understanding of neoplasia and to participating in the interactive research environment of the laboratory. Applicants should submit curriculum vitae, list of publications, a two- to three-page statement of research accomplishments and future objectives, as well as three letters of recommendation from persons qualified to evaluate candidates research. Review of applications for the position will start 1 February 1986. Send applications and letters of recommendation to: **Dr. Henry C. Pitot, Department of Oncology, McArdle Laboratory for Cancer Research, University of Wisconsin, Madison, WI 53706.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

IN VITRO/IN VIVO NMR SPECTROSCOPY POSTDOCTORAL POSITION

Several postdoctoral positions are available for persons interested in the development and application of NMR spectroscopy to intact tissue metabolism and physiology. Projects include metabolic and physiological studies of the eye lens, and the development of techniques for the in vivo spatial localization of tissue metabolites. Minimum qualifications: a Ph.D. in chemistry or biochemistry and experience in NMR spectroscopy. Familiarity with tissue dissection techniques is desirable. For one of these positions, experience in rf and digital electronics, and computer programming would be appropriate. Facilities include a GE wide-bore 7 T multinuclear spectrometer. Applicants should submit curriculum vitae and three letters of recommendation to: **Professor Thomas Schleich, Department of Chemistry, University of California, Santa Cruz, CA 95064.** *An Affirmative Action/Equal Opportunity Employer.*

MAMMALIAN CELL TECHNOLOGY

Two postdoctoral research positions are anticipated in fundamental studies involving high density mammalian cell systems used for production of human vaccines, monoclonal antibodies, and other cell products. Previous experience in cell culture technology is not required. Applicants with backgrounds in nutritional biochemistry, cell and organ physiology, or molecular genetics would be suitable.

Inquiries to:

**Professor William G. Thilly
Department of Applied Biological Sciences
Massachusetts Institute of Technology
77 Massachusetts Avenue, Room E18-666
Cambridge, MA 02139
Telephone: 617-253-6221**

An Equal Opportunity/Affirmative Action Employer

MEMBRANE TRANSPORT

A postdoctoral position is available immediately for an individual interested in pursuing studies on the structure and mechanism of ion-translocating ATPases. The ATPase in the plasma membrane of *Neurospora* is an electrogenic proton pump that operates via a phosphoryl-enzyme intermediate identical to those of the animal cell transport ATPases. Research will involve investigation of the biochemistry of this ATPase with the goal of elucidating its molecular mechanism. Send curriculum vitae to: **Dr. Gene A. Scarborough, Department of Pharmacology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC 27514.** *Equal Opportunity Employer.*

MICROBIAL MOLECULAR GENETICIST

Tenure-track position available August 1986. Rank and salary commensurate with qualifications and experience. Candidates expected to establish a graduate research and teaching program in microbial and molecular genetics. Responsibilities also include undergraduate teaching. Forward curriculum vitae, reprints, transcripts, statement of research goals, and three letters of recommendation to: **Dr. G. Alex Marsh, Chairman, Department of Biological Sciences, Florida Atlantic University (FAU), Boca Raton, FL 33431.** Deadline 1 March 1986. *FAU is an Affirmative Action/Equal Opportunity Institution.*

NEUROPHARMACOLOGY

A POSTDOCTORAL POSITION IN NEUROPHARMACOLOGY to study beta adrenergic receptors in the central nervous system is available at the Los Alamos National Laboratory. Candidates should have experience in neuropharmacology (e.g., radioligand binding, HPLC analysis of neurotransmitters, cyclic AMP measurements, adrenergic pharmacology, intracranial drug administration, lesioning techniques, behavioral pharmacology). Candidates should have received their doctorate in pharmacology or a related discipline within the last three years or expect to receive it in 1986. The selected candidate will receive a salary of \$29,520 to \$31,080 per year, a comprehensive benefits package and relocation expenses.

Interested candidates should submit a curriculum vitae, three letters of reference, and graduate and undergraduate transcripts to James M. O'Donnell, Ph.D., Neurobiology/Biophysics Group, Mail Stop M881, Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

TO FORMALLY APPLY, please send resume or employment application, three letters of reference, and graduate and undergraduate transcripts to:

Carol M. Rich
Personnel Administration Division
POSTDOC-GT
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Los Alamos is an Affirmative Action/
Equal Opportunity Employer

University of California



AUSTRALIA

THE UNIVERSITY OF ADELAIDE

invites applications from both men and women for the following position of:

LECTURER
(tenurable)
(Readvertised)

(Reference: 1083) in the Department of ENTOMOLOGY at the WAITE AGRICULTURAL RESEARCH INSTITUTE. The Department is concerned principally with research and teaching in the applied ecology of insects, and in associated physiological and behavioural studies. Many of the department's research and teaching activities are directed toward the fundamental aspects of crop protection and pest management.

The appointee will be required to undertake original research, supervise postgraduate students, and teach undergraduate courses. The department would be particularly interested to receive applications from entomologists with a strong interest and expertise in insect behaviour, especially that concerned with chemical ecology and host feeding by phytophagous, predaceous, or parasitic insects. However, applicants with expertise in other areas of entomology may be considered. An aptitude for fieldwork and for providing instruction in field courses is highly desirable.

The position is available immediately.

Further information concerning the duties of the position may be obtained from: **Professor D. E. Pinnock, Department of Entomology; telephone: 08-372 2444.**

Holders of full-time tenured or tenurable academic appointments have the opportunity to take leave without pay on a half-time basis for a specific period of up to 10 years where this is necessary for the care of children.

It is university policy to encourage women to apply for consideration for appointment to tenurable academic appointments.

INFORMATION about the general conditions of appointment may be obtained from the senior assistant registrar (personnel) at the university.

SALARY per annum: \$27,233 x 7—\$35,777 (Aust.)

APPLICATIONS, IN DUPLICATE, quoting reference number 1083 and giving full personal particulars (including whether candidates hold Australian permanent residency status), details of academic qualifications, and names and addresses of three referees should reach: **the Senior Assistant Registrar (Personnel) at the University of Adelaide, G.P.O. Box 498, Adelaide, South Australia, 5001, Telex UNIVAD AA 89141**, not later than 28 February 1986.

The university reserves the right to make enquiries of any person regarding any candidate's suitability for appointment, not to make an appointment, or to appoint by invitation.

BIOTECHNICAL/ RESEARCH OPPORTUNITIES

Interferon Sciences, Inc. is a growing biotechnology company located at the heart of the pharmaceutical industry in central New Jersey. Applications are invited at all degree levels for research positions in the following areas:

IMMUNOCHEMISTRY

- Immunochemists with experience in production and purification of monoclonal and polyclonal antibodies (IC105).
- Immunochemists with experience in immunoassay development and affinity chromatography (IC106).

ANALYTICAL BIOCHEMISTRY

- Biochemists with extensive expertise in: peptide synthesis, purification, protein sequencing and amino acid analysis. HPLC and electrophoresis experience highly desirable (AB103).

MOLECULAR GENETICS

- Molecular biologists to work on regulation of gene expression in procaryotes and eucaryotes. Experience in: cDNA synthesis and screening, DNA sequencing, vector construction, expression plasmids and IN VITRO mutagenesis (MG103).

Please refer to position numbers. Send resume to **L. Zuckerman, Personnel Department.**



INTERFERON
SCIENCES, INC.

783 Jersey Avenue, New Brunswick, NJ 08901

An Equal Opportunity Employer M/F

POSITIONS OPEN

The Division of Mycotic Diseases, Centers for Disease Control (CDC), Atlanta, Georgia, invites applications for a position as **MEDICAL EPIDEMIOLOGIST**. Responsibilities will include conducting surveillance on the incidence and prevalence of mycotic diseases, outbreak investigations, and evaluation of the sensitivity and specificity of rapid diagnostic tests for mycotic infections and assessment of their role in the control of mycotic diseases in high-risk persons with an emphasis on nosocomial mycotic infections. Desired qualifications, in addition to epidemiologic training include: residency in internal medicine, specialty training in infectious diseases, a master's degree in public health, and experience in outbreak investigations and in the design and analysis of prospective epidemiologic studies. Salary range is from approximately \$37,599 to \$47,392, depending on experience. Submit curriculum vitae and names of three references to: **Louise Griggs, Personnel Management Office, Centers for Disease Control, Atlanta, GA 30333**; for technical questions, contact: **Dr. William R. Jarvis, Assistant Chief, Epidemiology Branch, Hospital Infections Program, Centers for Disease Control, Atlanta, GA 30333**. Telephone: 404-329-3504. CDC is an Equal Opportunity Employer. Applications must be received within 3 weeks of publication date.

MOLECULAR BIOLOGIST/CELL BIOLOGIST

The Division of Pathology in the University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute is seeking a molecular/cellular biologist for a full-time, tenure or tenure-track position at the associate or assistant professor level. Applicant must hold a doctoral (M.D. or Ph.D.) degree, working in an area relating to intracellular protein sorting or membrane receptor in eukaryotic cells. The successful candidate must have strong commitments to developing or continuing an active research program. Teaching duties will relate to supervising pre- and/or postdoctoral fellows. Please send curriculum vitae, three letters of reference, and a brief statement of research program to:

John G. Batsakis, M.D.
Head, Division of Pathology
The University of Texas Systems Cancer Center
M. D. Anderson Hospital and Tumor Institute
Division of Pathology, Box 85
Houston, Texas 77030

An Equal Opportunity/Affirmative Action Employer.

NMR SPECTROSCOPIST

The City College of New York (CCNY) has an immediate opening for a senior research associate. A Ph.D. in chemistry or a degree in electrical engineering, plus experience in running and maintaining state-of-the-art FT-NMR instruments are required. The person will be in charge of an IBM 200 MHz spectrometer currently in the chemistry department and another high field instrument which is being acquired. He/she will be responsible for running samples and training students, as well as conducting routine maintenance and repairs. Interaction with faculty and collaborative research will be encouraged. Salary will be commensurate with qualifications and experience, and will include a generous fringe benefit package. CCNY is an Equal Opportunity/Affirmative Action Employer. Apply to: **RCMI Search Committee c/o Dean Frank Martino, City College of CUNY, 138th Street and Convent Avenue, NY 10031**.

PHYSICAL OCEANOGRAPHER. The Graduate School of Oceanography at The University of Rhode Island invites applications for a research faculty position in physical oceanography. We are primarily interested in candidates with theoretical and/or numerical modeling experience at the assistant professor level, but the level of the appointment will depend on the qualifications of the applicant. Applicants must have a Ph.D. degree and have shown excellence and independence in their research. Some start-up funds are available, but within a reasonable period of time the candidate is expected to develop their own program of funded research. Our department is actively involved in studies of western boundary currents, stability properties of frontal systems, eddy transport processes in energetic and quiet ocean regions, equatorial oceans, and ocean-atmosphere exchange processes. Please send application including curriculum vitae, a statement of research interests, and names of three references by 21 March 1986 to: **Professor Thomas Rossby, Physical Oceanographer (090325) Position, THE UNIVERSITY OF RHODE ISLAND, P.O. Box 357, Kingston, RI 02881-0357**. An Affirmative Action/Equal Opportunity Employer, M/F.

POSITIONS OPEN

MOLECULAR GENETICS—POSTDOCTORAL FELLOW. A position is now available for a colleague to participate in our research characterizing the molecular basis of inheritable enzyme deficiencies of the pyrimidine pathway in humans. Experience in molecular biology and/or enzymology will be advantageous. Salary is competitive and appointment is renewable. Submit curriculum vitae, a brief description of research experience and future interests, and a list of three references to: **Dr. D. Parker Suttle, Division of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 322 North Lauderdale, Memphis, TN 38101**. An Equal Opportunity/Affirmative Action Employer.

NEUROBIOLOGIST to teach neurobiology and undergraduate human physiology and/or anatomy. Research and involvement in master's degree program is expected. Earned doctorate required. Tenure-track position begins 21 August 1986, at assistant to associate professor level. Send résumé and references by 1 March 1986 to: **Dr. Wayne Savage, Chairman, Department of Biological Sciences, San Jose State University (SJSU), San Jose, CA 95192**. SJSU is an Equal Opportunity/Affirmative Action/Title IX Employer.

NEUROBIOLOGY

A tenure-track position is available at the assistant or associate professor level in the Department of Anatomy and Cell Biology at the University of Virginia. Primary teaching responsibilities are in neuroanatomy in a medical neuroscience course, and candidates should have training in this activity. Research areas may include cellular and developmental neurobiology, neuroendocrinology, and neuroanatomy. The department stresses research, and candidates are expected to maintain an independent program of investigation. Candidates should have postdoctoral experience. The department provides opportunities for interactions with researchers in reproductive, cellular, and developmental biology. In addition, the position will include a joint appointment with the Department of Neuroscience, providing associations with colleagues in other branches of neuroscience. Interested persons should send their curriculum vitae and the names of three references to: **Dr. Charles J. Flickinger, Chairman, Department of Anatomy and Cell Biology, Box 439, University of Virginia Medical Center, Charlottesville, Virginia 22908**. An Equal Opportunity/Affirmative Action Employer.

PHARMACOLOGISTS (cardiovascular and toxicological). Tenure-track positions are available in the Department of Pharmacology, Howard University College of Medicine. Applicants must have a Ph.D. degree and have completed 2 years of postdoctoral training, and have identified an area suitable for development of a research program. Successful candidates will participate in teaching medical/graduate students. Submit curriculum vitae and the names of three references to: **Search Committee, Department of Pharmacology, Howard University College of Medicine, Washington, DC 20059**. An Equal Opportunity/Affirmative Action Employer.

The Department of Anthropology, University of Pittsburgh, anticipates hiring a **POPULATION GENETICIST** at the assistant professor level (tenure-track), pending final budgetary approval. This individual will be expected to pursue an active research program in human population genetics with an orientation toward theoretical issues. The individual should also be able to pursue research in evolutionary studies, including morphological and behavioral topics at the organismic level. The successful candidate will be expected to offer a wide range of courses on both the undergraduate and graduate levels. Deadline for applications: 14 February 1986. Send letter of application, curriculum vitae, and names of three references to: **J. M. Adovasio, Chair, Department of Anthropology, University of Pittsburgh, Pittsburgh, PA 15260**. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOW—Positions available immediately to join a research group involved with the multidisciplinary study of human and animal resistance blood vessels including their adrenergic, cholinergic, and peptidergic innervation, intrinsic tone, endothelium, and their changes in disease. Send curriculum vitae to: **Chairman, Department of Pharmacology, University of Vermont, Burlington, Vermont 05405**. The University of Vermont is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

PATHOPHYSIOLOGY

The School of Pharmacy, Campbell University, invites applications for a 12-month, tenure-track position at the level of assistant or associate professor, beginning 1 July 1986. Applicants should have a Ph.D. and broad training in physiology. While the area of specialization is open, candidates with research interests in cellular and molecular biology of endocrine action and/or molecular aspects of membrane transport are desirable. The successful candidate will participate in the teaching of physiology and biology of disease in the professional curriculum. Excellence in teaching is expected. Applications should include curriculum vitae, a statement of research and teaching objectives, and the names and addresses of three professional references to: **Dr. Harry Rosenberg, Chairman, Department of Pharmaceutical Sciences, School of Pharmacy, Campbell University, Buies Creek, North Carolina 27506**. An Equal Opportunity Employer.

POLYMER SCIENTIST to perform research and development work on emulsion and/or solution polymerization, latex technology and adhesive; using emulsion theory, mathematical modeling, reaction kinetics, reactor design methodology, and process optimization for emulsion polymerization in continuous reactor system. Require Ph.D. in chemical engineering. Salary: \$38,000 per year. Apply with résumé to: **Mr. W. J. Murphy, Aiken Job Service, P. O. Box 2418, Aiken, SC 29801, (0271743)**.

UNIVERSITY OF PENNSYLVANIA POSTDOCTORAL POSITION

Postdoctoral position (2 to 3 years) available September 1986 on research concerning the biological and pathophysiological role of human mast cell proteinases. Work includes studies on the release of these proteinases from mast cells and their interaction with components of connective tissue, for example basement membranes. It will in part require the development of immunohistochemical techniques with specific antibodies to detect the proteinases in tissue sections at the light and electron-microscope level. Antiserum to a human mast cell chymotryptic proteinase has been produced in this laboratory. Background in immunocytology and biochemistry necessary. References to past work are in *Journal of Biological Chemistry* [258, 8619 (1983)], and *Journal of Experimental Medicine* [160, 1027 (1984)]. Please contact: **N. M. Schechter, Ph.D. or G. S. Lazarus, M.D., Department of Dermatology, 229 Medical Education Building, University of Pennsylvania, PA 19104**. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available. Research involves biochemical characterization of membrane glycoprotein receptors for von Willebrand factor in blood platelets and study of receptor assembly in megakaryocytes. Experience in protein chemistry and immunology required. Send letter describing research interests, curriculum vitae, and names and addresses of three references by 15 March 1986 to: **Dr. Jonathan L. Miller, Division of Clinical Pathology, State University of New York (SUNY) Upstate Medical Center, 750 East Adams Street, Syracuse, NY 13210**. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately to study mechanisms by which tumor promoters modulate ion transport in 3T3 cells [*J. Cell Biol* 101, 2316, (1985)] and epithelia [*Am. J. Physiol* 248, C457 (1985)]. Experience with electrophysiologic techniques and/or background in membrane biochemistry desirable. Send curriculum vitae and names of three references to: **Thomas G. O'Brien, Ph.D., THE WISTAR INSTITUTE, 36th and Spruce Streets, Philadelphia, PA 19104**. Equal Opportunity Employer.

POSTDOCTORAL POSITION/HARVARD MEDICAL SCHOOL: A postdoctoral position is available early in 1986 for studies of myeloid cell differentiation. The research involves cloning of genes for cellular proteins associated with granulocyte/monocyte differentiation and investigation of the control of expression of these genes during normal differentiation and in leukemic states. Experience in molecular biological techniques is essential. Send curriculum vitae, summary of research experience, and names of three references to: **Dr. Daniel G. Tenen, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215**.

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

**Research Scientist
Statistics/Quantitative Genetics/Computers**

Individual should be interested in the application of biotechnology to plant improvement. A Ph.D. in plant breeding or genetics with knowledge of statistics, quantitative genetics, and computers is required. Individual would be involved in the evaluation of variability arising from classical and nonclassical sources, in the use of DNA polymorphisms as selection tools, and in the installation, development, and operation of a central computing facility linking exterior breeding locations and providing analytical support to plant scientists working with corn, soybeans, and wheat. Send resume and three references to:

Manager, Research Administration
United AgriSeeds
P.O. Box 4011
Champaign, IL 61820



An Equal Opportunity Employer

**1986 DISTINGUISHED VISITING
SCIENTISTS PROGRAM**

*for research in laboratories of the
U.S. Environmental Protection Agency*

EPA's Office of Research and Development is seeking distinguished scientists or engineers to participate in the Agency's Distinguished Visiting Scientists Program in the following areas: ground water research, measurement methods, transport and fate, and hazardous waste reduction and control. Appointments, which will be at an EPA laboratory, may be on a full- or part-time basis, and up to three years in duration. The terms of the appointment, including salary, travel expenses and equipment allowances are negotiable and will be tailored to meet the research objectives of each successful candidate.

Please submit by March 21, 1986, a letter of interest, a curriculum vitae, and a brief description of specific research to:

**Roger S. Cortesi, Acting Director
Office of Exploratory Research (RD-675)
U.S. Environmental Protection Agency
401 M Street, Southwest
Washington, DC 20460**

For further information concerning the program, contact Dr. Cortesi, phone 202/382-5750.

**POSTDOCTORAL
APPOINTMENTS
IN MECHANISMS
OF TOXICOLOGY**

The Lovelace Inhalation Toxicology Research Institute offers outstanding opportunities to recent (within last 36 months) doctoral degree graduates to train at its internationally recognized laboratory in Albuquerque, New Mexico. Two year appointments are available for individuals with the following training:

- Doctoral degree in fields such as Biochemistry, Pharmacology, Toxicology, Molecular Biology, Chemistry, Medicinal Chemistry, Biophysics, Experimental Pathology or related fields.
- Three to four years of laboratory experience of the type typically associated with rigorous doctoral degree program.

The successful applicants will have the opportunity to work with our multidisciplinary staff of 50 doctoral degreed scientists in a modern and well equipped research environment. A wide spectrum of activities are under way including research to understand the physical and chemical properties of airborne materials and how these properties influence their toxicity, the toxicokinetics of inhaled materials and mechanisms of toxicity in mammals using *in vitro* and *in vivo* systems. Major investigations focus on the biology and pathobiology of the respiratory tract with emphasis on studying mechanisms of induction of respiratory tract cancer.

These appointments will enhance the career options of individuals with good communications skills who desire to work in a multidisciplinary team environment. Starting stipend of \$20,000 per annum plus relocation and comprehensive health care benefits. U.S. Citizenship or permanent residency required. To apply, contact the Personnel Unit, Lovelace Inhalation Toxicology Research Institute, (505) 844-9431, or write to: P.O. Box 5890, Albuquerque, NM 87185.

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

POSTDOCTORAL POSITIONS available immediately to study the molecular genetics of early mammalian development. Specific research areas include the use of teratocarcinoma stem cells, and homeobox genes to study mouse embryogenesis and gametogenesis. Experience in molecular biology, cell biology, or somatic cell genetics is required. Interested individuals should send curriculum vitae and reference to: **Dr. Chi Nguyen-Huu, Departments of Microbiology and Urology, Columbia University College of Physicians and Surgeons, 630 West 168 Street, New York, NY 10032. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available 1 March 1986 to study the role of cytosolic calcium and pH in the organization of the cytoskeleton during intracellular endosome movement and receptor recycling. These studies entail the use of digitized fluorescence video microscopy combined with computer-aided image reconstruction of endosome and cytoskeletal components in single intact living cells. Please send curriculum vitae and names and addresses of three references to: **Brian Herman, Laboratory for Cell Biology, Department of Anatomy, University of North Carolina, Chapel Hill, 111 Swing Building 217H, Chapel Hill, NC 27514. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately to study the molecular biology and regulation of expression of nuclear genes coding for chloroplast-localized enzymes involved in ammonia assimilation. Research involves recombinant DNA technology and a wide variety of biochemical and immunochemical procedures. Ph.D. in biochemistry, plant or microbial molecular biology, or related area. Salary: \$18,000 per year. **Dr. Robert R. Schmidt, Graduate Research Professor, Department of Microbiology and Cell Science, 1059 McCarty Hall, University of Florida, Gainesville, FL 32611; telephone: 904-392-0237**

POSTDOCTORAL POSITION GRAY FRESHWATER BIOLOGICAL INSTITUTE

Applicants are currently being sought for a postdoctoral research position in Dr. Kamil Ugurbil's laboratory at the Gray Freshwater Biological Institute. Applicants must have a Ph.D. degree in biochemistry, chemistry, biophysics, or related field with experience in nuclear magnetic resonance (NMR) spectroscopy. NMR experience with applications to intact cells, tissues, or whole animals is desired. This position involves studies of cardiac metabolism and function using multinuclear NMR spectroscopy.

Applications must be received by 15 February 1986. Applicants should be able to start as soon as possible after 5 March 1986. Starting salary range is \$18,000 to \$21,000. Applicants are asked to submit a letter describing their scientific background, curriculum vitae, and three letters of recommendation to:

**Dr. Kamil Ugurbil
Gray Freshwater Biological Institute
P.O. Box 100
Navarre, MN 55392
Telephone: 612-471-9291**

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

PROFESSOR OF RADIATION BIOLOGY, Department of Radiation Therapy, Harvard Medical School at Massachusetts General Hospital. This is a new position and is tenured and for a full-time laboratory investigator. The candidate should have a record of productive research in the area of biology (radiation biology not required) of malignant or normal tissues. The research of the new professor is planned to expand an ongoing laboratory research program in the department of seven established laboratory investigators. A special research facility is the defined flora and pathogen free mouse colony (C3H/Sed, NCR(nu/nu), XID); these mice can be made available in quantity. *We are an Equal Opportunity Employer.*

Please write to:

**H. D. Suit
Box 301
Radiation Medicine Service
Massachusetts General Hospital
Boston, MA 02114**

POSITIONS OPEN

POSTDOCTORAL POSITION NEUROENDOCRINOLOGIST REPRODUCTION

With research group studying seasonal reproduction, biological rhythms, and photorefractoriness. Background in neurobiology/neuroanatomy preferred. Available winter 1986; salary according to NIH scale. Send statement of interest, curriculum vitae, and names of three references to: **Fred J. Karsch, Reproductive Endocrinology Program, Developmental and Reproductive Biology, 300 North Ingalls Building, The University of Michigan, Ann Arbor, MI 48109. A non-discriminatory/Affirmative Action Employer.**

POSTDOCTORAL POSITION

FISH ECOLOGY—Persons with research experience or interests in larval fish ecology, fish community dynamics, regulation of fish production and recruitment, or related areas, should send curriculum vitae, statement of research experience and interests, and arrange to have three letters of reference forwarded to: **Dr. W. C. Leggett, Department of Biology, McGill University, 1205 Avenue Drive Penfield, Montreal, Canada H3A 1B1. Deadline 20 February 1986.**

POSTDOCTORAL RESEARCH ASSOCIATE/CELLULAR NEUROPHYSIOLOGY. Position available 1 May or as soon as possible thereafter, for 1 year, renewable at least once, to study the effects of hypoxia on mammalian CNS tissue in vitro, using electrophysiological techniques. Salary between \$18,000 and \$20,000 for first year, depending on previous experience. Send letter of application, curriculum vitae and reprints, and arrange for three letters of reference to be sent to: **Dr. George Somjen, Department of Physiology, Box 3709, Duke University Medical Center, Durham, NC 27710. Duke University is an Equal Opportunity/Affirmative Action Employer.**

PRINCIPAL INVESTIGATOR/ASSOCIATE MEMBER—Candidates must be able to conduct an original and effective research program in macromolecular structure-function relationships. Research will involve using biophysical techniques, such as nuclear magnetic resonance spectroscopy, to develop new methods of analysis of molecular structure and dynamics. Will be required to design and implement an experimental plan of research, supervise technical and professional laboratory personnel, interpret and publish research results and write applications to granting agencies to obtain funding. Ph.D. in biophysics and proven ability to conduct original research into the structural and dynamic properties of proteins using 2-dimensional NMR techniques required. Ability to develop and refine NMR spectroscopic methods of analysis as applied to large proteins and design and write software for data analysis also required. Minimum 2 years of research or work experience in chemical and kinetic mechanisms of enzyme catalysis is required. 37.5 hours per week; 8:45 a.m. to 5 p.m. Annual salary is \$38,000. Qualified applicants should send curriculum vitae, reprints, the names of three professional references, and other relevant material to the **Philadelphia Job Bank, 444 North 3rd Street, Philadelphia, PA 19123. Refer to Order Number 4074412. Equal Opportunity Employer, M/F.**

NSERC—UNIVERSITY RESEARCH FELLOWS

The University of Saskatchewan, Department of Biology, invites applications for research professorships in the following fields: forest ecology, vertebrate zoology, limnology, and plant pathology. Candidates who succeed in the NSERC open competition will be appointed at the assistant professor level. Remuneration will be based on the current salary scale at the University of Saskatchewan (1 April 1986: \$29,501 to \$38,009).

Applicants must hold the Ph.D. degree and have at least 2 years of postdoctoral experience. Only those who have a demonstrated ability to carry out productive and independent research of a high calibre will be considered. NSERC fellowships are open only to Canadian citizens or permanent residents of Canada.

Qualified individuals should send their curriculum vitae, a brief description of their research objectives, and the names of three referees before 15 April 1986 to:

Dr. John King, Head, Department of Biology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0.

POSITIONS OPEN

The **RESEARCH SCHOOL OF CHEMISTRY** of the **AUSTRALIAN NATIONAL UNIVERSITY** invites application for **POSTDOCTORAL RESEARCH POSITIONS**. Major research interests in physical and theoretical chemistry include: novel materials; low dimensional phenomena including interfaces; neutron scattering (**Professor J. W. White**); spectroscopy and photochemistry (**Dr. J. Ferguson**); photophysics and magnetic resonance (**Dr. R. Bramley**); NMR spectroscopy, structure and dynamics of macromolecules (**Dr. L. R. Brown**); x-ray diffraction and theoretical studies of disordered materials (**Dr. T. R. Welberry**); liquid state chemical physics (**Dr. D. J. Evans**); theoretical organic chemistry (**Dr. L. Radom**). Salary ranges: postdoctoral fellow (graded at a fixed point) A\$23,473 to \$26,889 per annum; research fellow A\$27,233 to \$35,777 (graded at a fixed point); (A\$1:=\$US.68c). Reasonable travel expenses. Assistance with housing. Maternity leave. Superannuation. There is no application form. Applicants should supply to: **The Registrar, Australian National University, G.P.O. Box 4, Canberra, A.C.T. 2601, Australia**, by 15 March 1986, curriculum vitae, list of publications, statement of research interests, two passport-sized photographs, names and addresses of three academic referees, and probable date on which the fellowship, if awarded, could be taken up, and quote Reference Number RC:12.12.1

The University is an Equal Opportunity Employer.

UNIVERSITY OF COLORADO, BOULDER invites applications for a **PROFESSIONAL RESEARCH ASSISTANT** to support supercomputing on campus. The university uses a high-speed satellite link to the John von Neuman Center (JVNC) in Princeton, New Jersey. Responsibilities include assisting researchers in the effective use of CYBER 205 and other supercomputers; development of schemas for job submission, file transfers and other utilities between local machines, the front and processors, and the CYBER 205; interaction with JVNC staff; and support of graphics and communications packages. Qualifications include extensive hands-on experience in supercomputing, a background in academic research, master's degree (minimum), and a strong interest in the application of high end computing in science. Salary range: \$25,000 to \$40,000, depending on qualifications/experience. Send résumé to:

**Search Committee, Supercomputing
University of Colorado
Campus Box 455
Boulder, CO 80309-0455**

Applications must be postmarked by 22 February 1986. *The University of Colorado is an Affirmative Action/Equal Opportunity Institution.*

R & D MANAGER CELL CULTURE

The Biochemicals Division of Boehringer Mannheim Corporation seeks an experienced scientist to establish in Indianapolis a program to develop new serum-free media. Applicants must have a Ph.D. in cell biology or similar science with experience, preferably in industry, in the culture of a wide variety of cell types and in developing serum-free media.

This position offers competitive salary, comprehensive benefits, and an excellent opportunity for career growth. Qualified candidates should send resumes to: **Director, Technical Services, Boehringer Mannheim Biochemicals, P.O. Box 50816, Indianapolis, IN 46250.**

Equal Opportunity/Affirmative Action Employer. No agencies, please.

STREAM ECOLOGIST. UNIVERSITY OF KANSAS, KANSAS BIOLOGICAL SURVEY. Assistant scientist. Ph.D. in biology, ecology, environmental science, or related area required. Full-time appointment. Responsibilities include development and maintenance of active research program. Suitable research could include interaction of lotic and lentic systems, stream flow analysis, and modeling; physical, chemical and hydrological properties of lotic, and lentic systems. Postdoctoral research experience preferred. Send curriculum vitae, publications, statement of goals, and three letters of recommendation by 14 March 1985, 5:00 p.m., to: **Dr. Frank deNoyelles, Jr., Chairman, Search Committee, Kansas Biological Survey, 2291 Irving Hill Drive, Campus West, University of Kansas, Lawrence, KS 66045-2969.**

POSITIONS OPEN

RESEARCH ASSOCIATE

Immunologist (Ph.D.) with at least 3 years of postdoctoral experience in hybridoma technology and biochemistry, for immunoassay of cell surface antigens and development of immunodiagnostics. Salary: \$24,000 per annum. Send curriculum vitae and three letters of recommendation to: Jack Hiltzheim, Tennessee Job Service, 1295 Poplar, Memphis, TN 38104.

RESEARCH ASSOCIATE DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING CORNELL UNIVERSITY

A position as research associate is available for research in ultrahigh pressure materials science. In addition to the research program, the duties will include guidance of graduate research programs and collaboration with other research activities in the department and university. The applicant for this position should have experience with diamond anvil cells (DAC) to above 900 kbars, experience with solidified gases in DAC to these pressures, experience in optical and x-ray diffraction measurements at these pressures, and experience in the use of synchrotron radiation facilities. A Ph.D. in physics is required. Salary range is between \$28,000 to \$32,000, depending upon experience. *Cornell is an Affirmative Action/Equal Opportunity Employer.* Send résumé to: Priscilla Ingalls, Bard Hall, Cornell University, Ithaca, NY 14853.

RESEARCH INSTRUCTOR to participate in teaching medical, dental and graduate students and to study cellular regulation of IgA synthesis in murine and human Peyer's patches. Requires experience in cellular immunology, isolation of lymphoid and accessory cell populations, cell cloning and hybridoma technology, and general immunochemical techniques. Will be expected to initiate studies on effector cell activities at mucosal sites. Position available now to: **Ph.D. with 1 to 2 years of postdoctoral experience.** Starting salary will be \$22,000 per year. Send curriculum vitae and three references by 28 February 1986 to: **Dr. J. R. McGhee, Department of Microbiology, University Station, University of Alabama at Birmingham, Birmingham, Alabama 35294.** *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH SCIENTIST

Participate in the implementation of biological development projects, specifically animal vaccine production. Conduct research and development of the techniques and effects on bacterial organisms growth utilizing accepted scientific practices, and laboratory and research techniques. Study and evaluate the effectiveness of bacterial products in their actual application of vaccine production on live animals, all for the purpose of producing high, low cost vaccines for animal health industry. Master's in biology, zoology, biochemistry, or related field with 2 years of experience in this job or 2 years of research experience involving animal bacteriology. Must be familiar with bacterial growth, purification of bacterial products, and bacterial enzyme production. Must have research publications on bacteriology. Forty hours per week. Salary: \$23,000 per year. Job site in Athens, Georgia. Send this ad and résumé to: **Mr. Donald G. Hildebrand at 117 Rowe Road, Athens, GA 30601.**

RESEARCH SCIENTISTS

The Biomedical Research Station of the Orentreich Foundation is in search of several scientists (M.S./Ph.D.) wishing to participate in an interdisciplinary program of research in areas of endocrinology, aging, cancer, and neurophysiology. The laboratories are situated in a 150 acre site in Cold Spring, just 55 miles from New York City. Successful candidates should have 1 to 3 years of background experience in either biochemistry, pharmacology, or immunology. Some background in molecular biology will be helpful. Along with strong communication and organizational skills, the candidates are expected to develop independent and innovative programs of research. Applicants should send curriculum vitae, three references, and a statement of research interests by 15 March 1986 to:

**Jonathan R. Matias
Biomedical Research Station
Orentreich Foundation for the
Advancement of Science
RD 2, Box 370A
Cold Spring, NY 10516**

ASSOCIATE MANAGER, DIAGNOSTIC PRODUCT DEVELOPMENT

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TAMBRANDS INC., makers of Tampax tampons, Maxithins pads and panty shields and First Response Diagnostic Kits, with revenues exceeding \$400 Million, is seeking an Associate Manager, Diagnostic Product Development, for our Palmer, Massachusetts Research & Development Center.

The ideal candidate will have a Ph.D. or Master's degree in Immunology or Chemistry, with at least 3-5 years of experience in the biotechnology of home or professional diagnostics. Knowledge of monoclonal and polyclonal antibodies, clinical chemistry and infectious diseases required.

The incumbent will manage product development projects and generate ideas leading to the development and manufacture of new products. This position requires excellent communications skills—both within the organization and with external subcontractors.

We offer a competitive salary, excellent benefits and an outstanding relocation package.

Qualified applicants should forward their resume and salary history in strict confidence to: **Manager-Employee Relations, TAMBRANDS INC., P.O. Box 271, Palmer, MA 01069.** We are an equal opportunity employer, m/f/h/v.

TAMBRANDS INC.

ENVIRONMENTAL TOXICOLOGIST

Union Carbide Agricultural Products Company, Inc. is one of the worldwide leaders in the development, manufacture and use of agricultural chemicals. We are highly regarded for our efforts to ensure that compounds meet existing and projected Governmental environmental safety requirements. In order to maintain our excellent reputation, we currently seek an Environmental Toxicologist to assure that necessary technical data are collected through various studies to meet national and international regulatory requirements, as well as stringent Corporate requirements.

The individual we seek will be responsible for the generation of environmental toxicological data, the preparation of environmental safety reports and the development of worker and involuntary exposure data. The successful candidate will oversee awarding of appropriate study contracts and all scientific aspects of conducting and evaluating studies.

Excellent opportunities exist for a professional with a Ph.D. in an appropriate scientific discipline with a range from 5 to 10 years' experience in a field of Environmental Chemistry or Environmental Toxicology. Knowledge of avian, fish, insect and wildlife biology is desirable. Knowledge of field uses of agricultural chemicals is important for the development of exposure data.

In return for your expertise, we offer a competitive salary, excellent benefits, good relocation assistance and the opportunity to make a significant contribution to a prestigious company. For prompt and confidential consideration, forward a resume, including salary history and requirements, in confidence to: **Employment Coordinator, Employee Relations Department, Union Carbide Agricultural Products Company, Inc., P.O. Box 12014, Research Triangle Park, NC 27709.** We are an equal opportunity employer.

UNION CARBIDE AGRICULTURAL PRODUCTS COMPANY, INC.

POSITIONS OPEN

RESEARCH SPECIALIST Molecular Evolutionary Genetics

A long-term, full-time position is available immediately for an individual with a Ph.D. degree in molecular biology and at least 2 years of research experience in protein and recombinant DNA techniques. The successful candidate will work as part of an interdisciplinary research team on the molecular genetics of host selection, host race formation and speciation of *Rhagoletis* fruit flies, and provide assistance to the project leader in laboratory management and student training. Beginning salary: \$20,000, plus fringe benefits. Applicants should send curriculum vitae and arrange for three letters of reference to be forwarded to: **Dr. Guy L. Bush, Department of Zoology, Michigan State University, East Lansing, MI 48824.** MSU is an Affirmative Action/Equal Opportunity Institution.

SCIENCE—ASSOCIATE PROFESSOR—SECONDARY SCIENCE COORDINATOR. The University of Delaware is seeking an experienced scientist with interest in secondary education and the willingness to make a long-term commitment to coordinate such a program in biology, chemistry, earth science, and physics. Responsibilities include liaison with local schools and state agencies, teaching of a pedagogical course for prospective science teachers, and supervision of student teachers. Appointment will be in a science department in the College of Arts and Science, and is available 1 September 1986. The successful candidate must have a Ph.D. in a science field and will be expected to continue productive research in a scientific discipline or in the teaching and learning of science. Send letter of application, curriculum vitae, and names and addresses of three references by 1 March to: **Dr. David W. Smith, Chair, Search Committee, School of Life and Health Sciences, UNIVERSITY OF DELAWARE, Newark, DE 19716.** The University of Delaware is an Equal Opportunity Employer which encourages applications from minority candidates and women.

SENIOR APPOINTMENT IN MOLECULAR IMMUNOLOGY

The Department of Microbiology of the University of Pennsylvania School of Medicine is planning to make a senior, tenured appointment of an established scientist in the area of molecular immunology. This appointment will involve the development of a research program that will complement existing programs in immunobiology and immunogenetics. The selected candidate will also participate in the educational activities of the medical school and biomedical graduate programs. Only applicants with a substantial publication record of significant contributions and a successful record of competitive funding will qualify for consideration. The projected starting date is January 1987. Interested individuals should submit, as soon as possible, curriculum vitae, bibliography, three or more references, and a statement of future research plans to: **Dr. Fred Karush, Department of Microbiology, University of Pennsylvania, School of Medicine, Philadelphia, PA 19104-6076.** The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.

TUMOR AND CELLULAR RADIOBIOLOGIST—The Division of Radiobiology, Department of Radiology, Stanford University School of Medicine has an opening for an established tumor and cellular radio- or chemobiologist at the research associate level. Candidates should have had at least 3 years of experience in assaying the effects of radiation and/or chemotherapeutic agents on tumor cells in vitro and in vivo by clonogenic assay. Experience with culture of tumor cells in multicellular spheroids, endpoints of normal tissue damage by radiation and drug pharmacokinetics would also be an advantage. Successful candidate will join group designing, synthesizing and evaluating new radiosensitizers and potentiators of chemotherapy. Salary range: \$27,000 plus, depending on years of experience. Applicants should submit curriculum vitae and the names and addresses of three references to: **Dr. J. Martin Brown, Director, Division of Radiobiology, Department of Radiology, Stanford Medical Center, Stanford, CA 94305.**

Stanford University is an Equal Opportunity Employer and welcomes nominations of Women and Minority group members and applications from them.

POSITIONS OPEN

SOIL MICROBIOLOGY faculty position at Oregon Graduate Center Water Research Laboratory. Outstanding individual with commitment to research in pollution of natural waters and excellence in graduate teaching is sought. Appointment to be made at assistant professor level or higher. A Ph.D. in the sciences or engineering is necessary. Send curriculum vitae, one-page statement of research interests, and names, addresses, and telephone numbers of three references to: **Dr. J. F. Pankow, WRL, Oregon Graduate Center, 19600 N.W. Von Neumann Dr., Beaverton, OR 97006.** Closing date: 15 April 1986. Affirmative Action Employer.

The California Department of Food and Agriculture has several **STAFF TOXICOLOGIST** positions in Sacramento. Ph.D. in toxicology or related science followed by 3 years of recent, related experience is required. The work is primarily review of animal toxicology studies done to support pesticide/registration applications and required risk assessments. Salary: \$3663 to \$4430 per month. Submit résumés to: **Department of Food and Agriculture, 1220 N Street, Room 126, Sacramento, CA 95814,** by 7 March 1986.

SYSTEMS ANALYST for software development firm in northeastern Ohio to design artificial intelligence software systems for business applications using general systems approach to accommodate a spectrum of alternative theories and assumptions. Design for judgmental and subjective aspects of reality which are prevalent because of uncertainties and lack of information. To provide a systems approach for assimilating change to the parameters and structure during analysis or the decision-making process itself rather than only before or after the process. Requires M.S. degree in systems engineering. Other requirements: Advanced expertise in mathematical general systems theory as documented by at least one graduate course in the area; participation in research projects on world system models; some experience, or at least exposure, to the use of such models in public and private sectors is essential; and proven research ability (thesis) in interactive multicriteria decision analysis and original software development, particularly in relationship to mathematical general systems theory, world system models, and models in the public and private sectors. Forty-hour week; \$29,000 per year. Send résumé with this ad to: **Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, Ohio 43216,** Attention: Job Number 0275045, L. Ellison.

TOXICOLOGY

Applications are invited for two tenure-stream positions in toxicology/pharmacology, one senior and the other at junior rank. Major responsibilities will be in toxicology and pharmacology in the pharmacy program, with lesser duties in new toxicology graduate program.

Successful candidates will be expected to develop independent research in toxicology in relation to drugs, drug residues, and toxic chemical metabolism in collaboration with Departments of Biochemistry, Chemistry, and Medicine.

Applicants must have a Ph.D. in an area relevant to toxicology and a background in pharmacy or pharmaceutical sciences would be useful. Evidence of successful teaching and established research, particularly for the senior position, will be required. Appointment subject to final budgetary approval. Salary negotiable.

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and landed immigrants. Applications, with curriculum vitae and the names of three referees, should be directed to: **Dr. Gerald R. Duncan, D.Phil., M.C.I.C., Director, School of Pharmacy, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3V6.**

VISITING SCIENTIST positions are available for new and established Ph.D.'s and/or M.D.'s in the areas of cell and molecular biology. Some experience in either area is desirable, but not essential. Appointments will be made for at least 2 years at an annual salary up to \$25,000, depending on qualifications and experience. Interested applicants should send curriculum vitae and three names of reference to: **Personnel Manager, W. ALTON JONES CELL SCIENCE CENTER, 10 Old Barn Road, Lake Placid, New York 12946.** Please refer to Job Order VS-8508.

An Affirmative Action-Equal Opportunity Employer.

GRADUATE STUDY

GRADUATE STUDIES IN MEDICAL BIOCHEMISTRY. The Department of Biochemistry, Rush-Presbyterian-St. Luke's Medical Center in Chicago invites applications from biology and chemistry graduates for admission to its graduate program leading to the Ph.D. degree. Benefits include tuition waiver, stipends of \$7,500 per annum, and an opportunity to work in pharmaceutical industry research laboratories in the U.S. and Europe. The department emphasizes research in connective tissue biochemistry. Contact: **Dr. A. Bezkorovainy, Director of Graduate Program, Biochemistry Department, Rush-Presbyterian-St. Luke's Medical Center, Chicago, IL 60612.**

PROGRAMS

M.S. DEGREE IN APPLIED MOLECULAR BIOLOGY

The University of Maryland, Baltimore County, offers a 2-year, highly laboratory-intensive program leading to a master's degree in applied molecular biology. The program, in which ten biotechnology companies participate, is designed primarily to supply highly qualified research personnel for industry. Formal laboratory courses, exclusive to this program, are in recombinant DNA methods, microbial genetics, and hybridoma production. Research internships, both at a company and on-campus, are arranged. For information write:

**Dr. Richard E. Wolf, Jr.,
AMB Program Director
Biological Sciences Department
University of Maryland, Baltimore County
Catonsville, MD 21228**

ASSISTANTSHIPS

GRADUATE ASSISTANTS—The Department of Bacteriology and Biochemistry has several graduate assistantships (September 1986) for research-oriented M.S. and Ph.D. students. Active research programs in this rapidly growing department include the biochemistry and molecular biology of fungi, bacteria, viruses, and plants and bioprocessing with these organisms. Write: **Chairman, Department of Bacteriology and Biochemistry, University of Idaho, Moscow, Idaho 83843.**

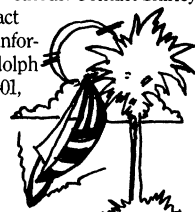
EXCHANGES

U.S.—CHINA EXCHANGES: Join anatomy, physical anthropology delegation on 18-day trip to China. Sponsored by U.S., nonprofit organization for interaction with Chinese counterparts, all inclusive price (\$3,980) deductible delegate, partly deductible for companion. Leave San Francisco 24 April 1986. Send inquiries immediately to: **F. Schultze-Ellis, Ph.D., Anatomy, Maryland University Medical School, 655 West Baltimore Street, Baltimore, MD 21201.** Telephone: 301-528-7255.

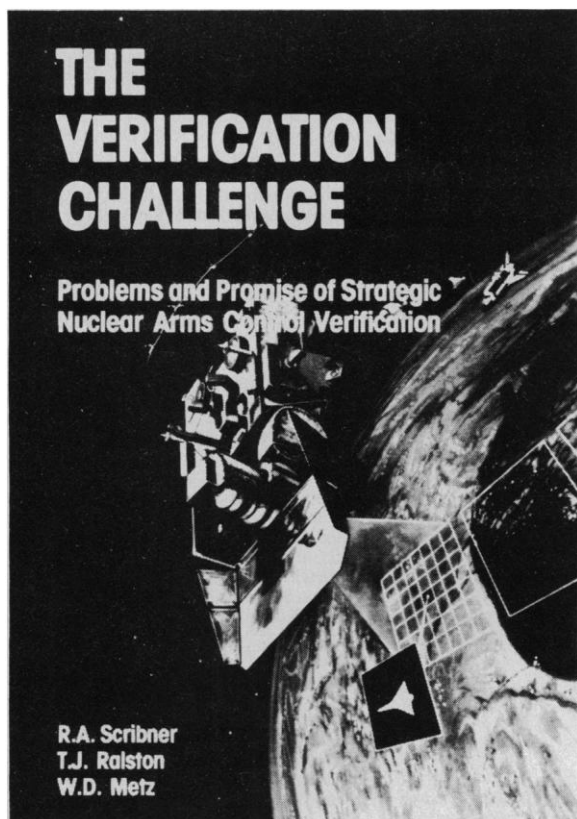
CALL FOR ABSTRACTS

LAST CALL!

Abstracts for the Membrane Protein Symposium are due on February 15, 1986. The Symposium will be held Aug 3-6, 1986 at the Sheraton Hotel, Harbor Island, San Diego. The program will include original research in structure, ion channels, transport, receptors, signal transduction, and new methods. Contact Shirley Schlessinger for abstract forms and registration information at 400 E. Randolph Street, Chicago, IL 60601, or call (312) 527-2011.



New from AAAS



The Verification Challenge

Problems and Promise of
Strategic Nuclear
Arms Control Verification

by
*Richard A. Scribner,
Theodore Ralston, and
William Metz*

Published by Birkhäuser Boston for AAAS

The most urgent challenge facing the superpowers and the world today is avoiding the use of nuclear weapons. Yet in recent years, a less-than-perfect ability to verify agreements with the Soviet Union has often been cited as reason to shun arms control agreements altogether.

The Verification Challenge draws on the guidance of knowledgeable experts to inform citizens about the prospects and problems of verification. It explains how intelligence monitoring and collection work, what is involved in verifying specific arms control provisions, and the history of Soviet and U.S. compliance. Underlying principles as well as technical and operating details are discussed in a clear and understandable way. This volume is essential reading for those desiring to understand better what is possible in the superpower Geneva negotiations and for anyone concerned about the future of nuclear arms control and global security.

1985; 249pp.; with satellite photographs and graphs; indexed

Softcover: \$18.75, \$15.00 for AAAS members; ISBN 0-8176-3308-1

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First Floor, Washington, DC 20005.

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SYMPOSIUM

CALCIUM BINDING PROTEINS SYMPOSIUM

The Fifth International Symposium on Calcium Binding Proteins in Health and Disease will be held 30 November to 5 December 1986 at the Asilomar Conference Center in Pacific Grove, California.

Provisional topics to be covered will include recent advances in (i) extracellular Ca binding and low-affinity Ca interactions, (ii) intracellular (high affinity) Ca binding proteins. Structure, genetics, evolution function, (iii) Ca-membrane interactions, including the Ca binding proteins intrinsic to membranes, (iv) Ca and muscle contraction, and (v) Ca role in complex metabolic processes and in some selected pathological conditions.

For registration and further information, please write: Dr. Anthony W. Norman, Secretary, Organizing Committee, Department of Biochemistry, University of California, Riverside, CA 92521; telephone: 714-787-4777.

CONFERENCE

THIRD CONFERENCE ON PROGRESS IN CHEMICAL DISINFECTION (CD-III) 3 TO 5 APRIL 1986

ABSTRACT DEADLINE FOR POSTERS: 15 FEBRUARY 1986. CD-III is a multidisciplinary conference with symposia on industrial application, point-of-use water treatment, giardia, and nonclassical chemical disinfectants plus, a general session and poster session for submitted papers. Opening lectures will be presented by Dr. S. S. Block, Dr. W. B. Hugo, and Dr. A. D. Russell. (Pre)registration fee is \$65 and includes full proceedings. For information, write to: Gil Janauer, Chairman CD-III, c/o Chemistry Department, State University of New York, Binghamton, NY 13901, or telephone: 607-777-6309.

TRAINEESHIPS

NIH TOXICOLOGY TRAINEESHIP POSTDOCTORAL position available for U.S. citizen or persons with permanent visa. Individual with a recent Ph.D. in statistics, applied mathematics, or pharmacokinetics, with an interest in biomedical research will quantify and model toxic potential of drugs and xenobiotics to the kidney, model percutaneous xenobiotic absorption in an isolated perfused skin preparation, and devise techniques for conducting inter-species extrapolation and pharmacokinetics data. The appointment is renewable annually for a maximum of 3 years, with starting salary of \$15,996. Available 1 August 1986. Send résumé and names of three references to: Dr. J. E. Riviere, Laboratory of Toxicokinetics, School of Veterinary Medicine, North Carolina State University, Raleigh, NC 27606; telephone: 919-829-4200.

FELLOWSHIPS



HARVARD SCHOOL OF PUBLIC HEALTH DOCTORAL PROGRAM IN THE LABORATORY SCIENCES IN ENVIRONMENTAL HEALTH Division of Biological Sciences in Public Health

An interdisciplinary doctoral program offers graduate training in the laboratory sciences in environmental health. Faculty interests include pulmonary defense mechanisms and response to inhaled particulates; molecular mechanisms of mutagenesis; the metabolism of xenobiotic compounds; cell transformation and anticarcinogenesis; DNA damage and repair; regulation and cloning of DNA repair genes; animal and human cell culture models for organ specific chemical injury; chemical and physical analysis of environmental and occupational samples; mechanisms of action of tumor promoters and dioxins, and environmental factors affecting cardiovascular and respiratory function. Stipends and tuition assistance available. *Expression of interest is particularly invited from women and minority candidates.* Contact: Rebecca Siebens, c/o Laboratory of Toxicology, Harvard School of Public Health, 665 Huntington Avenue, Boston, MA 02115.

FELLOWSHIPS

INTERNATIONAL CANCER RESEARCH FELLOWSHIP

The Hayashibara and Mutual Aid Fund, a nonprofit-making organization within the Hayashibara Group, announces a fellowship program. Two awards will be made annually. Fellowship will be taken up at the newly opened Fujisaki Cell Center, which is devoted to the basic and applied research related to the problems in human cancer. The fellowship is normally made for 1 year and is renewable for up to 5 years. The fellowship will be expected to commence within 6 months of the announcement of the awards. The awards are for high-quality research work in one of the three categories described below.

- 1) Fundamental leukemia-lymphoma research,
- 2) Cytokine-lymphokine research,
- 3) Hematopoietic cell cultures.

Qualified person who has a Ph.D., an M.D., or equivalent qualifications will be awarded on merit to suitably qualified research proposal and experiences. Additional information and application forms will be obtained from: Jun Minowada, M.D., Director, Fujisaki Cell Center, 675-1, Fujisaki, Okayama 702, Japan.

MOLECULAR NEUROBIOLOGY POSTDOCTORAL FELLOWSHIPS. To join a group studying early development of the nervous system we require (i) a molecular biologist experienced in hybridoma technology or nucleic acid hybridization (ii) an electron microscopist experienced in immunocytochemistry. Apply to: Marcus Jacobson telephone: 801-581-6720, Department of Anatomy, University of Utah Medical School, Salt Lake City, UT 84132. *The University of Utah is an Equal Opportunity Employer.*

HARVARD SCHOOL OF PUBLIC HEALTH POSTDOCTORAL FELLOWSHIPS



Interdisciplinary Programs in Health (IPH) invites applications from promising graduates of advanced degree programs in the natural or social sciences interested in turning to research in environmental health and public policy. The program focuses on the scientific and analytical foundations for environmental decisions. In addition to individual research, recent group projects include monographs on the molecular and cellular basis of toxicity, and the susceptible individual and environmental regulation. Further studies will be adapted to interests of fellows. Studies on groundwater contamination and risk analysis are under consideration.

Fellows will be appointed for a term of 1 year starting September 1986. Award may be renewed. Application deadline: 7 March 1986. Decisions announced in May.

For information, write to:

Professor Donald F. Hornig
Director, IPH
Harvard School of Public Health
665 Huntington Avenue
Boston, MA 02115

PREDOCTORAL FELLOWSHIPS IN BIOMEDICAL AND PHYSICAL SCIENCES

Physics	Biochemistry	Molecular Cell Biology
Biology	Oral Biology	Computer Science
Chemistry	Pharmacology	Biophysical Sciences
Physiology	Biomathematics	Physiological Optics
Pathology	Biostatistics	Biomedical Engineering
Genetics	Neuroscience	Materials Engineering
Virology	Medical Genetics	Medical Psychology
Immunology	Public Health	Cell Biology and Anatomy

Well-funded faculty with diverse interests. Good post-graduation placement record. Above average stipends include payment of tuition. Contact: The Graduate School (A), University of Alabama at Birmingham, Birmingham, AL 35294; telephone 205-934-8246. *Equal Opportunity/Affirmative Action Institution.*

FELLOWSHIPS

MCKNIGHT FOUNDATION FELLOWSHIPS IN INTERDISCIPLINARY PHOTOSYNTHESIS RESEARCH

The University of Illinois at Urbana-Champaign has recently received notification of a McKnight Award for Interdisciplinary Research in Photosynthesis, starting 1 June 1986. The McKnight research group, consisting of 12 faculty members, represents diverse interests in photosynthesis and is drawn from several departments including agronomy, plant biology, biophysics, and physiology, and from the U.S. Department of Agriculture, Agricultural Research Service. The program will support a limited number of **graduate and postdoctoral** research fellowships to carry out collaborative research projects that cross traditional lines of research expertise.

For further information, write:

Dr. Donald R. Ort
Department of Plant Biology
University of Illinois
505 South Goodwin Avenue
Urbana, IL 61801

The University of Illinois is an Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIP IN MOLECULAR BIOLOGY/IMMUNOLOGY OF PARASITES: University of Pennsylvania. Program seeks to apply molecular biological and immunologic techniques to the study of immunopathology and resistance induced by exposure to schistosoma, trichinella, and malaria. Opportunities exist for both basic laboratory and applied clinical studies. Please send curriculum vitae, descriptive letter of interests, and names of three references to: S. Michael Phillips, M.D., Geographic Medicine, Immunology, 519 Johnson Pavilion, University of Pennsylvania, School of Medicine, Philadelphia, PA 19104.

RESEARCH FELLOWSHIP

Immediate postdoctoral position in physiology of aging/CNS temperature control relations. Projects involve radioimmunoassay of central peptides, production of antisera, CNS tissue sampling, thermoregulatory measures in laboratory animals. The aim is to learn whether central alterations in neuropeptides, or in central sensitivity to them, can account for changes in thermoregulation in aged homeotherms. Salary commensurate with experience. Send curriculum vitae, references, and letter outlining experience and interests to: J. M. Lipton, Ph.D., Neuropeptide Research Division, Department of Physiology, University of Texas, Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9040. *Equal Opportunity Employer.*

PRE- AND POSTDOCTORAL FELLOWSHIPS IN MOLECULAR CARCINOGENESIS LOUISIANA STATE UNIVERSITY SCHOOL OF MEDICINE

NIH training grant program established to investigate the molecular mechanisms involved in carcinogenesis has fellowships available to qualified pre- and postdoctoral (Ph.D. or M.D.) candidates. U.S. citizens or permanent residents only. Research areas include viral carcinogenesis (Dr. Luftig); oncogene activation and function (Drs. G. Clinton and D. Sheinins); eukaryotic gene expression (Dr. P. Deininger); hormone regulation (Dr. W. Vedeckis); cAMP-dependent protein kinases (Dr. R. Roskoski); and cancer genetics (Dr. C. Cohen). Research programs involve the latest in technologies and all are nationally recognized and funded. Innovative instructional program includes clinical oncology orientation. Interested applicants should send their curriculum vitae to: Dr. J. Craig Cohen, Department of Medicine, Louisiana State University Medical Center, 1542 Tulane Avenue, New Orleans, Louisiana 70112-2822. *LSUMC is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOWSHIP UTAH STATE UNIVERSITY

Develop methods to isolate, characterize, and identify viruses of pathological importance to domestic animals using state of the art methodology. Required doctorate-level training with experience in cell culture, virus isolation, and serological methodologies. Veterinary diagnostic laboratory experience desirable. Closing date: 1 March 1986. Appointment: immediately following selection. Send résumé, salary requirement, and names of three references to: Stanley D. Allen, D.V.M., Utah State University, Logan, Utah 84322-5600. *An Affirmative Action/Equal Opportunity Employer.*

The Lawrence Livermore National Laboratory is an R&D facility in the San Francisco East Bay Area operated by the University of California for the U.S. Department of Energy. The Biomedical Sciences Division at LLNL consists of about 120 scientists and are seeking four postdoctoral research staff members (two or three year appointments) to work with individual senior staff scientists in the following areas:

MOLECULAR GENETICS

Works on one or more projects related to the mapping of human DNA repair genes, linkage analysis of chromosome-specific DNA probes, or mechanisms of DNA recombination in somatic cells. The applicant should have a strong interest in eukaryotic chromosome structure and/or DNA recombination in mammalian cells. Preference will be given to individuals with previous experience in recombinant DNA methodology, in situ hybridization, or molecular biology.

MICROBIAL GENETIC ENGINEERING

Participates in an ongoing program applying microbiological and recombinant DNA techniques to the area of metal recovery and detoxification. Emphasis will be placed on developing genetic systems in aerobic and anaerobic bacteria. Research is aimed at studying the regulation and expression of genes in these organisms involved in interactions with metals (both as a useful mineral but also as highly toxic by-products of industrial processes). Experience in microbial genetics, enzyme purification and characterization, vector construction, transposon mutagenesis, and general recombinant DNA techniques is desirable.

FOOD MUTAGEN-DNA CHEMISTRY/GENOTOXICITY

Investigates the types of DNA damage and adducts that are induced in cultured mammalian cells by direct acting mutagens formed during the heating and irradiation of foodstuffs. Concurrent involvement will also be expected in the synthesis of isotopically substituted mutagens and in the development of isotope-dilution GC/MS assays for these agents in cells and foods. Applicants should have a background in DNA chemistry and HPLC-TLC separations. An interest or experience in food-related mutagenesis/carcinogenesis, analytical organic chemistry, or mammalian genetic toxicology would be helpful.

CARCINOGEN METABOLISM AND TOXICOLOGY

Studies the metabolism and DNA binding of a series of mutagens derived from cooked foods. The goal of this project is to understand the metabolic intermediates responsible for the genetic changes seen in bacterial and mammalian cells and to identify the specific DNA adducts formed. The successful candidate will become part of a multidisciplinary research group examining the risk to man of consuming cooked-food mutagens/carcinogens. A strong background in carcinogen or drug metabolism is desired.

Interested applicants are invited to submit their curriculum vitae to: **Earl G. Morrell, Professional Employment Division, Lawrence Livermore National Laboratory, Dept L-425, P.O. Box 5510, KSC-1W603A Livermore, CA 94550.**

University of California
**Lawrence Livermore
National Laboratory**

U.S. Citizenship is required.
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BIOCHEMISTRY

Microgenics is a biotechnology company which has developed an advanced and proprietary diagnostic test system based on protein engineering by recombinant DNA techniques. New positions are available for exceptional research scientists.

IMMUNOCHEMISTS, PhD. Candidates will supervise product development of CEDIA homogeneous enzyme immunoassays. A PhD in immunology or chemistry and prior industrial product development experience required. Candidates will be familiar with validation of diagnostic assays, generation of GLP/GMP protocols, and submission of FDA documentation.

CHEMISTS/BIOLOGISTS, BA/BS/MS. Candidates will be familiar with the performance and documentation of an EIA/ELISA 510(k) validation. Responsibilities will include development of commercial immunoassays and applicable FDA documentation. Supervisory experience preferred.

MOLECULAR BIOLOGISTS, PhD. Candidates will protein engineer hybrid and tribrid polypeptides at the recombinant DNA level for commercial immunoassays within eukaryotic and prokaryotic expression vectors.

CHEMISTS/BIOLOGISTS, BS/MS/PhD. Candidates will function in protein chemistry with a practical knowledge of liquid chromatography, SDS-PAGE, Western-Blots and enzyme-immunoassays.

Microgenics offers a scientific challenge and equity participation with competitive salaries and fringe benefits. For immediate consideration, forward your resume in strict confidence to:

MICROGENICS CORPORATION
2341 Stanwell Dr. • Concord, CA 94520

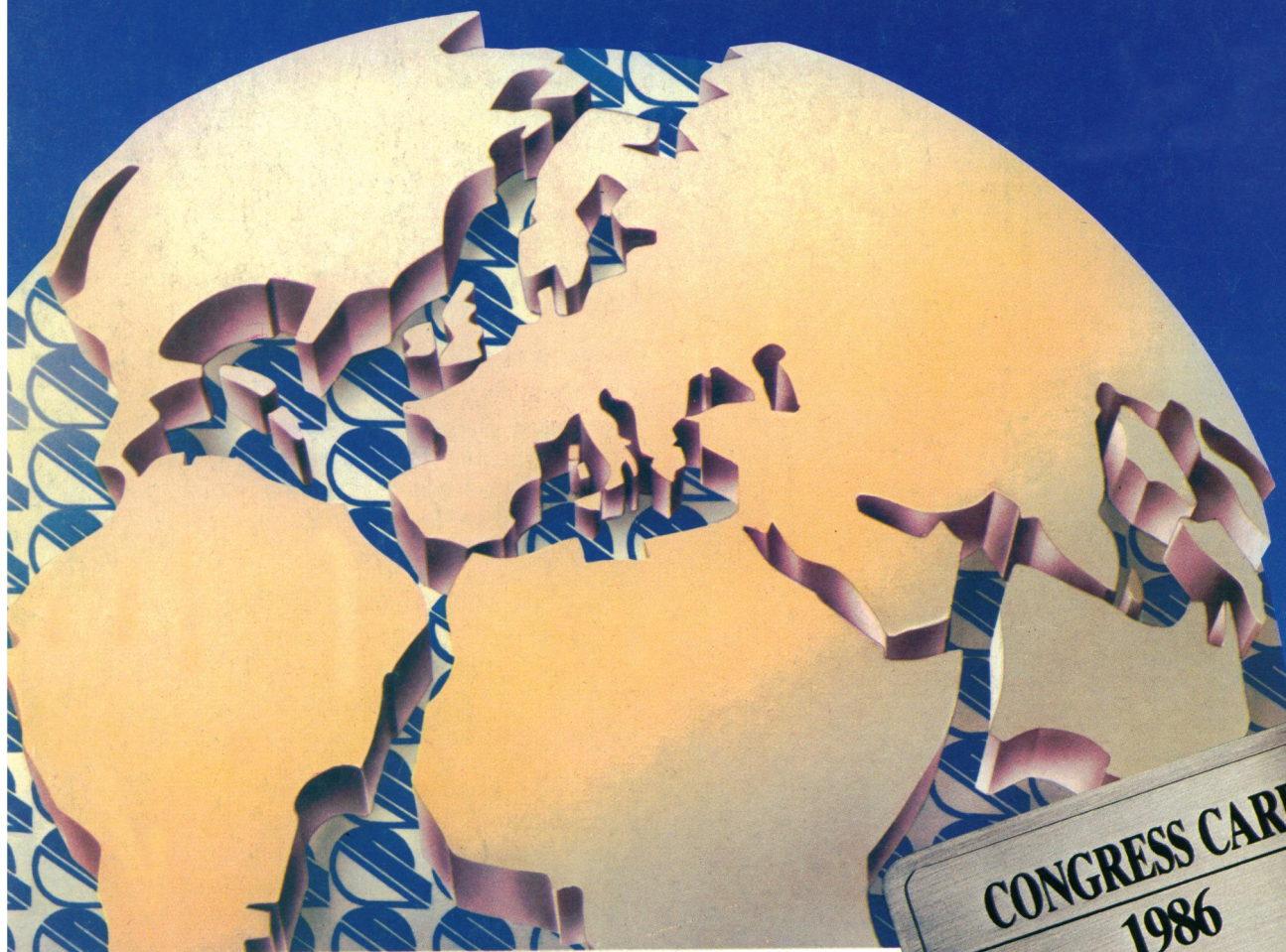


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Some of the international meetings scheduled for 1986 are:

Biological Regulation of Cell Proliferation 9th International Chalone Conference

Milan, March 3-6

Scientific Organization: E.E. Polli (I)
and O.H. Iversen (N)

The Control of Follicle Development, Ovulation and Luteal Function: Lessons from In Vitro Fertilization

Paris, April 7-9

Scientific Organization: F. Naftolin (USA) and
A.H. DeCherney (USA)

Dexamethasone-Suppressible Hyperaldosteronism

Rome, June 5-6

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Corticosteroids and Peptide Hormones in Hypertension

Mannheim, Sept. 6-7

Scientific Organization: E.G. Biglieri (USA),
F. Mantero (I) and P. Vecsei (D)

Recent Advances in Adrenal Regulation and Function

Madrid, Sept. 19-20

Scientific Organization: M. Lipsett (USA),
G. Chrousos (USA) and L. Loriaux (USA)

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Stockholm, Sept. 29-30, Oct. 1

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