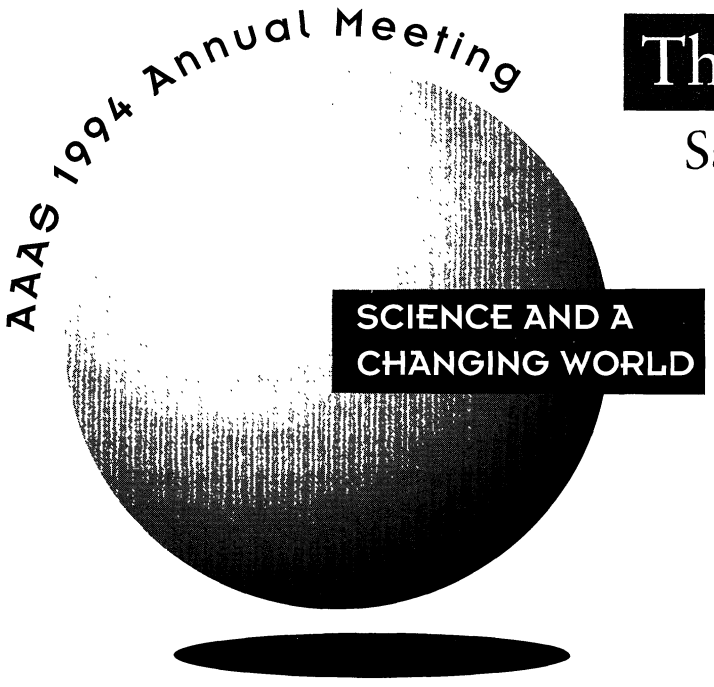
You are cordially invited to the premier event for scientific and technical professionals



The AAAS Annual Meeting

San Francisco Hilton and Towers

18-23 February 1994

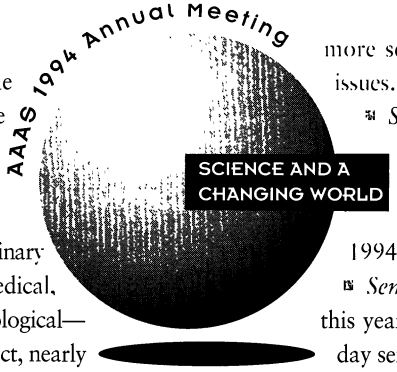
Deadline for Advanced Registration: January 24, 1994

- **Over 125 sessions**
- **More than 700 speakers**
- **100 exhibiting companies and publishers**
- **Network with 5000 of your peers**
- **Explore new career opportunities at the Employment Exchange**

Table of Contents

Gain insight into the latest scientific advances and enhance your professional development at the 1994 AAAS Annual Meeting

Dear Colleague:



IT IS A PLEASURE TO INVITE YOU TO participate in the 160th Annual Meeting of the American Association for the Advancement of Science (AAAS). The AAAS Annual Meeting is the preeminent meeting for scientists of virtually every scientific discipline.

This year's meeting promises to uphold our interdisciplinary tradition as researchers from every facet of science—medical, environmental, evolutionary, physical, social, and technological—convene to exchange and publicize new knowledge. In fact, nearly 5,000 of your colleagues will be in San Francisco to share their latest research advances, explore the fertile synergies between disciplines, and debate today's critical issues in science policy and education.

The over-all theme for the 1994 meeting — SCIENCE AND A CHANGING WORLD — sets the tone for a unique blend of symposia, topical and plenary lectures, specialized seminars, and poster presentations. Some track highlights include:

- *Health Care Reform and Advances in Medicine* — filled with up-to-the-minute information about the intense search for effective AIDS therapies; the ramifications for scientists and physicians of President Clinton's proposed health care reform package; and a new approach to breast cancer research; and much more ...see page 3 of this program.
- *The Changing Environment* — offers timely sessions on global change; the debate over the relative roles of science and public perception in defining and resolving environmental risk problems; and examination of the flaws in the nation's floodplain management program; and many more sessions on today's most prominent environmental issues...details on page 5.
- *Science Education Reform* — features Project 2061's recommendations for systemic reform and a discussion of curricula, policy and funding implications; national science education standards and a look at the Winter 1994 NRC draft ...more information on page 19.
- *Seminars* — two technical seminars will be highlighted this year. *Mapping and Modeling the Brain* is an exciting 2-day seminar that begins with recent advances in imaging the human brain and progresses to recent successes in computational modeling of the nervous system. *Evolution and Extinction* is a fascinating 3-day journey that covers the origins of life, and the causes and consequences of extinction...see page 24 for more details.

Also of particular interest — two career development seminars; over 100 exhibits of publishers, computer companies, government agencies, and scientific equipment companies; and four full days of Employment Exchange services.

Please join us in San Francisco. If you register now, you can take advantage of the discount air fare and hotel rates (see forms on pages 30 and 31). I look forward to seeing you there.

Sincerely,

Eloise E. Clark

ELOISE E. CLARK
Program Chair

Program Committee:

FRANCISCO J. AYALA (*1995 Annual Meeting Chair*)
University of California at Irvine

ELOISE E. CLARK (*1994 Annual Meeting Chair*)
Bowling Green State University

ERNESTINE FRIEDL
Duke University

RON GRAHAM
AT&T Bell Laboratories

JUDITH TEGGER KILDOW
MIT

DONALD A.B. LINDBERG
National Library of Medicine

ORIE L. LOUCKS
Miami (Ohio) University

CORA B. MARRETT
NSF

ROBERT MORGAN
Washington University

GILBERT S. OMENN
University of Washington

M. GORDON WOLMAN
Johns Hopkins University

HARRY WOOLF
Institute of Advanced Study

Expanded
Program

*Not yet confirmed

Health Care Reform & Advances in Medicine

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Increasing the Healthy Life Span: Advances in Health and Aging

(ORG BY ROBERT M. SCHMIDT, CALIFORNIA PACIFIC MED CTR/SFSU AND ITMAR B. ABRASS, UNIV OF WASHINGTON).
Recent studies suggest that programmed expression of certain critical regulatory genes mediates the genetics of aging.

Saturday, AM

Molecules and aging: Arun K. Roy, Univ of Texas Health Sci Ctr

Health status assessment and preventive interventions: Robert M. Schmidt, California Pacific Med Ctr/SFSU

Epidemiologic discovery/prospects for healthy life: Andrea Z. LaCroix*, Univ of Washington

Behavioral plasticity and health behaviors: psychosocial implications for an aging society: K. Warner Schaie, Penn State Univ

Discussion: Itmar B. Abrass, Univ of Washington

Discovery of AIDS Therapies in an Era of Health Care Reform

(ORG BY DANIEL HOTH, NIH, AND DEBORAH RUNKLE, AAAS).
The relationship between the need to discover effective therapies for the growing number of HIV-infected individuals who will develop AIDS in the coming years and proposed Clinton administration health care reforms.

Saturday, PM

Ethical Issues in the Testing of Preventive HIV Vaccines

(ORG BY REIDAR K. LIE, UNIV OF OSLO, AND KENNETH F. SCHAFFNER, GEORGE WASHINGTON UNIV).
Ethical issues raised by preventive AIDS vaccine trials, such as informed consent, turf wars among organizations involved in vaccine development, and availability to developing countries.

Sunday, AM

Policy issues regarding HIV vaccines: Bernard Lo, Univ of California-San Francisco

Ethics and HIV vaccine research policy in developing countries: Reidar K. Lie, Univ of Oslo

Informed consent for preventive HIV vaccine trials in the U.S.: Carol Levine, Fund for the City of New York

Ethical issues in the development of a preventive AIDS vaccine in Brazil: Olandim Queiroz Fonseca, Univ of Oslo

Discussion: Kenneth F. Schaffner, George Washington Univ

AIDS: Information Technology Supporting Research, Healthcare, and the Affected Community

(ORG BY JUDITH R. MESSERLE, COUNTWAY LIBRARY OF MED).
The expanding and imaginative use of information technology in assisting researchers, care providers, and HIV positive individuals.

Sunday, PM

Interpretation of HIV trials based on heterogeneous populations: Stephen W. Lagakos, Harvard School of Public Health

AIDS information delivery from a national perspective: Lynn W. Lisella, CDC & Prevention, PHS, USDHHS

AIDS information delivery from a national perspective: Deborah G. Katz, NIH/NIAID, c/o L. Lisella

SPIN: A comprehensive, community-based AIDS information and referral system for patients and providers: Jonathan Wadleigh*, Harvard School of Public Health

T-Helper: Automated support for protocol-directed therapy: Mark A. Musen, Stanford Univ

Information technology and services: The AIDS community speaks to NIH: Elliot R. Siegel, Natl Library of Medicine

Sunday, PM

Minding the Human Brain via Functional Magnetic Resonance Imaging

(ORG BY ELWIN MARG, UC-BERKELEY).
A brief history of functional magnetic resonance imaging, including principles, equipment, use, and future developments.

Monday, AM

MR movie of human brain activity: Kenneth K. Kwong, Mass General Hospital

Functional Magnetic Resonance Imaging of human and monkey visual cortex: Edgar A. DeYoe, Medical College of Wisconsin

FMRI of motor and auditory cortex: Stephen M. Rao, Medical College of Wisconsin

Functional imaging with magnetic resonance: Cognition: Kamil Ugurbil, Univ of Minnesota

Imaging Systems for Health Education and Health Care Delivery

(ORG BY MICHAEL J. ACKERMAN, NATL LIBRARY OF MED).
Projects such as the NLM's Visible Human Project, the AFIP's Visible Embryo Project, and fabrication of prosthetic devices for bone, joint, and ear replacement.

Monday, PM

The Visible Human Project: Michael J. Ackerman, Natl Library of Medicine, NIH

Visible Embryo Project: Michael D. Doyle, Univ of California-San Francisco

Imaging and the custom fit: Parvati Dev, Stanford Univ Med School

Digital anatomist project: James F. Brinkley, Univ of Washington

A glimpse at the future of medical imaging: Alvy Ray Smith, Altamira Software Co.

Social, Ethical, and Scientific Perspectives of Biological Research on Sexual Orientation

(ORG BY ROCHELLE DIAMOND, NOGLSTP, AND AMY ROSS, NOGLSTP).
Recent scientific research has identified possible biological and genetic correlates of male homosexuality.

Monday, PM

Genes, sexual orientation, and ethics: Dean H. Hamer, National Cancer Inst

Historical politics of biobehavioral research: Daniel J. Kevles, California Inst of Technology

Anatomical and physiological correlates of sexual orientation: Laura S. Allen, Univ of California-Los Angeles

The social side of nature: Pepper Schwartz, Univ of Washington

Bioethics and policy formulation: Donald L. Gabard, Chapman Univ

Universal Design: Including People with Disabilities

(ORG BY VIRGINIA STERN, AAAS, AND JACQUELIN BRAND, FDN FOR TECHNOLOGY ACCESS).
The potential of technology to increase engineering and science education for students with disabilities, and to open telecommunications to all Americans.

Tuesday, AM

Better keyboards for all kids: Arjan Khalsa, Intellitools

Impact of technology on the life of a student: David Clark, Univ of California-Berkeley

Graphical user-interface: Inclusion or exclusion of persons with disabilities: Kent Cullers, NASA Ames Rsch Ctr

Disabled students' access to engineering and science through internetworking: Sheryl Burgstahler, Univ of Washington

Access to network-based information by all Americans: Deborah Kaplan, World Inst on Disability

Breast Cancer: The Environmental Connection

(ORG BY JANICE L. KIRSCH, HAYWARD KAISER PERMANENTE, AND NANCY EVANS, BREAST CANCER ACTION).
A new approach to breast cancer research that includes an evaluation of the role of specific carcinogens could result in a new paradigm for research.

Tuesday, PM

Some hypothesized explanations for unexplained trends in breast cancer: Devra Lee Davis, Natl Inst Env Health Svcs

Ionizing radiation & breast cancer: John W. Gofman, Comm for Nuclear Responsibility

Breast cancer and organochlorines: A connection?: Elihu Richter, Hebrew Univ Medical School

Breast cancer and estrogen: Graham A. Colditz, Brigham & Women's Hospital

Environmental pollutants as unrecognized causes of breast cancer: Samuel Epstein, Univ of Illinois

Current Perspectives on Pain Mediated by the Trigeminal Nerve

(ORG BY JOHN STAMM, UNIV OF NORTH CAROLINA SCH OF DENTISTRY, AND WILLIAM MAIXNER, UNIV OF NORTH CAROLINA SCH OF DENTISTRY).
Recent discoveries have advanced understanding of how orofacial pain is transmitted and modulated by the peripheral and central nervous systems.

Tuesday, PM

Introduction: William Maixner, Univ of North Carolina

Peripheral mediators of orofacial pain: Kenneth Hargreaves, Univ of Minnesota

Neuroimmune mechanisms and inflammatory joint disease: Jon Levine, Univ of California-San Francisco

Peripheral and central neural reactions to pulpal injury: Margaret R. Byers, Univ of Washington

Modulation of pain originating from orofacial tissues: William Maixner, Univ of North Carolina

Getting Under Your Skin: New Advances in Transdermal Drug Delivery

(ORG BY RICHARD GUY, UCSF).
Novel approaches to enhance drug transport across the skin, and innovative methods to circumvent local irritation and sensitization.

Wednesday, AM

Skin barrier function and its manipulation: Kenneth R. Feingold, Veterans Admin. Med Ctr

The irritating aspects of transdermal drug delivery: Vivien H.W. Mak, Pharmetrix Corp

Nicotine: A transdermal delivery success...or not?: Neal L. Benowtiz, Univ of California-San Francisco

Electrically enhanced drug delivery across the skin: Russell O. Potts*, Cygnus Therapeutic Systems

Transdermal delivery: Clinical relevance and future prospects?: Kenneth L. Melmon*, Stanford Univ Med Ctr

Potentials of Nanofabrication Science & Technology in the Biological Sciences

(ORG BY PATRICIA CALARCO, UCSF, AND MICHAEL ISAACSON, CORNELL UNIV).
Materials science and engineering aspects of micro- and nanofabrication using electron, ion, photon beams, and scanned tip technology.

Wednesday, PM

Nanofabrication technology: Evelyn L. Hu, Univ of California-Santa Barbara

Nanostructure texturing to mimic biological surfaces: Harvey C. Hoch, Cornell Univ

Microfabricated arrays: DNA electrophoresis and cell mobility: Robert H. Austin, Princeton Univ

Nanoscale devices for magnetic resonance imaging of biological structure: John A. Sidles, Univ of Washington

Atomic force manipulation of biological membranes: Jean-Paul Revel, California Inst of Technology

The Changing Environment

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Valuing the Environment: Where Do We Stand?

(ORG BY GEORGE S. TOLLEY, UNIV OF CHICAGO).
Valuing ecological, health, and aesthetic effects of actions affecting the environment in quantitative terms has been deemed inappropriate by some, while others have forged ahead developing various techniques of measurement.

Saturday, AM

Environmental valuation: Kenneth Arrow, Stanford Univ

Learning to live with stated preference: W. Michael Hanemann, Univ of California-Berkeley

Problems in measuring non-use value: Daniel McFadden, Univ of California-Berkeley

Psychological perspective on stated willingness to pay: Daniel Kahneman, Princeton Univ

Calibrating environmental benefit estimates: Don Coursey, Univ of Chicago

Environmental Justice: Local, National, and Global Perspectives

(ORG BY ROGER KASPERSON, CLARK UNIV, AND ROBERT BULLARD, UC-RIVERSIDE).
Environmental justice will be a dominant issue in environmental protection and sustainable development efforts during the next decade. The US EPA is already under fire for alleged discrimination.

Sunday, AM

Environmental racism and environmental justice: What is the evidence?: Robert D. Bullard, Univ of California-Los Angeles

Global environmental justice : Dale Jamieson, Univ of Colorado;

Waste facilities and social justice : Mary R. English, Univ of Tennessee

Reducing risk for all communities: Securing environmental justice in EPA program : Clarice E. Gaylord*, US Env Equity Protection Agency

Global fresh water resources: Environmental and social inequities: Peter H. Gleick, Pacific Inst for Studies in Dev.

Environmental justice and the law : Deeohn Ferris, Environmental Justice Project

Public Perceptions and Scientific Reality in Environmental Risks

(ORG BY SHARON FRIEDMAN, LEHIGH UNIV, AND DOROTHY PATTON, US EPA).
An examination of the debate over the relative roles of science and public perception in defining and resolving environmental risk problems.

Monday, AM

Introduction: Sharon Friedman, Lehigh Univ

Scientific reality: A bench scientist's perspective : Nancy I. Kerkvliet, Oregon State Univ

Distinguishing science from science policy in risk assessment : Dorothy Patton, U.S. Env. Protection Agency

Scientific versus public perceptions of environmental risk: Where is the reality? : Paul Slovic, Decision Research

Does the media always get it wrong?: Scott Thurm*, San Jose Mercury-News

Environmental decision making with competing perspectives and incomplete information : Lynn Goldman*, US EPA

Marine Studies/ International Science

Monterey Bay Marine Sanctuary: A Natural Laboratory for Scientific Research

(ORG BY STEPHEN L. EITTREIM, USGS, AND KEITH A. KVENVOLDEN, USGS).
This sanctuary is the site of marine research leading to a clearer understanding of the dynamic interactions between water column and seafloor processes and marine biogeological systems.

Saturday, PM

Introduction: Sam Farr*, US Congress

Monterey Bay: A natural laboratory for coastal process and hazard research : Gary Griggs, Univ of California-Santa Cruz

Tectonics and fluid flow processes of the Monterey Bay region : H. Gary Greene, US Geological Survey

Giant Marine Snow (Bathochordaeus houses): Community centers and sedimentary agents : Mary W. Silver, Univ of California-Santa Cruz

Demersal fish habitats and habits : Gregor M. Cailliet, Moss Landing Marine Labs

Mesopelagic community structure in Monterey Bay: ROV-based studies : Bruce H. Robison, Monterey Bay Aquarium Rsch Inst

Pacific Marine Science at Century's Close: Achievements and Prospects

(ORG BY PHILIP F. REHBOCK, UNIV OF HAWAII).
Historians of science and marine scientists will explore the 20th-century development of oceanographic ideas and institutions in the Pacific region.

Sunday, PM

El Nino: Past, present, and future : Klaus Wyrtki, Univ of Hawaii-Manoa

From teaching to research: Marine biology on the West Coast : Keith R. Benson, Univ of Washington

Marine biology on the west coast : Alan Baldridge*,Hopkins Marine Station

Marine geology and geophysics in the Pacific Ocean : Fred Noel Spiess, Scripps Inst of Oceanography

International institutions and the oceanography - fisheries schism : Warren S. Wooster, Univ of Washington

How Effective Are Environmental Accords?

(ORG BY EDITH BROWN WEISS, GEORGETOWN UNIV).
Since 1972, countries have negotiated more than 500 international legal instruments concerned with the environment. Factors that affect compliance with these accords will be examined.

Improving compliance with international environmental accords: Harold K. Jacobson, Univ of Michigan

Monday, PM

Beyond sanctions: A management approach to compliance with international agreements: Antonia Handler Chayes, Consensus Building Inst

Domesticating international environmental agreements: Arild Underdal, Univ of Oslo

Regimes do matter: International treaty compliance and intentional oil pollution: Ronald Mitchell, Univ of Oregon

Strengthening the implementation of environmental agreements : Bernice Steinhardt, US General Accounting Office

Treaty negotiations and compliance: The Montreal protocol on the ozone layer: Winifred Lang*, United Nation

Resolving Africa's Environmental and Socio-economic Problems: An Archaeological Perspective

(ORG BY STEVEN BRANDT, UNIV OF FLORIDA).
Will demonstrate to scientists inside and outside the discipline how archaeology can help resolve, or at least explain, environmental and socio-economic problems facing Africa today.

Monday, PM

J.A. Rakotoarisoa*, Univ of Connecticut

Ecology and extinction in Madagascar: The changing human role: Robert E. Dewar, Univ of Connecticut

Archaeological lessons for the management of African rain forest: Peter R. Schmidt, Univ of Florida

Kalahari land-use systems: An ethnoarchaeological perspective: Robert Hitchcock, Univ of Nebraska

The archaeology of food security in Ethiopia: Steven A. Brandt, Univ of Florida

The archaeology of inequality in South Africa: Carmel Schrire, Rutgers Univ

Energy Research in Africa: Power and Development Beyond 2000

(ORG BY AMY AUERBACHER GIMBEL, AAAS, AND OGUNLADE DAVIDSON, UNIV OF SIERRA LEONE).
Development demands and population growth in Africa ensure that energy usage on the continent will need to increase substantially and that new sustainable approaches must be found.

Tuesday, AM/PM

The energy sector in Africa: Status and future prospects: Ogunlade Davidson, Univ of Sierra Leone

Reforming energy policies and institutions: The challenge of long-term capacity building: Stephen Karekezi, AFREPREN/FWD

Financial innovations for sustainable energy development in Africa: M. Lebesa, African Development Bank

Human resources development and training in the African energy sector: J. Baguant, Univ of Mauritius

Discussant for S. Karekezi: Thomas J. Wilbanks*, Oak Ridge Natl Lab

Discussant for M. Lebesa: Armar Amarquaye*, The World Bank

Discussant for J. Baguant: Steve Hirsch*, VITA/US Export Council

Energy demand management in Sub-Saharan Africa: Anthony Adegbulugbe, Obafemi Awolowo Univ; Ogunlade Davidson Univ of Sierra Leone

Discussant for A. Adegbulugbe: Jayant Sathaye*, Lawrence Berkeley Lab

Discussant for O. Davidson: Willy Makundi*, Lawrence Berkeley Lab

Africa's Fragile Lakes: An Assessment of Social and Environmental Changes

(ORG BY DAVID WILEY, MICHIGAN STATE UNIV, AND BILL DERMAN, MICHIGAN STATE UNIV).
Examination of the complex and critical issues facing African nations as they attempt to save and conserve their fragile lakes.

Wednesday, AM/PM

Environmental Crises/ Intellectual Property

Whose Responsibility, for What, When? Responsibility Judgments for Disaster Consequences

(ORG BY JOANNE NIGG, UNIV OF DELAWARE, AND VALERIE HANS, UNIV OF DELAWARE).
Will address the question of responsibility for disaster consequences from a multidisciplinary perspective: sociological overview, philosophical and ethical issues, and moral and ethical dilemmas.

Saturday, PM

Responsibility in technology: Philosophical perspectives : Paul Durbin, Univ of Delaware

Consequences of real-time hazard reduction research within communities at risk : Peter L. Ward, US Geological Survey

Ethical and practical issues for engineers: William T. Holmes*, Rutherford and Chekene

Bridging the gap between science and the public: Communicating seismic risk : Richard K. Eisner, Governor's Off Emergency Service

Contextual effects on responsibility judgments : Valerie P. Hans, Univ of Pennsylvania

Predicting, Mitigating, and Recovering from Disasters: The Role of the Information Infrastructure

(ORG BY ROBERT LEE CHARTRAND, AND BONNIE CARROLL, CENDI).
Ways and means by which the existing inventory of computer, telecommunications, sensor, and other systems augment human experience and expertise during emergency management activity.

Sunday, PM

Conveying information about earthquake and landslide hazards to decisionmakers by computer : Earl E. Brabb, US Geological Survey

Multi-state information management: Problems and opportunities : Thomas S. Durham, Central US Earthquake Consortium

Support for natural disaster prediction and mitigation through the national information infrastructure : Thomas N. Pyke, NOAA; James W. Morentz*, EIS International

The role and limitations of high-technology in emergency management: Some insights from Silicon Valley : Jacques F. Vallee, Eurolink International

Recent Advances in Earthquake Disaster Mitigation

(ORG BY ADAM ROSE, PENN STATE UNIV, AND MASANOBU SHINOZUKA, PRINCETON UNIV).
The role of utility lifelines (water, electricity, telecommunications, etc.) receives special emphasis in this session on earthquakes and public response.

Monday, PM

Geotechnical engineering and emerging new technology: Geoffrey R. Martin, Cornell Univ

Seismic retrofitting of existing infrastructure: Ian Buckle, Univ of California-Berkeley

Closing the loop: Using earthquake research to improve mitigation planning: Jeanne B. Perkins, Assn of Bay Area Governments

Lifelines: Seismic Achilles' heel of modern urban society: Masanobu Shinozuka, Princeton Univ

Optimal recovery and reconstruction of lifelines after major earthquakes: Juan Benavides, Pennsylvania State Univ; Adam Rose, Pennsylvania State Univ

The Floods of 1993: Causes, Losses, and Responses

(ORG BY STANLEY CHANGNON, UNIV OF ILLINOIS).
The enormous losses of the floods of 1993 revealed failures of the nation's floodplain management program involving expensive structural approaches and flood insurance.

Tuesday, AM

The unique weather/climate conditions causing the 1993 midwestern floods: Kenneth E. Kunkel, Illinois State Water Survey

The hydrometerological conditions prior to and during the Great Flood of 1993: Frank Richards, NOAA/Natl Weather Service

Impacts of the catastrophic floods of 1993: Stanley A. Changnon, Illinois State Water Survey

The governmental and voluntary responses to the flood of 1993: Dick Krimm*, Federal Emergency Mgmt Agency

The 1993 Midwest flood: National policy and program implications: James M. Wright

Estimating the Impact of the California Drought

(ORG BY RICHARD BERK, CTR FOR STUDY OF ENV & SOCIETY, UCLA).
Will consider social, economic, and environmental effects based on the California drought that ended in 1993, and implications for future water resources planning.

Tuesday, PM

Economic impact of the recent California drought: Henry J. Vaux, Univ of California

Forecasting water demand: Trudy Cameron*, Univ of California-Los Angeles

Ecological impacts of drought: The science and politics: Peter H. Gleick, Pacific Inst for Studies in Dev

The California water plan: Water management strategies for reliable supplies: Raymond D. Hart, State of California; John Krautkraemer, Environmental Defense Fund

Agriculture

Trade, Environment, and Food Security: Issues for Japanese and American Farmers

(ORG BY: JOSEPH J. MOLNAR, AUBURN UNIV.)

Saturday AM

Population, Agriculture, and the Environment in California

(ORG BY ALBERT MEDVITZ, SOLANO CO FARM BUREAU).
Examination of issues of science and public policy as they pertain to agricultural production and environmental protection in the context of a 25% population increase in the last decade.

Monday, AM

Sun, water, and farms in a distant land: California in a market environment: Morton Rothstein, Univ of California-Davis

Impacts of land-use change on farmed wetlands: Sacramento/San Joaquin Delta: Robert H. Twiss, Univ of California-Berkeley

The economics of the conversion of agricultural land to other uses : George E. Goldman, Univ of California-Berkeley

Local and state politics and policy as it pertains to agriculture and the environment in California: John Gamper*, California Farm Bureau

Lessons from the Marin Agricultural Land Trust: Phyllis Faber*, Marin Agricultural Land Trust

Farm organization, agriculture, and the environment in Napa Valley: Volker Eisele, Napa County Farm Bureau

Growing rice in the Sacramento Valley: Hatch Sullivan*, Riverbend Rice Mills

The Delta Protection Act: Protecting agriculture and the environment: Pat Johnston*, California State Senate; Alvin D. Sokolow, Univ of California-Davis

Sustainability From the Ground Up: Land and Soil Resources

(ORG BY LARRY WILDING, TEXAS A&M UNIV, AND LARRY BOERSMA, OREGON STATE UNIV).

Tuesday, AM

Land and Civilization: Anthony S.R. Juo, Texas A&M Univ; Larry L. Boersma, Oregon State Univ

Soils as living ecosystems: Mary Firestone, Univ of California-Berkeley

Harvesting biomass from the soil, : E.C.A. Runge*, Texas A&M Univ

Global climate change and land resources issues: Norman J. Rosenberg, Integrated Earth Sciences

Harmony and conflicts in land use: Randall B. Brown, Univ of Florida

Recycling: The role of soil: Albert L. Page*, Univ of California-Riverside

Implication of land use for water: Kenneth Tanji, Univ of California-Davis

Wetlands policy: Conflict, benefit, and land use: William H. Patrick, Louisiana State Univ

Land soil resources: Future challenges and opportunities: Fred P. Miller, Ohio State Univ

Development and Use of Crop and Livestock Intellectual Property

(ORG BY ROBERT BARNES, AMERICAN SOC OF AGRONOMY, AND DAVID MACKENZIE, USDA).
A presentation and discussion of the changes underway, the conflicts involved, and the potential benefactors of intellectual property protection of living animals and plants.

Wednesday, AM/PM

Intellectual property challenges of the 1990's: Albert P. Halluin, Limbach & Limbach

Ethical & social issues of intellectual property: Paul Thompson, Texas A&M Univ

Perspectives on intellectual property of living organisms: Michael J. Roth, Pioneer Hi-Bred International

Public access to, and responsibilities for, intellectual property: Gary H. Heichel, Univ of Illinois

Collection and exchange of germplasm and impact of legal protection: Henry L. Shands, USDA/ARS/NPS

International scope of intellectual property: Gabrielle Persley*, The World Bank

Licensing and material transfer agreements: John H. Barton, Stanford Law School; Wolfgang Siebeck, The World Bank

Do we need legal and legislative remedies?: Neil D. Hamilton, Drake Univ

Climate Change/ Biodiversity

Critical Current Issues in Marine Biodiversity

(ORG BY MARJORIE REAKA-KUDLA, UNIV OF MARYLAND, AND RITA COLWELL, UNIV OF MARYLAND).
Increases in human population and associated environmental changes have brought about a global crisis in biodiversity that rivals and in the next century probably will exceed the 5 great mass extinctions that have occurred in the history of life on Earth.

Saturday, AM
Sunday, AM

Marine biodiversity in high vs. low latitudes: G. Carleton Ray, Univ of Virginia

Biodiversity of coral reefs: Marjorie L. Reaka-Kudla, Univ of Maryland

Biodiversity in the deep sea: J. Frederick Grassle, Rutgers Univ

Changes in the sea: Introductions and extinctions of recent marine organisms: James T. Carlton, Williams College

Origin and destruction of marine biodiversity: The fossil record: David Jablonski, Univ of Chicago

Biodiversity and systematics of micro-organisms: The cryptic zone : Rita R. Colwell*, Univ of Maryland

Systematics and the need for action in marine biodiversity: James Thomas*, Smithsonian Inst

Global coral reef decline: Comparative regional studies of biodiversity : John C. Ogden, Univ of South Florida

Biological diversity in marine systems: A proposed national research initiative : Cheryl Ann Butman, Woods Hole Oceanographic Inst

Could We/Should We Engineer the Earth's Climate?

(ORG BY FRANCES E. SHARPLES, OAK RIDGE NATL LAB, AND GREGG MARLAND, OAK RIDGE NATL LAB).
Recent studies have proposed the use of large-scale engineering projects to control/counteract human impacts on atmospheric chemistry. The economic, ethical, social, and international implications of geoengineering will be discussed.

Saturday, PM
Sunday, PM

Introduction: Ralph J. Cicerone, Univ of California-Irvine

Aerosols and climate: Joyce E. Penner, Lawrence Livermore Natl Lab

Climate engineering and space sensors: Gregory H. Canavan

Ocean fertilization and other dubious notions : Richard T. Barber, Duke Univ

Intentional climate change: Some ethical considerations : Dale Jamieson, Univ of Colorado

Should we engineer the climate? International development and future generations : Roger E. Kasperson, Clark Univ

Geoengineering: Could - or should - we do it? : Stephen H. Schneider, Stanford Univ

Global Change Update 1994: What Do We Know About Ozone?

(ORG BY MICHAEL STRAUSS, AAAS).
Current research and evidence related to measurement of stratospheric ozone, the impact of CFCs, and the consequences of its depletion in terms of increased ultraviolet-B irradiation.

Monday, PM

Chlorofluorocarbons in the atmosphere: F. Sherwood Rowland, University of California-Irvine

Satellite measurments of stratospheric ozone: Paul A. Newman, NASA/Goddard Space Flight Ctr

Methyl bromide and atmospheric ozone: Ralph J. Cicerone*, Univ of California-Irvine

Direct UV-B irradiance measurements and ozone depletion: Charles R. Booth, Biospherical Instruments, Inc.

Stratospheric ozone depletion and the Antarctic environment: Raymond C. Smith, Univ of California-Santa Barbara

Consequences of ozone depletion for terrestrial plant productivity: Alan H. Teramura, Univ of Maryland

Climate Change, Cultural Complexity, and the Collapse of Civilizations

(ORG BY BRUCE H. DAHLIN, HOWARD UNIV).
The relationship between cultural complexity, climate change, and the collapse of civilizations in the Maya lowlands of Mesoamerica, Andean South America, Norse Greenland, Mesopotamia, and Western Palestine.

Tuesday, AM

Lowland Maya cultural complexity as a response to climate change: Bruce H. Dahlin, Howard Univ

Climate and collapse: Alan L. Kolata, Univ of Chicago

Mesopotamia climate/culture: Harvey Weiss, Yale Univ

Climate and created vulnerability in the North Atlantic: Thomas McGovern, CUNY-Hunter College

Social response to climatic change in Early Bronze: Arlene Rosen, Ben Gurion Univ of the Negev

Charting the Biosphere: The Systematic Science Agenda

(ORG BY JOEL CRACRAFT, AMERICAN MUSEUM OF NATURAL HISTORY).
Description of the systematic biology community's Systematics Agenda 2000 initiative and plan of action to preserve and use the world's biodiversity.

Tuesday, PM

Effective cross cultural R&D collaboration: Joel Cracraft, American Museum of Natural History

Systematics and the goal of sustainability: Peter H. Raven*, Missouri Botanical Garden

An inventory of biodiversity: Jonathan Coddington*, Smithsonian Inst

Classifications, databases, and economic development: The microbial diversity paradigm: Rita R. Colwell, Univ of Maryland

Phylogenetic systematics and the analysis of biodiversity: Michael J. Donoghue, Harvard Univ

Relevance of SA2000 missions for preservation of biological diversity: David B. Wake, Univ of California-Berkeley

Evolution Revolution

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Origins

(ORG BY CYRIL PONNAMPERUMA, UNIV OF MARYLAND, AND LYNN MARGULIS, UNIV OF MASSACHUSETTS).
From the origin of the universe to the beginning of civilization, this session will present some of the most respected modern theories about how things began.

Saturday PM

Questions of origin, purpose, and first cause: Robert Jastrow, Mount Wilson Inst

The origin of life: Cyril Ponnamperuma, Univ of Maryland

The origin of cells: David W. Deamer, University of California-Davis

The origin of man: William H. Kimbel*, Inst of Human Origins

The origin of human settlement: Guillermo Algaze, Univ of California-San Diego

Current State of Origins of Life Research

(ORG BY JEFFREY L. BADA, SCRIPPS INST OF OCEANOGRAPHY).
This symposium will examine physical characteristics of early Earth, simple organic compounds on the primitive Earth, possible precursors and alternatives to RNA, self-directed replication of simple molecules and systems, and laboratory simulation of RNA evolution.

Sunday, AM

The earliest Earth: David J. Stevenson, California Inst of Tech

Sources and stability of organic compounds on the early Earth: Jeffrey L. Bada, Univ of California-San Diego

Potential precursors to the RNA world: The bases and the ribose phosphate backbone: Stanley L. Miller, Univ of California-San Diego

Molecular replication: Leslie E. Orgel, Salk Inst for Biological Studies

RNA evolution and the origins of life: Gerald F. Joyce, Scripps Research Inst

Anti-science/Anti-evolution

(ORG BY EUGENIE C. SCOTT, NATL CTR FOR SCIENCE EDUCATION).
This session will look at creationists, multicultural educationists, and postmodernists who criticize and distort science and evolution, thereby affecting the educational system and opinions of future voting and technology-using citizens.

Sunday, PM

The triumph of the creationist method: Kevin Padian, Univ of California-Berkeley

Evolution and the Bible: What is the conflict?: Francisco J. Ayala, Univ of California-Irvine

Evolution and multiculturalism: Bernard Ortiz De Montellano, Wayne State Univ

Bewilderment and hostility in the postmodern attitude toward science: Norman Levitt, Rutgers Univ; Eugenie C. Scott, Natl Ctr for Science Education

Industry, Policy, and the Changing Infrastructure of Science

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

The X Program: A Model for Government-Industry Collaboration

(ORG BY JERRY POURNELLE, JERRY POURNELLE ASSOC).
The X Programs — building US aircraft under the simple ideas of quick production and implementation, understanding of risks involved, and discouragement of empire building — will be examined as a model for government-industry collaboration, in which both partners contribute without committing excessive resources.

Saturday, AM

Building a US Technology Policy

(ORG BY WALTER S. BAER, RAND, BONNIE CARROLL, CENDI, AND CHRISTOPHER HILL, CRITICAL TECHNOLOGIES INST).
This session will focus on the efforts of the Clinton administration to develop a coherent set of policies linking technology development, technology utilization, and US economic competitiveness.

Saturday, AM

Building a US technology policy: John H. Gibbons*, Office of Science & Tech Policy

A congressional view of US technology policy: Robert Palmer, US House of Representatives

The role of analysis in technology policymaking: Stephen M. Drezner, Critical Technologies Inst

US technology policy: A view from industry: James G. Treybig*, Tandem Computer, Inc.; David C. Mowery, Univ of California-Berkeley

New Directions in the Organization of Japanese Corporate R&D

(ORG BY MARTIN KENNEY, UC-DAVIS).
The Japanese R&D system is evolving rapidly as Japanese firms increase funding of basic research, overseas research facilities, and strategic alliances for R&D.

Saturday, PM

R&D in Japanese and western telecommunications and electronics companies: Martin Fransman, Univ of Edinburgh

Organizational, managerial, and environmental features of corporate R&D in Japan: W. Mark Fruin, Univ of British Columbia; William Cummings*

R&D strategy at NEC: Electronics for the 21st century: Daizaburo Shinoda, NEC Research Inst, Inc

Managing the Globalization of Industrial R&D

(ORG BY THEODORE SCHLIE, LEHIGH UNIV, AND BURTON DEAN, SAN JOSE STATE UNIV).
Managing the globalization of industrial R&D is becoming an important issue for US as well as foreign corporations.

Sunday, AM

Management issues and solutions in the globalization of industrial R&D: Theodore W. Schlie, Lehigh Univ

Effective cross cultural R&D collaboration: Robert M. Mason, Case Western Reserve Univ

Managing innovation in U.S. & Japanese overseas labs: Joseph L.C. Cheng, Ohio State Univ

Global R&D in Hewlett-Packard: Marvin Patterson, Innovation Resultants Intl

Global R&D in Siemens: Karl H. Zaininger, Thomas Group, Inc.

Research Assessment: Best Friend or Junkyard Dog?

(ORG BY SUSAN COZZENS, RENSSELAER POLYTECHNIC INST).
Review of US experience during the late 1980s and early 1990s in the context of research program evaluation in other industrialized countries.

Sunday, PM

Fifty years of learning about research assessment: Susan E. Cozzens, Rensselaer Polytechnic Inst

High-impact research assessment for Congress: Lowell Mininger*, US General Accounting Office

Biomedical research assessment: Do we know enough?: Gail Jacoby, Natl Inst on Aging/NIH

Assessing basic research: The good, the bad, the impossible: James M. McCullough, Natl Science Fdn

Discussion: Daryl E. Chubin, Natl Science Fdn

Discussion: Celine Cheah*, Office of Comptroller General

Diversity in Engineering: Oxymoron or Opportunity?

(ORG BY GEORGE CAMPBELL, NACME, AND LINDA SKIDMORE, NRC).
Offers a theoretical framework for effective models of diversity, followed by a review of implementations in academia and industry.

Monday, AM/PM

The value of diversity: George Campbell, NACME

Evaluation of model programs: Dawn R. Person*, Columbia Univ Teachers College

Dissemination of effective models: Eli Fromm*, Drexel Univ

Industry/academic partnership: Santiago Rodriguez*, Apple Computer

The faculty perspective: Jorge Haddock*, Rensselaer Polytechnic Inst

Occupational exit: Anne Preston*, SUNY-Stony Brook

Successful corporate models: Marion Yuen*, Catalyst

Making Xerox the company of choice for women and minorities: Jill Miller*, Xerox

The role of corporate foundations in advancing diversity: Clifford V. Smith*, General Electric Fdn

Individual strategies for success: Linda Skidmore, Natl Research Council

Research Universities in a Changing Funding Environment

(ORG BY IRWIN FELLER, PENN STATE UNIV).
A historical, economic, and administrative examination of university research funding and potential impacts on future research.

Tuesday, PM

Historical patterns of change: The legacy of the 1980s: Roger L. Geiger, Pennsylvania State Univ

Growth by substitution: Richard H. Herman, Univ of Maryland

Costs escalation in research universities: Charles T. Clotfelter, Duke Univ

The financing of research centers: Richard Florida, Carnegie Mellon Univ; Wesley M. Cohen, Carnegie Mellon Univ

U.S. research universities - cold war to cold showers?: Karl S. Pister, Univ of California-Santa Cruz

Benchmarking Technology from a Global Perspective

(ORG BY C. JUDSON KING, UC-BERKELEY, AND GEORGE GAMOTA, MITRE).
Market share formerly held by US companies has been lost to Japan and European countries. NSF has been supporting evaluations of technology in Japan and Europe, including FSU countries.

Wednesday, AM

Overview: George Gamota, MITRE Corp

Satellite communications: Joseph Pelton*, Univ of Colorado

Artificial intelligence: Edward Feigenbaum*, Stanford Univ

Research on submersible vehicles: Brad Mooney, Fmr Chief of Naval Research

Government policy and foreign technology: Mary Good, US Dept of Commerce

Science, Ethics & the Law

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Ethics in the Science Curriculum

(ORG BY DALE JAMIESON, UNIV OF COLORADO).
Scientists involved in teaching college-level ethics courses in such disciplines as neuroscience, engineering, and psychology will share their experiences.

Saturday, AM

Ethics and science: Introduction: Dale Jamieson, Univ of Colorado

Ethics and Neuroscience: Michael J. Zigmond, Univ of Pittsburgh

Teaching engineering ethics and professionalism to engineering undergraduates: Michael J. Rabins, Texas A&M Univ

'Me? Unethical?' The challenges of teaching ethics of social science: Joan E. Sieber, California State Univ; Vivian Weil, Illinois Inst of Technology

The Application of Forensic Sciences to Human Rights Investigation

(ORG BY ROBERT H. KIRSCHNER, COOK COUNTY MEDICAL EXAMINER OFFICE, AND AUDREY R. CHAPMAN, AAAS).
Exploration of the application of forensic sciences to human rights investigations and how forensics have been used in investigations in Argentina, Guatemala, Bosnia, and Kurdistan.

Sunday, AM/PM

Forensic anthropology applied to human rights investigations: Clyde Snow*, Oklahoma Medical Examiner Office

Forensic pathology applied to human rights violations: Robert Kirschner, Cook County Medical Examiner Office

Conducting forensic investigations in varying political systems: Eric Stover, Physicians for Human Rights

Genetic techniques for identifying victims: Mary-Claire King*, Univ of California-Berkeley

The forensic investigation of the disappeared in Iraqi Kurdistan: Eric Stover*, Physicians for Human Rights

Experience of the Argentine Forensic Anthropology Team: Mercedes Doretti*, Argentine Forensic Anthro. Team

Forensic science applications in Kurdistan, Iraq: Clyde Snow*, Oklahoma Medical Examiner Office

Role of the Guatemala Forensic Anthropology Team: Stefan Schmitt*, Guatemala Forensic Anthro. Team

Who's an Expert? Science and the Supreme Court

(ORG BY DAVID H. GUSTON, HARVARD UNIV).
Assessment of the likely impact on science, law, and their interaction of the July 1993 Supreme Court decision on Daubert v. Merrill Dow.

Monday, AM

With friends like these...:The representation of science in Daubert: Sheila Jasanoff, Cornell Univ

The impact of Daubert: Richard A. Meserve, Covington and Burling

Aiding the gatekeepers: The FJC program on scientific evidence: Joe S. Cecil, Federal Judicial Ctr

Peer review in the courts, or when scientists 'get real': Daryl E. Chubin, Natl Science Fdn

Daubert and scientific publishing: Marcia Angell, New England Journal of Medicine

Daubert and defining science: Gerald Holton*, Harvard Univ

Linking Independent S&T Expertise to Courts

(ORG BY RUTH BURG, BOARD OF CONTRACT APPEALS, AND MARK FRANKEL, AAAS).
This session will review a AAAS-American Bar Association joint project to design a demonstration project for assessing the efficacy of federal court-appointed scientific and technical experts.

Monday, PM

The AAAS-ABA project on court-appointed experts: Ruth C. Burg, Board of Contract Appeals

A judge's view of court-appointed experts: Alex Kozinski*, US Court of Appeals

A positive theory of scientific evidence: Dan L. Burk, George Mason Univ

The scientist as a court-appointed expert: Howard K. Schachman*, Univ of California-Berkeley

Scientists and Human Rights: Activists, Victims, and Advocates

(ORG BY HERMAN WINUK, AMER PHYSICAL SOC, AND ELISA MUNOZ, AAAS).
Speakers will review the evolving response of scientists to reports of human rights violations affecting their colleagues. Several scientists who have been persecuted will speak about their experiences.

Tuesday, AM

Scientists and human rights: A historical partner: Richard P. Claude*, Univ of Maryland

The scientist as human rights activist: Yuri Orlov*, Cornell Univ

Human rights violations and the scientific community in Sudan: Elsheikh Ahmed Kiniesh, Louisiana State Univ

Scientists as political prisoners: The case of China: Fang Lizhi, Univ of Arizona; Richard Dicker*, Comm to End the Chinese Gulag; Audrey R. Chapman, AAAS.

Human rights action networks: Audrey R. Chapman, AAAS

Statistics and Information Management for Human Rights

(ORG BY MARY GRAY, AMERICAN UNIV, AND DANIEL SALCEDO, AAAS).
This session will review how AAAS and other groups have begun to provide front-line human rights groups with training and support in statistics, e-mail, and database management.

Tuesday, PM

Statistical training for human rights: Herbert F. Spirer, Univ of Connecticut

Use of E-mail by front line human rights organizations: Geoff Sears, Inst for Global Communications

Databases for human rights: Patrick Ball*, Univ of Michigan

Documentation of human rights violations: The HURIDOCS approach: Judith Dueck, HURIDOCS

Coping with Crises: Sexual Harassment

(ORG BY STEPHANIE BIRD, MIT, AND CATHERINE DIDION, AWIS).
This session will explore definitions of sexual harassment, new EEO guidelines, and what institutions and individuals can do to deter its occurrence.

Wednesday, AM

Sex and denial in scholarly garb: Louise Fitzgerald*, Univ of Illinois

A personal perspective: Frances Conley, Stanford Univ School of Medicine

Sensitivity training to overcome "good ole boys" network: Myra Strober*, Stanford Univ

A male perspective in mediating sexual harassment: Howard Gadlin, Univ of California-Los Angeles

The role of an ombudsman in addressing sexual harassment: Mary P. Rowe*, MIT

I

Inner City Crime and Future Violence Initiatives

(ORG BY ROLAND CHILTON, AMERICAN SOC OF CRIMINOLOGY).
This session will emphasize specific changes that can be made to reduce crime rates in urban America: changes in law and enforcement policy, in health and education, in ethnic relations and family activities, in urban social organizations, and medical and psycho-biological approaches.

Wednesday, PM

Reducing violence: Limits and potentials of criminal justice: Elliott Currie, Univ of California-Berkeley

Changes in urban social organization that reduce violence: Robert Sampson*, Univ of Chicago

Changes in health and education that reduce violence: Darnell Hawkins*, Univ of Illinois

Inter- and intra-ethnic violence and its reduction: Joan Moore, Univ of Wisconsin

Medical and psycho-biological approaches that reduce violence: Sarnoff Mednick*, Univ of Southern California

Regional and International Security & Defense Conversion

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Defense Conversion and Technology Transfer

(ORG BY DAPHNE KAMELY, DEPT OF DEFENSE).
Will outline the Technology Reinvestment Project, the federal government's program of defense conversion, and highlight key technology areas in terms of technology transition into commercial applications, including environmental technology.

Saturday, AM

White House Technology Reinvestment Project: Robert M. Sasmor, Advanced Rsch Projects Agency

Environmental technology: Bridging research applications: Ananda M. Chakrabarty, Univ of Illinois-Chicago

Technology transition and transfer: Spin-on and spin-off of technologies and practices: Geoffrey K. Bentley, Textron Defense Systems

Aerospace industry perspective on defense conversion: Suzanne L. Phinney, Aerojet

Biotechnology in health care: Gilbert S. Omenn, Univ of Washington

Defense Conversion in California

(ORG BY DAPHNE KAMELY, DEPT OF DEFENSE).
California is hard hit by the downsizing of the DOD. In an effort to stimulate the economy, federal and state governments have targeted defense conversion programs in the state.

Saturday, PM

Interaction of Superfund and defense conversion programs: Julie Anderson-Rubin*, Environmental Protection Agency

National laboratories involvement in defense conversion: John H. Nucholls*, Lawrence Livermore Labs

Fort Ord conversion: Center for science, technology, education, and policy: Lora Lee Martin, Univ of California-Santa Cruz

Aerospace industry perspective on dual-use technology: Joseph B. Reagan, Lockheed Missiles & Space Co

Defense conversion and the economy: Michael Closson*, Ctr for Economic Conversion

Effective Approaches to the Arms Trade

(ORG BY W. THOMAS WANDER, AAAS).
What, if any, arrangements ought to be or can be worked out on a regional or global level to appropriately address the trade in weapons?

Sunday, AM

Dimensions of the arms trade: Natalie Goldring*, British-American Security

Global approaches to restraining the arms trade: Ed Laurence*, Monterey Inst for International Studies

Linking development aid to arms imports: Nicole Ball*, Overseas Development Council

Another view from the supply side: China and the arms trade: Hua Di*, Stanford Univ - CISA

Restraining the arms trade: A view from the demand side: C. Raja Mohan*, US Inst of Peace

Nuclear Arms Reduction and Russian Laboratory Conversion Through Joint US/RF Cooperation

(ORG BY A. DEVOLPI, ARGONNE NATL LAB, AND V. MINKOW, ARGONNE NATL LAB).
Will bring together key Russian weapon-lab scientific leaders, MINATOM officials, ISTC administrators, and US government officials to stimulate a public dialogue for scientists that might contribute to collaborative R&D activities.

Sunday, PM

Russian Nuclear Defense laboratory conversion : Yuri Trutnev, IEP; Evgeny Avrorin, ITP

Collaboration with Russian laboratories in order to foster nuclear arms reduction: Rose E. Gottemoeller*, Natl Security Council

Defense conversion and the Russian nuclear establishment: Susan Eisenhower*, The Center for Post-Soviet Studies

Joint US/FSU cooperation in nuclear arms reduction: Gloria Duffy, US Dept of Defense

Nuclear Weapons Dismantlement and Its Aftermath

(ORG BY PETER JOHNSON, OTA, ROBERT P. MORGAN, WASHINGTON UNIV, AND WILLIAM POTTER, MONTEREY INST OF INTL STUDIES).
Will examine technical and policy issues associated with dismantling of nuclear warheads in the US and FSU.

Monday, AM/PM

Nuclear material from production to the FSU: Frank von Hippel*, Princeton Univ

Nuclear safeguards in the non-Russian republics: William Potter, Monterey Inst

Security problems with Russian nuclear facilities: Oleg Bukharin*, Princeton Univ

Nuclear material security in Ukraine: Andrei Glukhov*, Ukrainian St Cmte Nuclear & Radiation Safety

Assessing the FSU nuclear proliferation threat: Gerald Epstein, Office of Technology Assessment; Peter Johnson, Office of Technology Assessment; Robert Morgan, Washington Univ; William Potter, Monterey Inst

The OTA report: Dismantling the bomb: Emilia L. Govan*, US Congress; Peter Johnson*, Office of Technology Assessment

Disposition of Plutonium from nuclear warheads: John P. Holdren, Univ of California-Berkeley

Citizen participation and responsibility in planning for dismantlement and disposition: Beverly E.C. Gattis, STAND of Amarillo, Inc

Nuclear warhead dismantlement: DOE policy development: Robert DeGrasse*, US Dept of Energy

Averting nuclear chaos: James E. Goodby, US Dept of State

Arms Control and International Security: New Players, New Approaches

(ORG BY PATRICIA MCFATE, SCIENCE APPLICATIONS INTERNATL CORP).
The focus in arms control has shifted from bilateral to multilateral agreements with the end of the Cold War.

Tuesday, AM

What's on the new multilateral arms control agenda: Ashton B. Carter*, US Dept of Defense

How do regional issues affect the arms control agenda?: Janne Nolan*, The Brookings Inst

Will China be a significant player in the international security field?: Hua Di*, Stanford Univ - CISA

What role should cooperative aerial and space surveillance play?: Ron Cleminson*, Government of Canada

The Future of the Nuclear Nonproliferation Treaty and Regime

(ORG BY AMY SANDS, LAWRENCE LIVERMORE NATL LAB).
The historic, current, and future role for the NPT and its significance to nonproliferation efforts internationally.

Tuesday, PM

NPT's limitations and the potential for future gain: William K. Domke, Lawrence Livermore Natl Lab

The impact of the collapse of the Soviet Union on the NPT: William Potter, Monterey Inst

US concerns and hopes for the NPT: Susan F. Burk, Arms Control & Disarmament Agency

The view from outside the NPT : C. Raja Mohan*, US Inst of Peace

Frontiers in Engineering & Physical Science Technology

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Frontiers of the Physical Sciences: 1994

(ORG BY ROLF M. SINCLAIR, NSF).
This symposium will feature one-hour talks on new developments in the areas of physics, mathematics, chemistry, astronomy, geology, and atmospheric/hydrospheric science.

Saturday, AM/PM

Phase Transitions

(ORG BY JENNIFER TOUR CHAYES, UCLA).
This session will discuss the mathematical analysis of phase transitions in simple models, describing such phenomena as formation of membranes and crystals, behavior of magnetization in systems with discontinuous transitions, and properties of some 2-dimensional quantum antiferromagnets.

Sunday, AM

Surfaces in a continuum model of the liquid-gas transition: Jennifer Tour Chayes, Univ of California-Los Angeles

Phase transitions in quantum antiferromagnets: Steven Kivelson*, Univ of California-Los Angeles

Finite-size scaling at first-order phase transitions: Christian H. Borgs, Free Univ of Berlin

Bubbles and phase transitions: D.B. Abraham, Oxford Univ

Recent Advances in Lasers

(ORG BY MICHAEL CRISP, US DOE).
This session will review recent developments and explore the future of lasers. Topics to be covered: short pulses, two-photon lasers, laser-cooling devices, and terahertz to x-ray generation from high-intensity lasers.

Sunday, PM

Femtoscience: Shedding light on primary events: Charles V. Shank, Lawrence Berkeley Lab

Two-photon lasers: Thomas W. Mossberg, Univ of Oregon

Terahertz to X-ray generation from intense laser-matter interaction: Roger W. Falcone, Univ of California-Berkeley

Devices based upon laser cooling: Steven Chu*, Stanford Univ

Free electron lasers: H. Alan Schwettman, Stanford Univ

New Physics in the Bay Area

(ORG BY ANDREW SESSLER, LAWRENCE BERKELEY LAB).
The focus is on cutting-edge physical science R&D at Bay-area institutions such as the Lawrence Berkeley Lab, Lawrence Livermore National Lab, Stanford Linear Accelerator Center, and local universities.

Monday, AM

Highways and Toll Roads: Electronic Access in the 21st Century

(ORG BY BARBARA SIMONS, IBM).
Discussion of policy issues concerning the development of US electronic infrastructure, including a National Research & Education Network, Internet, and the National Information Infrastructure. Topics of equity, privacy, commercialization, and access will be covered.

Monday, PM

Laura Breeden*, FARNET; David J. Farber*, Univ of Pennsylvania; Michael Liebhold*, Apple Computer; Robert W. Lucky*, Bellcore; Michael R. Nelson*, Off of Science & Technology Policy; Marc Rotenberg*, CPSR; Frederick W. Weingarten, Computing Research Association

The Unreasonable Effectiveness of Number Theory

(ORG BY STEFAN A. BURR, CITY COLLEGE CUNY, AND MANFRED R. SCHROEDER, UNIV OF GOTTINGEN/AT&T BELL LABS).
Number theory — the study of the properties of integers — is one of the oldest branches of mathematics. This session will emphasize its many applications to areas as diverse as biology, computer arithmetic, motion pictures, physics/acoustics, and quasicrystals.

Tuesday, PM

Some unreasonable applications of number theory: Stefan A. Burr, City College, CUNY

Number theory, dynamical systems, and quasicrystals: Jeffery C. Lagarias, AT&T Bell Labs

What is a random sequence?: Fan R.K. Chung, Bellcore

Physics, music, and cryptography: The number theory connection: Manfred R. Schroeder, Univ of Gottingen

Trace Substances: Impact of Recent Instrumental Advances on Regulatory Affairs

(ORG BY BARRY KARGER, NORTHEASTERN UNIV, AND BILL FREUDENBERG, UNIV OF WISCONSIN).
Examination of the interaction between technology and policy in the area of trace substances. How should regulators respond when advances in instrumentation permit the detection of nearly infinitesimal concentrations of contaminants?

Wednesday, AM

The issues of trace substances and regulations: James F. Short, Washington State Univ

Trace analytical advances: Impact on environmental health issues: Ron Hites, Indiana Univ

Screening vs. monitoring as responses to environmental contaminants: Elaine Draper, Univ of Southern California

Role of new analytical methods in the rapid development of rDNA derived proteins: William S. Hancock, Genentech

What can we expect in the future for trace analysis?: L. William Hutchens*, Baylor College of Medicine

Calibrating Human History: The Impact of New Methods of Dating

(ORG BY FRANK HOLE, YALE UNIV).
Methods of dating the past developed during the last 30 years have lengthened human history and allowed correlations with events such as climatic change. This session will discuss such pivotal periods as the earliest hominids, the Neanderthal/Homo sapiens relation, the origins of agriculture, the entry of humans in the Americas, and early Egypt.

Wednesday, PM

Geochronology and paleoanthropology: Relevance for hominid evolutionary studies: F. Clark Howell, Univ of California-Berkeley; Francis H. Brown*, Univ of Utah

Dating human origins in the Levant: Henry P. Schwarcz, McMaster Univ

High precision dating of Plains paleoindian archae: George Frison, Univ of Wyoming

The chronology of domestication: Frank Hole, Yale Univ

Revisions of early Egyptian chronology: Robert J. Wenke, Univ of Washington

Frontiers in Psychology & Linguistics

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Face Recognition by Computers and People

(ORG BY JAMES C. BARTLETT, UNIV OF TEXAS, AND BERT S. MOORE, UNIV OF TEXAS).
Visual codes, implicit knowledge and perceptual skills, neuroanatomical loci of components impacting face recognition will be examined, along with advances in computer modeling.

Saturday, AM

Superportraits: Computational clues from caricature recognition: Gillian Rhodes, Univ of Canterbury

Neural net models in face recognition: Herve Abdi, Univ of Texas-Dallas

Face recognition by computer: Alex P. Pentland, MIT

The neurofunctional architecture of face processing: Justine Sergent, McGill Univ

Inversion and configuration of faces: James C. Bartlett, Univ of Texas-Dallas

New Findings on the Origins and Behavioral Consequences of Temperament

(ORG BY NATHAN FOX, UNIV OF MARYLAND).
New research on human temperament and its influence on psychopathology.

Saturday, PM

Biology of infant temperament: Nathan A. Fox, Univ of Maryland

Environmental context and the genetics of temperament: David C. Rowe, Univ of Arizona

Genetic and experiential influences on temperamental development: H. Hill Goldsmith, Univ of Wisconsin

Affect and attention in early temperament: Mary K. Rothbart, Univ of Oregon

Temperament and social behavior in children: Jerome Kagan, Harvard Univ

Animal Behavior: Using Behavior-Genetic Analysis to Study Heredity and Behavior

(ORG BY JERRY HIRSCH, UNIV OF ILLINOIS).
A look at the relationship between behavior and heredity, involving the study of ontogeny and the correlations between phenotypes, phenotypes and genotypes, and genotypes.

Sunday, AM

Predisposition: Environment interaction in behavioral development: Joseph K. Kovach, Menninger Clinic

Mechanisms of inbreeding avoidance in social mammals: Anne Pusey, Univ of Minnesota

Genetically precoded circuits winnowed by neuroselection? A model of song learning: Peter Marler, Univ of California-Davis

Substitution of mtDNA in mice induces differences in behavior: Pierre Roubertoux, URA/CNRS 1294 Gen. Neu. Comport.

Evolution in laboratory Drosophila (flies): Correlations among behaviors and genes: Jerry Hirsch, Univ of Illinois

Brain and Behavior: Biology Meets Public Health

(ORG BY BONNIE BLUSTEIN, AND VAL WOODWARD, UNIV OF MINNESOTA).
A neurobiologist and a sociologist will attempt to establish a common language for discussing biology and behavior across disciplinary lines, particularly its relevance to violence initiatives.

Sunday, PM

Explaining brain and behavior: Social, technical, and ideological constraints: Steven P.R. Rose, The Open Univ

Understanding violent and criminal behaviors: Sociology explains what neuroscience cannot: Steven J. Rosenthal, Hampton Univ

Comment: Between neuroscience and sociology is the individual person: Dorothy Powell, Children's Services/GAIN

Comment: A true public health approach to violence: Peter Breggin, Ctr for Study of Psychiatry

Comment: Can the violence-initiative debate transcend ideology?: Alan Gilbert*, Univ of Denver

Comparative Linguistics and Historical Relationships

(ORG BY JOHANNA NICHOLS, UC-BERKELEY, AND LYLE CAMPBELL, LOUISIANA STATE UNIV).
Methods of contemporary standard comparative linguistics and an assessment of its capabilities in reconstructing ancestral forms of language. The relationship to history, archaeology, and cultural anthropology will also be examined.

Monday, PM

The comparative method: Jay H. Jasanoff, Cornell Univ

The role of grammatical evidence in hypotheses of linguistic relationship: Lyle Campbell, Louisiana State Univ

Characterizing and evaluating evidence for distant genetic relationships: William H. Jacobsen, Univ of Nevada-Reno

Chance and true linguistic relationships: Donald A. Ringe, Univ of Pennsylvania

Language at 40,000 BC: Johanna Nichols, Univ of California-Berkeley

Application of Behavioral Science to Real-World Problems: The USS Vincennes

(ORG BY JAMES DRISKELL, FLORIDA MAXIMA CORP, AND EDUARDO SALAS, NAVAL TRAINING SYSTEMS CTR).
Complex technologies and the amount of information generated increase the chance of stress-induced error. The USS Vincennes incident is examined as a prototypical example.

Tuesday, PM

Overview: The USS Vincennes: Jan Cannon-Bowers*, Naval Training Systems Ctr

Stress and decision making: Gary Klein, Klein Associates, Inc.

Stress exposure training: Joan K. Hall, Naval Air Warfare Ctr

Understanding and supporting teams in complex systems: William B. Rouse, Search Technology, Inc; Phillip C. Duncan, Search Technology, Inc; Bill Howell*, American Psychological Assn

Brain, Mind, and Language: Evidence from Aphasia

(ORG BY WILLIAM F. KATZ, UNIV OF TEXAS, AND THOMAS TIGHE, UNIV OF CONNECTICUT).
Presents findings regarding brain organization underlying speech and language, from new methods for mapping brain function and speech movements to important breakthroughs in aphasia therapy.

Wednesday, AM

Linguistic and cognitive knowledge: Evidence from Aphasia: Victoria A. Fromkin, Univ of California-Los Angeles

Language processes revealed by direct cortical electrical interference and recording: Barry Gordon, Johns Hopkins Univ

Speech production in aphasia: What goes wrong, and why?: William F. Katz, Univ of Texas-Dallas

Grammatical disorders in aphasia: Theory and treatment: Myrna F. Schwartz, Moss Rehabilitation Research Inst

Discussant: Harry Whitaker*, Univ of Quebec

Inherited Speech and Language Disorders: In Search of a Phenotype

(ORG BY MABEL L. RICE, UNIV OF KANSAS).
Advances in language impairments, linguistics, genetics, and brain imaging, and their part in the identification of a possible phenotype.

Wednesday, PM

Familial aggregation of speech disorders: The evidence: Barbara A. Lewis, Case Western Reserve Univ

Neuroanatomical correlates of familial language disorders: Elena Plante, Univ of Arizona

Linguistic markers of language impairment: Mabel L. Rice, Univ of Kansas

Gene localization and the definition of phenotypes: Shelley Smith, Boys Town Natl Rsch Hospital

Epidemiologic, genetic, and linguistic features of specific language impairment: J. Bruce Tomblin, Univ of Iowa

Frontiers in Astronomy

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Cosmology After COBE

(ORG BY STEPHEN P. MARAN, GODDARD SPACE FLIGHT CTR, AND SALLY A. STEPHENS, ASTRONOMICAL SOC OF THE PACIFIC).
Research results on the origin and structure of the Universe from the Cosmic Background Explorer (COBE) satellite and Hubble Space Telescope.

Monday, AM/PM

COBE: How it worked and what it found: John C. Mather, Goddard Space Flight Ctr

Seeds of structure: Ripples in the primeval background radiation: George Smoot, Lawrence Berkeley Lab

What we know about the Big Bang: Joseph I. Silk, Univ of California

In search of primeval galaxies: Michael G. Hauser, NASA/Goddard Space Flight Center

Distant galaxies and the large scale structure of the universe: David C. Koo, Univ of California-Santa Cruz

Galaxies through the Hubble Space Telescope: Anne L. Kinney, Space Telescope Science Inst

Distant clusters of galaxies and what they tell us: Alan Dressler, Observatories of Carnegie Inst

Summing up: Cosmology then and now: Virginia Trimble, Univ of Maryland

Changing Perspectives on the Planets

(ORG BY DAVID MORRISON, NASA AMES RES CTR).
One of the most important products of three decades of spacecraft investigation of the planets has been the new perspective gained on the Earth, Mars, and Venus.

Tuesday, AM

The new Venus: Results from the Magellan mission: Ellan Stofan*, Jet Propulsion Lab

First images of asteroids: Gaspra, Ida, & Toutatis: Clark R. Chapman*, Planetary Science Inst

Comparative geology of Venus, Earth, and Mars: Michael Carr*, US Geological Survey

Exploring Mars: Presence and telepresence: Carol Stoker*, NASA/Ames Research Ctr

Origin of life: A planetary perspective: Sherwood Chang*, NASA/Ames Research Ctr

How California Astronomers Changed Our View of the Universe

(ORG BY JOSEPH TENN, SONOMA STATE UNIV, AND ANDREW FRAKNOI, FOOTHILL COLL).
California became a world leader in astronomy long before it became home to 1/8 of the American population.

Tuesday, PM

Big telescopes and big science at California mountain-top observatories: Donald E. Osterbrock, Univ of California

Harlow Shapley and our location in the galaxy: Barbara L. Welther*, Smithsonian Astro. Osbervatory

Edwin Hubble, Milton Humason, and the expanding universe: Gale E. Christianson, Indiana State Univ

Spacecraft views of the planets: Eric Burgess

Radio astronomy in California: Harold F. Weaver, Univ of California-Berkeley

Cosmic Rain: The Bombardment of Earth

(ORG BY ROLF M. SINCLAIR, NSF).
The Earth is impacted by comets, asteroids, and debris of ancient collisions. The effect of even small collisions can be catastrophic. This session examines past collisions and looks for ways of predicting future ones.

Wednesday, AM

Gravitational Biology and Space Medicine

(ARNAULD NICOGOSSIAN, AMERICAN ASTRONAUTICAL SOC/NASA HDQRTRS, AND CAROLYN L. HUNTOON, AMERICAN ASTRONAUTICAL SOC/NASA JOHNSON SPACE CTR).
Four areas of space life sciences investigations conducted in space and on the ground under simulated conditions.

Wednesday, PM

Metabolic and endocrine responses to space flight: Carolyn L. Huntoon, NASA Johnson Space Ctr

Cardiopulmonary function in microgravity: John B. West, Univ of California-San Diego

Musculoskeletal responses to space flight and inactivity: Claude Arnaud*, Univ of California-San Francisco

Gravity sensor architecture, physiology, plasticity: From flight experiment to simulation: Muriel D. Ross, NASA/Ames Research Ctr

Medical issues in short and long duration space missions: Arnauld E. Nicogossian, NASA

Communicating Science

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Measuring the Impact of Public Understanding of Science Programs

(ORG BY VALERIE CRANE, RESEARCH COMMUNICATIONS).
A forum for professional researchers, practitioners, scientists, and policymakers to discuss the need for studies that show the impact of informal science learning on the public.

Saturday, AM/PM

Confronting environmental racism: An environmental justice framework for decision making: Valerie Crane, Research Communications

Television and informal science education: A research assessment: Milton Chen, KQED Ctr for Education & Learning

Impact of science museums: Stephen Bitgood*, Ctr for Social Design

Impact of community-based programs: Recruiting scientific insiders: Heather J. Nicholson, Girls Inc

What we don't know about informal science learning: Alan J. Friedman, New York Hall of Science

The science perspective on impact research: Leon M. Lederman*, Fermi Natl Accelerator Lab

Informal science education projects: The perception of funders: Hyman H. Field, Natl Science Fdn

A communications perspective on impact research: Everett M. Rogers, Univ of New Mexico

Practitioners and researchers: An equity dialogue: Nancy Kreinberg, Univ of California-Berkeley

Designing Science Shows for Kids

(ORG BY SHARON DUNWOODY, UNIV OF WISCONSIN, AND MARILEE LONG, COLORADO STATE UNIV).
A look at 3 shows working to tailor content to a young audience's taste and science education needs.

Sunday, AM

The Newton's Apple taste test: Richard Hudson, Newton's Apple

It's hip! It's hot! It's — radio?: Bob Hirshon, AAAS Science Update

Learning science from children's radio: Barbara N. Flagg, Multimedia Research

Formative research for Magic School Bus: Valerie Crane*, Research Communications

The Magic School Bus: Communicating science on television through dramatic storytelling: Michael Templeton, Scholastic Productions

Rethinking Public Understanding of Science: Putting the Audience First

(ORG BY CAROL ROGERS, UNIV OF MARYLAND, AND JOANN MYER VALENTI, BRIGHAM YOUNG UNIV).
Framed in the perspective of the public, widespread scientific illiteracy and disinterest among many Americans will be examined.

Sunday, PM

The public: An exercise in promoting and restoring interaction: JoAnn Myer Valenti, Brigham Young Univ

Science: Out of sight, out of mind: Elliot Margolies, Mid-Peninsula Access Corp

Ecological literacy: Environment as the organizing principle for the 21st Century: David W. Orr, Oberlin College

Biotechnology and the mass media: Media frames and public response: Susanna Hornig, Texas A&M Univ

The Science of Star Trek: Bringing Science to a Different Public

(ORG BY SHARON FRIEDMAN, LEHIGH UNIV, AND JAMES CORNELL, HARVARD-SMITHSONIAN CTR FOR ASTROPHYSICS).
Exploration of how science is treated in science fiction, particularly Star Trek, and how the show can be used as an informal science learning tool.

Sunday, AM/PM

The science in science fiction: Frederik Pohl, Omni Magazine

Constraints in merging science and science fiction: Yoji Kondo, NASA Goddard Space Flight Ctr

Science in Star Trek: Realism versus drama: Naren Shankar, Paramount Pictures

Gene Roddenberry's approach to science: Majel Barrett Roddenberry, Paramount Pictures; Sharon Friedman, Lehigh Univ;

Gene Roddenberry and astrophysics: The man who sold the moon: Sallie Baliunas, Stanford Univ

Chemistry in Star Trek: Where no one has gone before?: Natalie Foster, Lehigh Univ

A museum uses Star Trek for education: John Shane*, Boston Museum of Science

Star Trek in the classroom: Hal Coyle, Harvard-Smithsonian Ctr for Astrophysics

Science, Lies, and Videotape

(ORG BY INGRID KALLICK, NATL CTR FOR SUPERCOMPUTING APPL, AND BONNIE CARROLL, CENDI).
While visualizations can facilitate understanding of science, they may also limit questions about procedure. Issues of standards and citations will be covered.

Monday, AM

The creation of scientific images: Donna J. Cox, Univ of Illinois

Scientific images and the media: Dorothy Nelkin*, New York Univ

Scientific images in research and public policy: Gregory McRae*, Carnegie Mellon Univ

Scientific images in broadcast journalism: Paula S. Apsell*, NOVA

Scientific images in archives, libraries & citations: Gladys Cotter*, NASA HQ

Is Visualization REALLY Necessary for Science, Engineering, and Medicine?

(ORG BY NAHUM GERSHON, MITRE).
Computers and modern display technology have made it possible to represent data visually in two or higher dimensions using color, shading and lighting, texture, and stereo. Have they changed the way scientists, engineers, and physicians conduct their business?

Monday, PM

Visualization of remote databases in Earth systems science: Jeff Dozier, Univ of California-Santa Barbara

The need for visualization in geographic information systems: Jeff Star, Univ of California-Santa Barbara

The role of visualization in molecular biology: Robert Langridge, Univ of California-San Francisco

The need for visualization in structural biology: Mark Ellisman, Univ of California

The role of visualization in industry: Robert Abarbanel, Boeing Computer Services

Visualization by organisms, scientists, engineers, and physicians: Murray Eden, NIH

Task-oriented performance evaluation of visualization methods in medical imaging: Gabor T. Herman, Univ of Pennsylvania

The role of visualization in medicine: Justin Pearlman, Harvard Medical School

Problem solving with and without visualization: Richard Mark Friedhoff, Visicom Corp

Multimedia Information Systems for Science and Engineering Education: Harnessing Technologies

(ORG BY TONI CARBO BEARMAN, UNIV OF PITTSBURGH, AND J. FRED GAGE, UNIV OF PITTSBURGH).
Will address methods to help faculty and students make the transition from conventional teaching and learning to use of multimedia.

Tuesday, PM

The use of construction-kit software for teaching relativity: Paul Horwitz, Bolt, Beranek, and Newman, Inc

Distributed collaborative science learning using scientific visualization and wideband telecommunications: Roy Pea, Northwestern Univ

Infoscope: Prospecting information from disparate sources: Ramesh Jain, Univ of California-San Diego

Designing collaborative learning environments with embedded self-assessment: Leroy J. Tuscher, Lehigh Univ

Creating an integrated learning environment: Diana G. Oblinger, IBM

Science Education Reform

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Benchmarks for Science Literacy and the Project 2061 Vision

(ORG BY FRANCES GATZ, PROJECT 2061).
Overview of Project 2061 and its reform tools.

Saturday, AM

F. James Rutherford, AAAS; Andrew Ahlgren, AAAS; Jo Ellen Roseman, AAAS; Bernard Farges*, Project 2061 Team Leader; Carol Muscara, AAAS

The Essential Role of the Science Community in K-12 Education Reform

(ORG BY FRANCES GATZ, PROJECT 2061).
Perspectives on the critical role of scientists in school reform.

Saturday, PM

F. James Rutherford, AAAS; Bruce Alberts*, National Academy of Sciences; Francisco J. Ayala*, Univ of California-Irvine; Thomas Sachse*, California Dept of Education; Maria Santos, Project 2061

Using Benchmarks and Other Project 2061 Reform Tools for Curriculum Planning

(ORG BY FRANCES GATZ, PROJECT 2061).
Project 2061's reform tools will guide educators in choosing which content to include or exclude from school curricula and classroom instruction.

Sunday, AM

Changing the System: Getting Policymakers, Academics, and Community Leaders Behind Project 2061 Reform

(ORG BY FRANCES GATZ, PROJECT 2061).
Recommendations for systemic reform and critical questions regarding university curricula, state policies, and implications on school funding.

Sunday, PM

James Oglesby, AAAS; Mike Hurst*, Stanford Univ; Carol Stoel*, American Assn Higher Education; Robert Donmoyer*, Ohio State Univ; Cora B. Marrett*, National Science Fdn; Catherine Belter*, National Parents-Teacher Assn

National Science Education Standards

(ORG BY ANGELO COLLINS, NRC, AND ELIZABETH STAGE, NRC).
A critical part of the K-12 science education standards is an organized effort to build consensus by involving all affected organizations and interest groups. Attendees will have an opportunity to comment on the Winter 1994 NRC Draft.

Monday, AM

National science standards project: Assessment: Audrey B. Champagne, SUNY-Albany

Content standards in science education: Rodger W. Bybee, Biol Sciences Curriculum Study

National science education standards: Teaching: Karen Worth, Education Development Ctr, Inc

Science education standards: What are they?: Angelo Collins, Natl Research Council

The Third International Math and Science Study (TIMSS)

(ORG BY DOROTHY M. GILFORD, NAS, AND DANIEL HORVITZ, NATL INST OF STATISTICAL SCIENCES).
In 1994-95, TIMSS will measure math and science achievement levels among 9-year olds, 13-year olds, and students in their last year of secondary education in 50 countries.

Monday, PM

Evaluation of international comparative studies: Richard Jaeger*, Univ of North Carolina

TIMSS design: Albert E. Beaton*, Boston College

What is expected to be learned from TIMSS: David E. Wiley*, Northwestern Univ

International mathematics and science curricula: William H. Schmidt, Michigan State Univ; Donald B. Rubin, Harvard Univ; Daniel G. Horvitz, Natl Inst of Statistical Sciences

Public Understanding of Basic Biomedical Concepts

(ORG BY JON D. MILLER, CHICAGO ACADEMY OF SCIENCES).
First results from a new NIH-sponsored national study of the public understanding of basic biomedical concepts.

Tuesday, AM

Public understanding of bacteria, vaccines, antibodies, and the immune system: M. Pifer*, Chicago Academy of Sciences

Public understanding of experimentation and the scientific approach: Jon D. Miller, Chicago Academy of Sciences

Biomedical understanding among African-Americans: William Pearson*, Wake Forest Univ

Biomedical understanding among Hispanic-Americans: Antonio Rigual*, Univ of Texas

Public trust in biomedical and health information: Jon Ziomek*, Northwestern University; Timothy Ressmeyer*, Chicago Academy of Sciences; Chair, Mary Wooley*, Research! America

Discussion: David Perlman*, San Francisco Chronicle

Facing the Challenge: Building Scientific Literacy in a Multicultural and Multilinguistic Society

(ORG BY RITA PETERSON, UC-IRVINE).
Overview of California's science education efforts to increase scientific literacy of its multicultural and multilinguistic K-12 population.

Tuesday, PM

Introduction: Rita W. Peterson, Univ of California-Irvine

California's new science framework & curriculum reform projects: Thomas Sachse*, California Dept of Education

Forces of science education reform: David J. Hammond, California Dept of Education

Adapting science programs for California's multilinguistic K-12 school population: Joan S. Bissell, Univ of California-Irvine

Minority scientists mentoring programs: Eloy Rodriguez*, Univ of California-Irvine

The Carver Teamteaching Model: A public school/corporate partnership in science: Lupe O'Leary, Santa Ana Unified School Dist

Preparing teachers to advance science literacy in multicultural-multilinguistic classrooms: Rita W. Peterson, Univ of California-Irvine

National and International Tests: How Good Is the Science?

(ORG BY AUDREY CHAMPAGNE, SUNY-ALBANY).
The quality of these tests is of critical importance to the scientific community. Learn how to influence the scientific content.

Wednesday, AM

National assessment of science in Great Britain: Paul J. Black, King's College, London

Creating assessment standards for science education: Ernest W. Kimmel, Educational Testing Service

The science portion of the National Assessment of Educational Progress: Ina V.S. Mullis, Educational Testing Service

The development of international science tests: William H. Schmidt, Michigan State Univ

New standards for science assessment: Elizabeth K. Stage, Univ of California

Women in Science and Engineering: To Be (or Not to Be) a Postdoc

(ORG BY ELLEN WEAVER, SAN JOSE STATE UNIV/AWIS, AND MARY CLUTTER, NSF).
In some fields, Ph.D.s are taking a series of postdoctoral appointments while awaiting an improved economy. Is this good for their careers?

Wednesday, PM

The historical role of postdoctoral education in science and engineering: Lilli S. Hornig*, Wellesley Coll

What a postdoctoral appointment does in theory: Arnold E. Schwartz, Natl Research Council

How a postdoctoral appointment can affect one's short- and long-term goals: Victoria Nasman*, US Air Force

Current data on postdoctoral appointments: Joy Ward*, Natl Assoc Grad & Prof Students

Science for Everyone

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

Science Is Fun!

(ORG BY BASSAM SHAKHASHIRI, UNIV OF WISCONSIN).
Science teachers share their excitement about science with spectacular demonstrations and hands-on experiments.

Saturday, AM

Youth Meets the Masters

(ORG BY SAUL KRASNER, US COAST GUARD ACADEMY).
Scientists will talk with young students about what excites and interests them in their careers.

Saturday, AM

Sylvia A Earle*, Deep Ocean Engineering

Is astrophysics in your future?: Sallie Baliunas, Stanford Univ

Fluorine: The Master Element: Jean'ne M. Shreeve, Univ of Idaho; Mary-Claire King*, Univ of California-Berkeley

Pseudo Opinion Polls: SLOP or Useful Data?

(ORG BY DANIEL HORVITZ, NATL INST OF STATISTICAL SCIENCES, AND JUDITH M. TANUR, SUNY-STONY BROOK).
Is a self-selected opinion poll (SLOP) acceptable or is adherence to the scientific method essential when assessing public opinion?

Saturday, PM

Surveys, SLOPs, and oy vey: An editor's perspective: Daniel E. Koshland, Univ of California-Berkeley

Statistical science's position: Donald B. Rubin, Harvard Univ

Polls and surveys as feedback mechanisms: Albert Gollin, Newspaper Assn of America; Thomas Sawyer, US Congress; Daniel G. Horvitz, Natl Inst of Statistical Sciences

Science, Nutrition, and California Cuisine

(ORG BY JILL PACE, AMERICAN COLL OF REAL ESTATE LAWYERS, AND ALBERT TEICH, AAAS).
California has led the revolution in American cooking and eating habits, putting California cuisine on a par with "continental" cuisines.

Sunday, AM

Local products and the origins of California cuisine: Alice Waters*, Chez Panisse

International influences on California cuisine: Joyce Goldstein*, Square One

The California culinary revolution in perspective: Michael Bauer*, San Francisco Chronicle

Health and nutritional aspects of new American cooking: Harold McGee*

California cuisine and national food policy: Ellen W. Haas*, US Dept of Agriculture

Acoustics: Sound of Science and Science of Sound

(ORG BY ANTHONY ATCHLEY, NAVAL POSTGRADUATE SCHOOL, AND LOGAN HARGROVE, OFF OF NAVAL RESEARCH).
Demonstrations in acoustics ranging from well-known classical phenomena to forefront research areas will be presented, allowing for extensive hands-on experience by audience members.

Sunday, PM

Anthony A. Atchley, Naval Postgraduate School; Steven Baker*, Naval Postgraduate School; Henry E. Bass, Univ of Mississippi; Bruce Denardo*, Univ of Mississippi; Robert Keolian, Naval Postgraduate School; Andres Larraza, Naval Postgraduate School; James Sabatier*, Univ of Mississippi

Science for the Naked Eye, XXI

(ORG BY ROLF M. SINCLAIR, NSF).
Presentations of the science behind everyday experience, intended for the general public.

Tuesday, AM/PM

Art and Mathematics

(ORG BY NATHANIEL FRIEDMAN, SUNY-ALBANY).
This session will show how art has been influenced by mathematics through the centuries.

Wednesday, AM

Fractal geometry: A paradigm shift in art and culture: Rhonda Roland Shearer

Visualization in three dimensions: Stewart Dickson, Post Group/Digital Ctr

Infinite structures in art and science: Harriet E. Brisson, Rhode Island College

Art, science, and ethics: Pamela Davis Kivelson, Univ of California-Los Angeles

Sculpture and fractal stone prints: Nathaniel Friedman, SUNY-Albany

On the edge of science: Charles O. Perry

Science and the Sense of the Sacred

(ORG BY URSULA GOODENOUGH, WASHINGTON UNIV, AND BRIAN SWIMME, CALIFORNIA INST OF INTEGRAL STUDIES).
Scientists exploring the realms of matter, life, and consciousness often develop perspectives on the sacred that may amplify or depart from those offered by traditional religious systems.

Wednesday, PM

Cosmology: Brian Swimme*, California Inst Integral Studies

Before the Big Bang? Cosmological inflation, expansion, and religion: Joel R. Primack, Univ of California-Santa Cruz

Zuni cosmology and their sense of the sacred: Triloki N. Pandey, Univ of California-Santa Cruz

The unity of biology and self: Sarah Hake*, USDA

Neurobiology and the examined life: Samuel H. Barondes, Univ of California-San Francisco

Societal Change: Population Trends and Urban Challenges

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

The Changing Work-face: Women, Men, and the Dynamics of Inclusion

(ORG BY BARBARA ILARDI, UNIV OF ROCHESTER).
The consequences of the massive movement of women into the workforce, with changes in workplace interaction, the structure of work, and how men and women define themselves.

Saturday, AM

Gender dynamics in work groups: Barbara C. Ilardi*, Univ of Rochester

Affirmative action in organizations: Redefining work and gender: Anne M. McMahon, Youngstown State Univ

Women at work: Who won the pink-collar revolution?: Henry A. Walker, Cornell Univ

Organizational theory, gender inequality, and individual careers: Kevin T. Leicht, Penn State Univ; Mary L. Fennell, Penn State Univ; Myra Strober*, Stanford Univ

Dual-Career Marriages

(ORG BY CATHERINE DIDION, AWIS, AND PENNY GILMER, FLORIDA STATE UNIV).
Noted scientists will reveal how they arrived at their decision to balance career and family aspirations.

Saturday, PM

Commuting and professional careers: Cora B. Marrett, National Science Fdn

When both spouses are scientists: Scott Long*, Indiana Univ

How one's partner influences one's choices: Penny J. Gilmer, Florida State Univ

What institutions can do to promote and support dual-career couples: Jane Lubchenco*, Ecological Soc of America

The Many Faces of Women Scientists: Resolving the Woman/Scientist Dilemma

(ORG BY CATHERINE DIDION, AWIS, AND BETTY MANDEL, MINORITY WOMEN IN SCIENCE/US ARMY).
Women of all ages, scientific and engineering disciplines, and diverse racial/ethnic backgrounds discuss personal experiences as both scientists and individuals.

Sunday, AM

Current research on successful recruiting for underrepresented groups: Mary J. Golladay, Natl Science Fdn

Women in S&E management: Jill Miller*, Xerox

Pros and cons of industrial employment: Catherine Tang*, Weyerhauser

Experiences of minority faculty: Clara Sue Kidwell*, Univ of California-Berkeley

Glass-Cutter Programs: Eliminating Barriers to Career Advancement

(ORG BY LINDA SKIDMORE, NRC, AND LINDA CAIN, OAK RIDGE ASSOC UNIVERSITIES).
Research findings on the existence of glass ceilings in all employment sectors will be presented and programs designed to remove them.

Sunday, PM

Do federally employed scientists and engineers face glass ceilings?: Katherine C. Naff, US Merit Systems Protection Bd

Glass ceilings in federal labs: results of experience: Linda Cain, Oak Ridge Associated Univ

How the UC system addresses the issue of glass ceilings: Ellen Switkes*, Univ of California System

One corporation's response to the glass ceiling: Marcia Bush, Xerox Corp

Women in the workforce at Corning Incorporated: Eve L. Menger, Corning Inc

Why Adaptation Becomes Maladaptive: The Dynamics of Population and Resources

(ORG BY PRISCILLA REINING, UNIV OF FLORIDA, VIRGINIA ABERNETHY, VANDERBILT UNIV, AND WARREN HERN, UNIV OF COLORADO).
As concern mounts about population growth and environmental destruction, the scientific community has intensified efforts to create an interdisciplinary theoretical framework for understanding these developments.

Monday, AM

Human population and resources in prehistory: Timothy A. Kohler, Washington State Univ

A case of malignant maladaptation: Human occupation of global ecosystems: Warren M. Hern, Univ of Colorado

How to spur population growth without really trying: Virginia Abernethy, Vanderbilt Univ

Limits to adaptation: An East African example: Priscilla Reining, Univ of Florida; Lynn Margulis*, Univ of Massachusetts

Homo sapiens, the universal keystone species: Alfred W. Crosby, Univ of Texas at Austin

Discussion: Compton Tucker*, NASA/Goddard Space Flight Ctr

Global Population, Food, Environment, and Ethics

(ORG BY DAVID PIMENTEL, CORNELL UNIV, AND NATHAN KEYFITZ, INTL INST FOR APPLIED SYSTEMS ANALYSIS).
Examination of the interdependency of population growth, environmental degradation, food production, and the ethical dilemmas facing society.

Monday, PM

The National Academy of Sciences study of weapon-plutonium disposition: John P. Holdren, Univ of California-Berkeley

New challenges for modelling: Ronald Lee*, Univ of California-Berkeley

Biodiversity and environmental ethics: Laura Westra, Univ of Windsor

Water scarcity, food, and human development: Sandra Postel, Worldwatch Inst

Enviromental constraints: Food and populations: David Pimentel, Cornell Univ

Immigrants in the United States: Impacts and Assimilation

(ORG BY GUILLERMINA JASSO, NEW YORK UNIV).
Immigration plays an important part in population growth and in social, economic, and political development.

Tuesday, AM

Children of immigrants: The adaptation of the new second generation: Ruben G. Rumbaut, Michigan State Univ

Undocumented immigration: Thomas J. Espenshade, Princeton Univ

Do immigrants screened for skills do better than family-reunification immigrants?: Guillermina Jasso, New York Univ; Mark R. Rosenzweig, Univ of Pennsylvania

Children of immigrants: Alejandro Portes*, Johns Hopkins Univ

Beyond the Boundaries of Nation-State: New Perspectives on Transnational Migration

(ORG BY J. EDWARD TAYLOR, UC-DAVIS).
New economic, political, demographic, and cultural perspectives on Mexican migration to the US.

Tuesday, PM

Changing America: Population Trends and Outlooks

(ORG BY REYNOLDS FARLEY, UNIV OF MICHIGAN).
Issues of racial and ethnic diversity, housing and homelessness, and changes in the distribution of income.

Wednesday, AM

Changes in the U.S. income distribution: 1970-1990: Frank Levy, MIT

Racial and ethnic diversity: Roderick J. Harrison, US Bureau of the Census

Housing and homelessness: Polarization of housing: Dowell Myers, Univ of Southern California

'California, here I come': Immigration through the 1990 Census lens: Teresa A. Sullivan, Univ of Texas; Michael M. Weinstein, New York Times

Changes in American Families: Causes and Consequences

(ORG BY REYNOLDS FARLEY, UNIV OF MICHIGAN).
Trends involving issues such as changing gender roles, household composition, marital status, and the older population.

Wednesday, PM

Changing gender roles: Suzanne M. Bianchi, US Bureau of the Census

Living arrangements and welfare of young Americans: Dennis P. Hogan, Pennsylvania State Univ

Family changes during the 1980s: Sara McLanahan, Princeton Univ

Older Americans: Judith Treas, Univ of California-Irvine; Michael M. Weinstein, New York Times

SCIENCE AND A CHANGING WORLD

Seminars

Mapping and Modeling the Brain

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

(ORG BY DAVID VAN ESSEN, WASHINGTON UNIV SCH OF MED, AND PETER FOX, UNIV OF TEXAS HEALTH SCI CTR).

Neuroscientists have capitalized on an increasingly powerful constellation of approaches to elucidate basic principles of brain organization, function, and development. This 2-day seminar will bring together an outstanding group of neuroscientists who will illustrate the impressive progress that has recently been made on four interrelated fronts.

Session 1 will discuss several imaging techniques used to monitor activity patterns in the human brain. Together, they provide a much richer description of brain function than can be obtained via any single approach on its own. Session 2 will discuss sensory and motor processing as studied in laboratory animals. Topics of emphasis will include the contributions of identifiable neural circuitry to specific brain functions and the role of experience in refining this circuitry. Session 3 will discuss principles of neural development at both the cellular and systems levels, and it will emphasize the advances obtained using a variety of high-resolution imaging techniques. Session 4 will highlight the power of computational approaches in generating specific models of brain function. It will illustrate the increasingly important role of neural modeling in both guiding and interpreting experimental studies. These sessions will be supplemented with a talk by the 1994 McGovern lecturer, Larry Squire, and by a presentation on the Human Brain Project.

Friday, AM/PM
Saturday, AM/PM

Mapping and Modeling the Brain: Imaging the Human Brain

Imaging synapses in living animals: Jeff W. Lichtman, Washington Univ School of Medicine

An interdisciplinary approach to PET studies of language: Julie Fiez, Washington Univ

Cortical interactions and functional imaging: Karl J. Friston, The Neurosciences Inst; Greg McCarthy*, VA Medical Ctr; Chris Wood*, Los Alamos National Lab

Mapping and Modeling the Brain: Anatomical and Physiological Mapping of the Brain

Transient neurons and circuits in cerebral cortical development: Carla J. Shatz, Univ of California-Berkeley

Experience-dependent plasticity of the brain's map of auditory space: Eric I. Knudsen, Stanford Univ School of Medicine; Peter Strick*, VA Medical Center; Michael Merzenich*, Univ of California-San Diego

Visual processing streams in primate cortex: Leslie G. Ungerleider, NIMH

Mapping and Modeling the Brain: Neural Function and Development

Imaging synapses in living animals: Jeff W. Lichtman, Washington Univ; Scott Fraser, California Inst of Technology; Larry R. Squire*, Univ of California-San Diego

Neuroscience in the 21st Century: Goals and progress of the Human Brain Project: Stephen H. Koslow, NIMH

Mapping and Modeling the Brain: Computational modeling of the brain

Unifying principles in in vitro epileptogenesis: Roger D. Traub, IBM Watson Research Ctr; Antonio Damasio*, Univ of Iowa

Cortical microcircuits in Analog VLSI: Misha Mahowald, MRC; Ken Miller*, Univ of California-San Francisco

Evolution & Extinction

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

(ORG BY JOHN WEIHAUPT, UNIV OF COLORADO-DENVER).

The first day of this comprehensive seminar focuses on Evolution: Initial Conditions. Session 1 includes discussions on the origin, early evolution and diversity of earth life; the role of sensitive dependence on initial conditions in evolution; the role of time in evolution; and a keynote address on self-organization and selection in evolution. The second day will cover Extinction: Causes and Consequences. The session begins with the role of astronomic events in extinctions, followed by the role of geological events in extinctions; the role of alternative environments in evolution and extinction; the role of biological factors in extinctions; and trends and departures in evolution revealed in the paleontological record. Day three, Evolution and Extinction: Principles and Projections, covers human impact on extinctions during the Pleistocene; human impact on extinctions on contemporary Earth; emerging principles from our knowledge of evolution and extinction in the paleontological record; escalation and biological factors in evolution; and a glimpse of the enormous potential of biological matters on projections of evolutionary trends.

Monday, AM/PM
Tuesday, AM/PM
Wednesday, AM/PM

Evolution and Extinction

Introduction and overview: John G. Weihaupt, Univ of Colorado

The origin, evolution, and diversity of life: Andrew H. Knoll*, Harvard Univ

Self organization and selection in evolution: Stuart A. Kauffman*, Santa Fe Inst

The role of sensitive dependence on initial conditions in evolution: Jeff Levinton*, Univ of New York; Stephan Bengston*, Univ of Uppsala

The role of time in evolution: George Boyajian*, Univ of Pennsylvania; J.T. Fraser*, Intl Soc for Study of Time

The role of cosmic events in extinctions: Richard A. Muller*, Univ of California- Berkeley; Frank Asaro*, Lawrence Berkeley Lab

The role of geological events in extinctions: Keith Rigsby*, Univ of Notre Dame; Gary Landis*, US Geological Survey; Alan Rice*, Univ of Utrecht; Karl Flessa*, Univ of Arizona; Daniel Simberloff*, Florida State Univ

Human impact on extinctions [Pleistocene]: Paul S. Martin*, Univ of Arizona

Human impact on extinctions: David Stedman*, New York State Museum

Human impact on extinctions (Contemporary): Stuart Pimm*, Univ of Tennessee; David Skole*, Univ of New Hampshire; Norman Myers*, Oxford Univ

Emerging principles from our knowledge of evolutions and extinctions: William J. Schopf*, Univ of California-Los Angeles

Escalation and biological factors in evolution: Patricia Kelley*, Univ of North Dakota; Thor Hansen*, Western Washington Univ; Jack Farmer*, NASA/Ames Research Ctr; David Des Marais*, NASA/Ames Research Ctr

Eating and Health

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

(ORG BY GERALD GAULL, GEORGETOWN UNIV).

This 1½-day seminar will take a multisectorial view of key food issues facing the public. Prominent scientists and physicians, consumer and environmental advocates, government officials and regulators, and industry experts will discuss what is — and is not — known about eating and health, nutrition and disease prevention, food and biotechnology, and food safety. The first session will focus on nutrition and disease prevention, the second will discuss food and biotechnology, and the third will explore food safety.

Sunday, PM
Monday, AM/PM

Eating and Health: Nutrition and Disease Prevention

Reinventing public health: Philip Lee, US Dept of Health & Human Svcs

Eating and Health: overview and report on the workshop at Georgetown Univ: Gerald E. Gaull, Georgetown Univ; Charles R. Nesson, Harvard Law School; Bonnie Liebman*, Ctr for Science in Public Interest; Norman Kretchmer*, Univ of California-Berkeley; Daryl Schaller, Kellogg Co.; Anne Maher, Federal Trade Commission; James W. Stanley, PepsiCo. Inc.; Peter Barton Hutt, Covington & Burling; Robbin S. Johnson, Cargill, Inc.; John Cohrssen, US Senate; Mitchell Zeller, Food & Drug Administration; David Perlman*, San Francisco Chronicle; Calvin J. Collier*, Kraft General Foods

Eating and Health: Food and Biotechnology

What does the public need to know about biotechnology?: Rebecca Goldburg, Environmental Defense Fund

Industry's view of food and biotechnology: Robert T. Fraley, Monsanto Co

Agricultural biotechnology: Prospects for the future: Susanne L. Huttner*, Univ of California-Los Angeles

Eating and Health: Food Safety

Food safety: Overview and review of workshop at Georgetown University: Michael W. Pariza, Univ of Wisconsin; Stephen G. Breyer, US Court of Appeals

Microbiological contamination: How safe is our food?: David Kessler*, Food & Drug Administration; Michael van Schothorst, Nestle Research Inst

Pesticide concerns: Fiction or fact?: Philip Landrigan*, Mt. Sinai Medical Ctr; Bruce N. Ames*, Univ of California-Berkeley

Summary and closing remarks: Gerald E. Gaull, Georgetown Univ

Half the Secret of Life Is Outside the Cell

Schedule:
AM = 8:30 - 11:30 (Hilton)
PM = 2:30 - 5:30 (Hilton)
2:00 - 5:00 (Parc Fifty Five)

(ORG BY ZENA WERB, UC-SAN FRANCISCO).

Full-day session co-sponsored by the American Society for Cell Biology targeted at undergraduate junior and senior life science majors and graduate students. The seminar will focus on understanding how extracellular cues regulate cell behavior, with particular emphasis on development, the nervous system, and cancer.

Saturday, AM/PM

Cellular and molecular dissection of ECM signalling in development and cancer: Mina J. Bissell*, Lawrence Berkeley Lab; Harold E. Varmus*, Univ California-San Francisco

Cell-extracellular matrix interactions: Their role in early development: Caroline Damsky*, Univ of California-San Francisco

Signal transduction machinery: Zena Werb, Univ of California-San Francisco

Development of the vertebrate neural crest: Marianne Bronner-Fraser*, Univ of California-Irvine

Mechanisms and molecules that help guide growing neurons to their proper targets: Corey S. Goodman*, Univ of California-Berkeley

Waves in the eye and wiring of the brain in development: Carla J. Shatz*, Univ of California-Berkeley

General Meeting Information

Location

The San Francisco Hilton and Towers
One Hilton Square
San Francisco, California 94102

On-site Registration Hours

Friday	February 18, 1994:	2:00 PM – 8:00 PM
Saturday	February 19, 1994:	7:30AM – 5:00 PM
Sunday	February 20, 1994:	7:30AM – 5:00 PM
Monday	February 21, 1994:	7:30AM – 3:00 PM
Tuesday	February 22, 1994:	7:30AM – 3:00 PM
Wednesday	February 23, 1994:	7:30AM – NOON

Important Deadlines

Advance Registration: JANUARY 24, 1994
Hotel Registration: DECEMBER 31, 1993

For General Meeting Information

ADDRESS: AAAS
Meetings Department
1333 H Street, NW
Washington, DC 20005

PHONE: (202) 326-6450
FAX: (202) 289-4021

For Registration Information Only

SEE PAGE 31, OR
PHONE: (301) 855-8811
FAX: (301) 855-8579

Discount Air Fares

Special airfare discounts to San Francisco are available through the AAAS Meetings Desk at World Travel Partners. Discounts apply to standard coach fares as well as the lowest published airfares. Make your reservation early to insure that you get the best possible airfare.

Airlines include United, the official carrier, as well as all other major carriers including American, Continental, Delta, Northwest, USAir and others.

Remember to tell the convention specialist that you are attending the AAAS Annual Meeting in San Francisco.

Book your flight now, with the AAAS Meetings Desk and you will automatically receive: $150,000 flight insurance, arrival information on taxi fares, rental cars, headset coupon on United Airlines (an $8.00 value), and more.

Barrier-Free Environment

Accommodations for people with disabilities are provided upon request at all general lectures and other sessions. Services include interpreters for the deaf or hearing impaired, audiotaped highlights for the blind or visually impaired, and mobility assistance within and outside the Hilton as needed. In addition, a resource room for people with disabilities will be available in the San Francisco Hilton and Towers. Please make sure to include any accommodation requests on your registration form on page 30.

Local Transportation

Bay Area Rapid Trasit (BART) provides convenient transportation around the city; a modern subway and bus system links many areas within and around San Francisco. SFO Airporter provides bus service from the airport to area hotels every 20 minutes between 5:00 AM and 11:30 PM. Buses depart from the lower level baggage claim area. Bus fares are $8 one-way, $12 roundtrip. Taxis are also located on the airport lower level. Taxi fares from the airport to downtown are approximately $25-$30. Allow 30-45 minutes between the airport and hotels.

Field Trips

Field trips are planned to Muir Redwoods, Exploratorium, Stanford Linear Accelerator, Point Reyes or Hollister earthquake sites, and places of geological interest in San Francisco.

Hotel Information

SAN FRANCISCO HILTON AND TOWERS

The San Francisco Hilton and Towers is the largest hotel on the west coast with 1,900 guest rooms. It is conveniently located in the heart of San Francisco near cable cars, the financial district, Union Square, theaters and nightlife entertainment. A premier business, meeting and luxury hotel, accommodations include the exclusive Towers with private registration area. The Hilton also offers beautiful rooms with breathtaking views and balconies. Other features include an Executive Business Center, Health and Fitness Center and Cityscape, a panoramic view restaurant atop the 46th floor. Lectures, seminars, the Employment Exchange and Exhibits

To reserve your flight, contact:

AAAS MEETINGS DESK
Provided by World Travel Partners

Hours: 9:00 AM - 5:30 PM Eastern Time
Monday through Friday

Toll Free	800-336-0227
Washington, DC Metro Area	703-684-2774
TDD, for hearing impaired	703-684-6091

UNITED AIRLINES
CONVENTION DESK

Hours: 7:00 AM - 1:30 AM
Seven days a week

REFER TO ID #540MW	
Toll Free	800-521-4041
TDD, for hearing impaired	800-323-0170

of the AAAS Annual Meeting will take place at the Hilton. Special early bird rates available if you reserve your room now. For room rates see the Hotel Registration Form on page 30.

PARC FIFTY FIVE

The Parc Fifty Five is a four-diamond luxury hotel located immediately across the street from the Hilton. This beautiful hotel offers spacious rooms, fabulous views of San Francisco and award-winning service. In addition to two restaurants and three lounges, the Parc Fifty Five offers a complimentary health club and a full service business center. The San Francisco Shopping Center is adjacent to the hotel, and Union Square and the cable cars are just a block away. Special early bird rates available. For room rates see the Hotel Registration Form on page 30.

KING GEORGE HOTEL

The King George Hotel is a beautifully restored boutique hotel with a proud tradition of personalized service. It is located just one block from the Hilton, Union Square shopping and cable cars. The Bread & Honey Tearoom serves Continental Breakfast daily and award-winning English afternoon tea. The King George Hotel offers spacious rooms and luxury accommodations including 24-hour parking service, in-room safes, same-day laundry/valet service, 24-hour room service, and much more. For room rates see the Hotel Registration Form on page 30.

Exhibit Hours

Saturday February 19, 1994	5:00 PM - 7:00 PM
(Opening Reception from 5:00 PM until 6:30 PM)	
Sunday February 20, 1994	10:00 AM - 4:00 PM
Monday, February 21, 1994	10:00 AM - 4:00 PM
Tuesday February 22, 1994	10:00 AM - 2:00 PM

For more information or to reserve your booth space contact:

CENTEX
475 GATE FIVE ROAD
SUITE 221
SAUSALITO, CA 94965
PHONE: 415-331-2466
FAX: 415-331-2006

Employment Exchange Hours

Sunday, February 20, 1994	Noon - 6:00 PM
Monday, February 21, 1994	9:00 AM - 5:00 PM
Tuesday , February 22, 1994	9:00 AM - 5:00 PM
Wednesday, February 23, 1994	9:00 AM - 2:00 PM

Invitation to Exhibit

The American Association for the Advancement of Science (AAAS) invites you to exhibit at its 160th Annual Meeting. This annual, multidisciplinary conference attracts over 5,000 scientists, educators, and researchers working in the life sciences, physical sciences and the social sciences. The AAAS Annual Meeting provides a unique audience of potential customers. Exhibitors include: publishers of scientific books or journals, computer software and hardware companies, scientific associations and societies, government agencies, education and information services, corporations with scientific interest, and scientific equipment companies. See the next page for a list of recent exhibitors.

Discussion Groups and Special Events

AAAS Fellowships for Scientists and Engineers

A panel discussion will explore opportunities for scientists and engineers to participate in the interaction of science and public policy in Washington, DC, through the AAAS Congressional, Diplomacy, Technology Policy, and Environmental Fellowship Programs. The programs place Fellows in congressional offices, at the State Department and the Agency for International Development, in the White House Office of Science and Technology Policy, and the Environmental Protection Agency. For more information, contact the AAAS Directorate for Science and Policy Programs at (202) 326-6600.

"Is Science Becoming Just Another Interest Group?"

In recent years, scientists have repeatedly been exhorted by policymakers to become more active in the political process. At the same time, it has appeared to scientists that it is in their interests to do so, particularly during times of tight budgets for R&D. A panel discussion will explore this topic. For more information, contact the AAAS Directorate for Science and Policy Programs at (202) 326-6600.

Science Policy Reception

Meeting attendees can meet the members of the AAAS Committee on Science, Engineering, and Public Policy in an informal setting. Scientists and Engineers who have participated in the AAAS science policy fellowship programs will also be present. For more information, contact the AAAS Directorate for Science and Policy Programs at (202) 326-6600.

Recent Exhibitors

Academia Book Exhibits

American Association for Accreditation of Laboratory Animal Care

American Mathematical Society / Mathematical Connections

American Society for Dermatologic Surgery

American Society of Mechanical Engineers

Americans for Medical Progress Educational Foundation

Association of American University Presses, Inc.

Avery Dennison

Battelle Memorial Institute

Boeing Defense & Space Group

Cambridge Scientific Computing

Canadian Space Agency

Casio, Inc.

Committee for a National Institutes on the Environment

The Computer Museum

Council for Responsible Genetics

Discover Magazine

Discovery Scope, Inc.

Dover Publications, Inc.

Eisenhower National Clearinghouse for Mathematics and Science Education

Elsevier Science Publishing Company

Emeritus Foundation; Emeritus Scientists, Mathematicians & Engineers Program

Encyclopaedia Britannica North America

Envisage, Inc.

Federal Emergency Management Agency/National Earthquake Hazards Reduction Program

Harvard University Press

Heldref Publications

Island Press

Joint Oceanographic Institutions

Jones & Bartlett Publishers

Kinko's Service Corporation

LEGO Dacta

Macsyma, Inc

MBNA America

NASA / Goddard Space Flight Center

NASA / Marshall Space Flight Center

National Geographic Society's Research & Exploration; Research & Exploration

National Library of Medicine

National Science Foundation

National Technical Information Service (NTIS)

NOAA / National Marine Fisheries Service

Oak Ridge Associated Universities

Oceanus Magazine

Office of the Chief of Naval Research

Oxford University Press

The Publishers Book Exhibit

Research Center on Computing and Society

Science By Mail / Boston Museum of Science

Science Service

Scientific, Medical Publications of France

The Scientist

Sigma Delta Epsilon—Graduate Women in Science

Space Telescope Science Institute

State Network for BioMedical Research

Taylor & Francis

Texas Instruments, Inc.

Texnology, Inc.

U.S. Army Natic Research, Development and Engineering Center

U.S. Department of Energy / Environmental Restoration & Waste Management

U.S. Department of Energy / Office of Special Programs

U.S. Department of Energy / Office of Technology Development

U.S. Department of Energy / Precollege Education Program

U.S. Department of Veterans Affairs

U.S. Geological Survey

Union of Concerned Scientists

United Nations Publications

University Science Books

Yale University Press

To exhibit contact:

CENTEX
475 Gate Five Road
Suite 221
Sausalito, CA 94965
Phone: 415-331-2466
Fax: 415-331-2006

Employment Exchange

Candidates Profile

Each year, candidates representing a wide-spectrum of scientific and technical disciplines enroll with the Exchange. Enrolled candidates have B.S. thru Ph.D. degrees, of which 80% are in the life sciences disciplines. More than half of the candidates on file have over 5 years of experience working in their respective disciplinary areas.

Candidate Benefits

Candidates who enroll with the Employment Exchange receive the following benefits:

- Free enrollment for AAAS member candidates. (Nonmembers pay a modest $10 annual enrollment fee).
- Hundreds of current position openings in a variety of disciplines and experience levels.
- On-site interview facilities, including on-the-spot interviews.
- Access to full descriptions of all available positions (meeting attendees only). To purchase postings, see below.*
- On-site Career Development Seminars.
- Employment Exchange Only fee for non-conference attendees.

Employer Benefits

An employer who pays the annual fee to enroll with the Employment Exchange will receive several benefits including:

- Access to hundreds of top-notch candidates—resumes cross-referenced by discipline, (including candidate file searches).
- On-site interview facilities/interview booth.
- Unlimited position available postings.
- Subscription to the Employment Exchange Bulletin, which contains a brief synopsis of each available candidate enrolled with the Exchange.
- Special rates for AAAS Annual Meeting exhibitors, academic and nonprofit organizations.
- Job & Resume Referral service at other AAAS meetings.
- No charge for AAAS Corporate Members.

FEES SCHEDULE

Candidates

Enrollment Fees (annual fee):

AAAS Members	FREE
Nonmembers	$10.00

Optional Fees (annual fee):

*List of Positions Posted (for candidates not attending meeting)

Member price	$15.00
Nonmember price	$25.00

Employment Exchange Only Fee

Member (with proof of membership)	FREE
Nonmember	$50.00

Employers

Enrollment Fees (annual fee):

AAAS Corporate Member	FREE
Nonprofit/Academic Employer	$250.00
Corporate Employer	$400.00

Registered AAAS Annual Meeting Exhibitors may particpate in the on-site Employment Exchange operation at no additional cost.

Job & Resume Referral Fees (per posting):

SCIENCE Advertiser	$ 50.00
Non-Advertiser	$ 75.00

To enroll in the Employment Exchange or for more information, contact:

JACQUELYN ROBERTS
AAAS
EMPLOYMENT EXCHANGE
1333 H STREET, NW
WASHINGTON, DC 20005
PHONE: (202) 326-6737
FAX: (202) 842-1065

Career Development Seminar

Changing Scientific Careers

(ORG. BY CATHERINE J. DIDION, AWIS)

Wednesday, February 23, 1994, 2:30 - 5:30 PM (Hilton)

This session will convey the significance of having an undergraduate degree in a science and engineering discipline when considering other career options and the need to publicize these as options. Presenters will describe how having a scientific background enabled them to pursue different career options, often a necessity during times of organizational downsizing.

Science and the World of Business and Finance: Sandra Panem, Oppenheimer Associates

Scientists as Consultants: Carolyn Leighton, Carolyn Leighton Associates

A Science Journalist Speaks Out: Lynne Friedmann, Freelance Journalist

Environmental Law: Harry Bader, University of Alaska—School of Agriculture and Land Management

Science, Women and Technical Trades: Ruth Dougals, Piedmont Community College—Science and Technology Division

Hotel Reservation Form

AAAS Annual Meeting 18-23 February 1994 • San Francisco

Send Confirmation to:
(Please print clearly)

Name _____
(last name) (first name)

Institution/Company _____
(if part of address)

Address _____

City/State/Zip/Country _____

Phone _____ FAX _____

Other occupant(s) of room _____
(name)

_____ / _____
(name) (name)

Special housing needs: ☐ Wheelchair accessible room ☐ Nonsmoking room
☐ Other _____

Reservations must be guaranteed with a credit card or check for first night's deposit.
☐ VISA ☐ Mastercard ☐ Discover ☐ American Express ☐ Check Enclosed

Credit Card # |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Expiration Date _____ Signature _____

Room Rates:
Check appropriate box for your choice of hotel and room. Add 12% occupancy tax to rates shown.

San Francisco Hilton and Towers

Attn: Reservations, 333 O'Farrell Street, San Francisco, CA 94102
(Specify Standard, Superior, Deluxe, or Towers)

	Standard	Superior	Deluxe	Towers
☐ Single	$120 ☐	$130 ☐	$140 ☐	$195 ☐
☐ Double/Twin	$140 ☐	$150 ☐	$160 ☐	$215 ☐

$25 per additional person

Early Bird Rates: The first 200 reservations received prior to December 31, 1993, with a minimum 4-night stay will receive the following rates.
☐ Single $110
☐ Double/Twin $130
$25 per additional person

Parc Fifty Five Hotel

Attn: Reservations, 55 Cyril Magnin, San Francisco, CA 94102
(Specify Superior, Deluxe, Concierge Club, or Suites)

	Standard	Deluxe	Concierge Club	Suites
☐ Single	$117 ☐	$125 ☐	$145 ☐	$270-960 (S/D) ☐
☐ Double/Twin	$127 ☐	$135 ☐	$155 ☐	

Early Bird Rates: Reservations received prior to December 31, 1993, with a minimum 4-night stay will receive the following rates:
☐ Single $107
☐ Double/Twin $117

King George Hotel

Attn: Reservations, 334 Mason Street, San Francisco, CA 94102

☐ Single $77 ☐ Double/Queen $87 ☐ Double/Twin $87

Arrival & Departure:

Reservations must be guaranteed with a credit card or check for the first night's deposit (room rate plus 12% occupancy tax). Please note hotel check-in and check-out times listed below.

Arrival date _____

Arrival Time AM ☐ PM ☐

Departure date _____

Departure Time AM ☐ PM ☐

- **Reservations must be received at the appropriate hotel by 21 January 1993. (Housing requests received after this date are conditional on room availability.)**
- Reservation changes and cancellations must be made directly with the hotel. Cancellations must be received at the appropriate hotel no later than 72 hours prior to scheduled arrival.
- Children under 18 stay free in same room as parents and using existing bedding.
- Check in time for Hilton is 2 pm; check-out time is 12 noon.
- Check-in time for Parc Fifty Five is 3 pm; check-out time is 12 noon.
- Check in time for King George is 2 pm; check-out time is 12 noon.

Mailing Instructions

Mail this form to the hotel of your choice, with any necessary deposit.

RESERVE YOUR HOTEL NOW AND SAVE 10%

Advance Registration Form

The AAAS Annual Meeting 18-23 February 1994 • San Francisco

Registrant Information
(Please type or print clearly)

First/given name (as you would like it to appear on your badge)

Last/family name (as you would like it to appear on your badge)

Institution/company (will appear on badge, subject to abbreviation)

Mailing Address

City | State | Zip code

Country

Daytime phone number | Fax number

☐ Check here if you need special services due to a disability. (We'll call you before the meeting.)

AAAS member number (if member)

If registering at student rate, check here ☐ and attach a copy of your student ID card.

If registering at postdoctoral or K-12 teacher rate, indicate the name and number of your chairperson or principal:

Chairperson/principal's name | Chairperson/principal's phone number

DEADLINE: POSTMARKED BEFORE JANUARY 24, 1994

Registration Fees[1]

MEETING *(No seminars/workshops)*

	Pre-Registration Discount	After Jan. 24	One Day
Regular			
☐ Member	$145	$195	$98
☐ Nonmember	$195	$250	$125
If only one day, please check day:			
☐ Fri ☐ Sat ☐ Sun ☐ Mon ☐ Tues ☐ Wed			
Special			
☐ Retired	$50	$70	n/a
☐ Postdoc[2]	$50	$70	n/a
☐ K-12 Teacher[2]	$50	$70	n/a
☐ Speaker	$50	$50	n/a
☐ Section Officer	$50	$50	n/a
Student[2]			
☐ Member	$25	$30	n/a
☐ Nonmember	$45	$50	n/a

REGISTER BEFORE THE DEADLINE AND SAVE

Seminars *(Includes Pre-Registration Discount fees only. Fees will be higher after pre-registration deadline and onsite.)*

	Regular		Student		Special
	Member	Nonmember	Member	Nonmember	
☐ Mapping and Modeling the Brain	$295	$345	$125	$145	$150
☐ Evolution and Extinction	$295	$345	$125	$145	$150
☐ Eating and Health	$195	$245	$75	$95	$100
☐ Half the secret of Life Is Outside the Cell *(co-sponsored by ASCB)*	$155	$205	$5[6]	$10[6]	$20[6]

Membership Dues[3]
(Optional)

If you are not a AAAS member, you can join now by checking the appropriate box below — and take advantage of the discounted member registration fees below. You'll also get a year's subscription (51 issues) to the journal *Science* at the lower 1993 rate.

	USA	Canada	International
☐ Regular	$87	$146.59	$182
☐ Student	$47	$103.79	$142
☐ Postdoc	$62	$119.84	$157
☐ Retired	$47	$103.79	$142

Payment[4]

Meeting registration fee.....$ _____
Seminar fees .....$ _____
Membership dues .....$ _____
(if joining now)
Total amount .....$ _____

☐ Check enclosed[5]
☐ Original institutional purchase order attached
☐ VISA ☐ Mastercard
(no other cards accepted)

Credit card number

Signature _____

Exp. date _____

Mailing Instructions
(24 January deadline[1])

Mail to: The AAAS Annual Meeting
P.O. Box 630285
Baltimore, MD 21263

Or fax (credit card payments only) to 202-289-4021

IMPORTANT FOOTNOTES

[1] 24 January deadline: AAAS will make every effort to process registrations received after this deadline but to ensure proper processing please mail or fax your registration form before this deadline. You may register on site beginning 18 February.

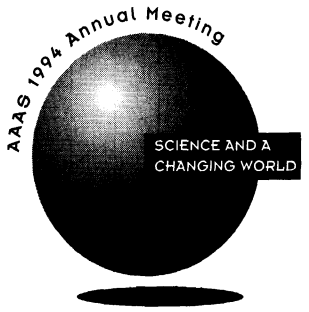
[2] Special rates: To qualify for the student rate, you must attach a copy of your student ID card. To qualify for the postdoctoral or K-12 teacher rate, you must provide the name and phone number of your department chairperson or principal in the space provided above. Registrations received without appropriate verification will be charged at the Regular rates.

[3] Membership dues indicated herein are at the 1993 rates. Although dues are increasing on January 1, 1994, the 1993 rates are guaranteed through 23 February 1994 for registrants of the annual meeting; $47 of dues plus international postage are allocated to SCIENCE. Please allow 4-6 weeks for receipt of your first issue of SCIENCE. Canadian rate includes GST #125488122.

[4] Cancellations must be received in writing by 24 January 1994. No refunds will be made for cancellations received after this date. Refunds are subject to a $25 cancellation charge and will be processed after the meeting.

[5] Checks must be in United States currency and must be payable on a U.S. bank.

[6] Does not include meeting registration fee. Students and Specials only can register for this seminar without registering for the entire meeting.



The 1994 AAAS Annual Meeting

San Francisco Hilton & Towers ▪ San Francisco, California ▪ February 18-23, 1994

The Premier Event for Scientific and Technical Professionals

Join us in San Francisco for an exciting array of symposia, seminars, plenary lectures, and more.

Topics include...

- The Changing Environment
- Health Care Reform and Advances in Medicine
- Science Education Reform
- Frontiers in Engineering and Physical Science Technology
- Frontiers in Astronomy
- Mapping and Modeling the Brain

and more—see inside for details

Beat the Deadline and Save!
Advance Registration Deadline is January 24, 1994
FAX Your Registration Form Today (see page 31 inside)

1994-95 AAAS Fellowships for Scientists & Engineers

Congressional

AAAS Congressional Science & Engineering Fellows Program

Fellows spend one year on Capitol Hill working with Members of Congress or congressional committees as special assistants in legislative and policy areas requiring scientific and technical input. Two fellowships will be offered, with annual stipends of $40,000.

Technology Policy

AAAS-Sloan Executive Branch Science & Engineering Fellows Program, and the AAAS-Critical Technologies Institute Science & Engineering Fellows Program

Fellows spend one or two years, working in either the White House Office of Science and Technology Policy, or the RAND Critical Technologies Institute, providing expertise in industrial research and development, technology transfer, international competitiveness, and related issues. At least one Fellow will be selected for each program. Applicants must have a minimum of five years industrial experience, as midlevel or senior executives. Stipends are negotiable, depending on qualifications and experience. Applicants must be U.S. citizens.

Diplomacy

AAAS Science, Engineering, & Diplomacy Fellows Program

Fellows work in international affairs on scientific and technical subjects for one year, either in foreign policy at the U.S. Department of State or in international development for the U.S. Agency for International Development. One Fellow will be selected at State to focus in the areas of biodiversity and conservation and approximately 12 Fellows will be selected at USAID. The annual stipend varies with experience, starting at approximately $40,000. Applicants must be U.S. citizens.

Environmental

AAAS Environmental Science & Engineering Fellows Program

Fellows work as special research consultants with the Office of Research and Development (ORD) of the U.S. Environmental Protection Agency for 10 weeks in the summer. The detailed, future-oriented research assists ORD in assessing the significance of long-range environmental problems. The stipend is $1,000 a week. Applicants must be U.S. residents. Ten Fellows will be selected.

Applicants should be postdoctoral to midcareer scientists and engineers, from any physical, biological, or social science or any field of engineering. The programs are designed to provide each Fellow with a unique public policy learning experience; to make practical contributions to the more effective use of scientific and technical knowledge in the U.S. government; and to demonstrate the value of science and technology in solving important societal problems. All Fellows participate in a rigorous orientation on the relevant congressional and executive branch operations and foreign affairs plus a year-long seminar series on issues involving science, technology, and public policy. The Congressional, Diplomacy, and Technology Policy programs begin in September 1994, and the Environmental program begins in June 1994.

All application deadlines are January 15, 1994.

For additional program information and application instructions, write:

Fellowship Programs/Directorate for Science and Policy Programs
American Association for the Advancement of Science
1333 H Street, NW, Washington, DC 20005 202/326-6600

Autoradiography System

"Reflection" autoradiography film and "Reflection" intensifying screen provide superior resolution for studies involving detection of ^{32}P and chemiluminescence signals. The system is the first matched film and screen designed to produce sensitivity and resolution for DNA-RNA studies involving autoradiographic detection of ^{32}P. It offers the fastest film detection of Southern (DNA) blots, Northern (RNA) blots, colony-plaque blots, and protein immunoblots. There is no resolution loss for chemiluminescence. **Du Pont. Circle 139.**

■

N_2 Evaporation System

The RapidVap N_2 Evaporation System is a sample preparation station for processing environmental samples that should not be evaporated to dryness. The system uses vortex motion, dry heat, and nitrogen blow down to reduce samples as large as 450 ml to 0.5 ml, 1 ml, 2 ml, or dryness.

For example, methylene chloride evaporates at a rate up to 9 ml per minute per tube. The vortex motion creates a rinsing action that helps keep analytes in solution so excellent recoveries are achieved. Sensors automatically detect when endpoint has been reached. **Labconco. Circle 140.**

■

Monoclonal Antibodies

Monoclonal antibodies (mAbs) available for use in cytokine research include mAbs for interleukin (IL)-1β, IL-2, IL-3, IL-5, IL-8, tumor necrosis factor (TNF)–α, TNF-β, granulocyte-macrophage colony-stimulating factor, soluble IL-6 receptor, and fibroblast growth factor–4. In addition to the neutralization of the bioactivity of a target cytokine, these mAbs can be used in protein immunoblotting and enzyme-linked immunosorbent assays. **R & D Systems. Circle 141.**

The OV-TL 12/30 mAb reacts specifically with cytokeratin 7, a 54-kD protein that is in a family of water-insoluble intermediate filaments found in almost all epithelial types. The RCK108 mAb reacts specifically with cytokeratin 19, a 40-kD protein in the same family. OV-TL 12/30 has been used to distinguish between ovarian and colon carcinomas and between hepatomas and cholangiocarcinomas. RCK108 reacts with many types of epithelial cells, including numerous ductal and glandular epithelia. **BioGenex. Circle 142.**

New mAbs for coagulation and inflammation research include specificities for human factor V light chain, human factor V heavy chain, human factor XII light chain, human factor XII heavy chain, human plasma prekallikrein heavy chain, human high molecular weight kininogen light chain, and human high molecular weight kininogen heavy chain. **QED. Circle 143.**

■

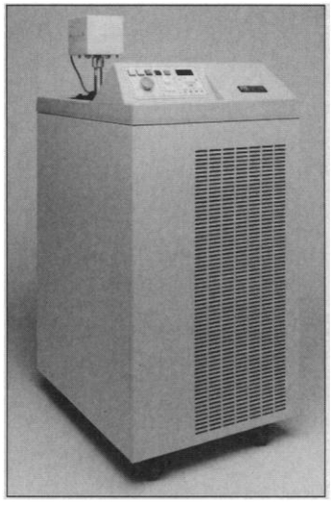
Presentation Graphics Software

SlideWrite Plus 2.0 for Windows technical graphing and presentation software offers three-dimensional (3D) graphing with a choice of 3D bar, ribbon, area, scatter, mesh surface, or contour graphs; curve fitting, using 100 linear and 16 nonlinear built-in functions; context-sensitive help that can be annotated by the user; complete control of color, line, and pattern; and extensive drawing and output options. Up to 20 data series, each with up to 32,000 data points, can be plotted and displayed in 3D bar, ribbon, or area graphs. The program requires Microsoft Windows 3.1 or higher, an IBM-compatible personal computer, a hard disk with 2 megabytes of free disk space, 2 megabytes of random access memory, and a mouse. **Advanced Graphics Software. Circle 144.**

■

Ultra-Low Chiller

The RC210 Series ultra-low temperature recirculating chiller provides cooling fluid down to –80°C



at flow rates up to 8 gpm. The high-capacity mechanical refrigeration system removes 880 watts (3000 Btu per hour) of heat at –60°C. An efficient heat exchange system allows the system to cool from ambient to –60°C in less than 15 min. The RC210 is chlorofluorocarbon-free and requires only 208 V of electrical power for operation. **FTS Systems. Circle 145.**

Mycoplasma Infection Detection

The Mycoplasma PCR (polymerase chain reaction) Primer Set is a nonradioactive method to detect mycoplasma infection in tissue culture cells in as little as 4 hours. The set requires little template preparation and test set-up. There is no need to maintain a special indicator cell line, use radioactivity, or use a fluorescent microscope. **Stratagene. Circle 146.**

■

Literature

Powerful New Tools for Learning HPLC is a brochure that describes a series of computer-based training programs for high-performance liquid chromatography (HPLC). The five programs cover the principles and concepts of HPLC, separation modes, method development, system components, and trouble-shooting. **Phenomenex. Circle 147.**

PatentBulletin is a series of individual monthly newsletters that provide a comprehensive overview of new patents worldwide in six industries: biotechnology, pharmaceuticals, genetic engineering, computers, food technology, and medical devices. The six issues, which are available free through December, offer researchers a quick way to track emerging developments. **MicroPatent. Circle 148.**

Better Biological Separations Through Better Chemistry describes analytical techniques and instruments used for separation of proteins, peptides, glycoproteins, glycoconjugates, carbohydrates, and nucleic acids. **Dionex. Circle 149.**

Automating Solid Phase Extraction Methods is a 32-page booklet that outlines a step-by-step process for automating this method for isolating compounds from complex matrices that can produce clean extracts with high recovery and reduced solvent usage. **Zymark. Circle 150.**

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.

SCIENCE

PERSONNEL PLACEMENT

LINE CLASSIFIED ADVERTISEMENTS

☛ **Deadlines:** Ads are due by Thursday, 10 a.m., 2 weeks prior to the issue date. *Science* is published each Friday, except the last Friday of the year. Call for holiday deadlines. Advertisements must be submitted in writing.

☛ **How to Submit a Classified Ad:** Prepare double-spaced typewritten copy. Do not include any abbreviations. *Science* will edit and typeset ads according to *Science* guidelines. Include billing information, and desired publication date. Available categories: Positions Open, Meetings, Announcements, Courses and Training.

☛ **Mail or FAX materials to:**

Science Classified Advertising
1333 H Street, N.W., Room 814
Washington, DC 20005
Telephone: 202-326-6555
FAX: 202-682-0816

☛ **Rates:** Ads are $42 per line; $420 minimum. One line equals 52 characters and spaces; centered headings equal 32 characters and spaces. A 3% cash discount is granted to all prepaid ads.

☛ **Ads from Outside the U.S.:** A discount of $30 will be offered to advertisers making payment in U.S. dollars by checks drawn on U.S. banks. Contact Annemarie Vis at +44 223 302067 (telephone) or +44 223 302068 (FAX).

☛ **Credit Cards:** *Science* accepts MasterCard and VISA. Discount does not apply to credit cards.

☛ **Cancellations:** Deadline for cancellation is 10 a.m., Tuesday, 10 days prior to issue date.

DISPLAY PERSONNEL ADVERTISEMENTS

For rates and info. about fractional display ads (all ads ⅙ page and larger), contact:

Recruitment Advertising
Deborah Cummings
Telephone: 202-326-6541

Janis Crowley, Recruitment
Advertising Manager
Telephone: 212-496-7704
FAX: 202-682-0816

Annemarie Vis
European Recruitment Advertising
Telephone: +44 223 302067
FAX: +44 223 302 068

CONDITIONS: Personnel advertising is accepted only with the understanding that the advertisers do not discriminate among applicants on the basis of race, sex, religion, age, color, handicap or sexual preference. The AAAS encourages employers to actively recruit and employ underrepresented minority groups. *Science* reserves the right, at its discretion, to decline to publish advertisements submitted to it.

POSITIONS OPEN

ANIMAL PHYSIOLOGY
DEPARTMENT OF BIOLOGY
UNIVERSITY OF UTAH

We seek applications for two faculty positions at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level in animal physiology. Preference will be given to individuals whose research involves modern approaches to systems-level phenomena in vertebrate animals and the study of physiological mechanisms within a comparative, evolutionary framework. Outstanding applicants who utilize invertebrate systems will also be considered. We seek candidates with strong commitments to both teaching and research. Successful candidates will be expected to contribute to undergraduate courses in human and comparative vertebrate physiology and to develop advanced offerings in their own areas of specialty. Interested persons should submit curriculum vitae, statement of research interests, copies of relevant publications, and three letters of recommendation to: **ANIMAL PHYSIOLOGY SEARCH COMMITTEE, Department of Biology 201 South Biology, University of Utah, Salt Lake City, UT 84112.** Review of applications will begin December 1, 1993, and will continue until these appointments are made.

The University is an Affirmative Action/Equal Opportunity Employer. It encourages applications from women and minorities, and provides reasonable accommodation to the known disabilities of applicants and employees.

MOLECULAR EVOLUTION
DEPARTMENT OF BIOLOGY
UNIVERSITY OF UTAH

The Biology Department invites applications for a tenure-track position in the general area of molecular evolution. While the available position is at the level of **ASSISTANT PROFESSOR,** more senior applicants will be seriously considered. Applicants should be prepared to conduct a vigorous research program in some aspect of molecular evolution (such as DNA-based taxonomy, evolution of molecular structure or use of molecular methods to pursue any evolutionary topic). We seek someone with expertise in both evolutionary process and molecular biology/computer intensive technology. The Department is a broad, interactive group spanning the entire spectrum of biological research. We seek a colleague who can interact broadly across this community. We seek candidates with strong commitments to both teaching and research. Successful candidates will be expected to contribute to undergraduate courses in biology and to develop advanced offerings in molecular evolution. Interested applicants should submit curriculum vitae, a statement of research interests and copies of recent, representative publications to: **MOLECULAR EVOLUTION SEARCH COMMITTEE, Department of Biology, 201 South Biology, University of Utah, Salt Lake City, UT 84112.** Review of applications will begin December 1, 1993, and will continue until this appointment is made.

The University of Utah is an Affirmative Action/Equal Opportunity Employer. It encourages applications from women and minorities and provides reasonable accommodation to the known disabilities of applicants and employees.

ASSISTANT PROFESSOR
MEDICAL MICROBIOLOGIST

Tenure-track state-funded academic-year appointment in the Department of Microbiology at Arizona State University. Applicants must have a Doctoral degree and postdoctoral experience in a field related to medical microbiology. Specific research area is open, although candidates whose research focuses on immunology or virology at the cellular or molecular level are especially encouraged to apply. The successful candidate will be expected to conduct an independent extramurally funded research program; direct graduate student research; teach undergraduate- and graduate-level courses in medical microbiology; and engage in service activities. Experience working with grants/funded grant projects is desirable. Submit curriculum vitae, names and addresses of three references, a statement of research and teaching interests, and no more than three relevant reprints to: **Search Committee, Department of Microbiology, Arizona State University, Box 872701, Tempe, AZ 85287–2701.** Review of applications will begin January 15, 1994, and the 15th of each succeeding month until filled. *Arizona State University is an Equal Opportunity Employer and encourages applications from women and minority candidates.*

POSITIONS OPEN

GENETICIST—Anticipated **ASSISTANT PROFESSORSHIP**, tenure-track, fall 1994, to teach Genetics and participate in Introductory Biology. Preference given to population geneticists using molecular techniques. Ph.D. required.

Applicants must demonstrate excellent undergraduate teaching record and research program involving undergraduates, including publication. Experience in small college setting desirable.

Ursinus is northwest of Philadelphia in suburban setting and is highly selective, residential, co-ed, liberal arts college of 1150 students with long tradition of strength in sciences.

Send letter of application and curriculum vitae to: **Dr. Mary B. Fields, Department of Biology, Ursinus College, Box 1000, Collegeville, PA 19426–1000,** by January 31, 1994. *Ursinus is Equal Opportunity Employer/Affirmative Action.*

THE CLARE BOOTHE LUCE PROFESSORSHIP
DEPARTMENT OF CHEMISTRY
BOSTON UNIVERSITY

Boston University invites women chemists to apply for an endowed tenure-track faculty position at the **ASSISTANT PROFESSOR** level, starting September 1994. Applicants from any field of experimental chemistry will be considered. Appointees are expected to establish a vigorous research program and to participate in the undergraduate and graduate teaching activities of the department. The Clare Boothe Luce Foundation endowment will provide support for salary and start-up of research program. Excellent facilities for research are available in the department, including NMR, GC/MS, X-ray crystallography, and computing resources. Candidates should provide curriculum vitae, three letters of recommendation, and a proposal of future research plans and teaching interests. Nominations or applications should be addressed to: **Dr. Standish C. Hartman, Chairman, Department of Chemistry, Boston University, Boston, MA 02215.** Deadline for receipt of applications is December 15, 1993. *Boston University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR
PHYSICAL BIOCHEMISTRY
DEPARTMENT OF CHEMISTRY
BOSTON UNIVERSITY

Applications are invited for a tenure-track faculty position at the level of assistant professor, starting September 1994. We particularly seek individuals with expertise in high-resolution NMR or X-ray crystallographic studies of biological macromolecules, or whose work interfaces with initiatives in photonics, neurosciences, and environmental science. Excellent facilities for research are available in the department, including NMR, GC/MS, X-ray crystallography, and computing resources. Appointees are expected to establish a vigorous research program and to participate in the undergraduate and graduate teaching activities of the department. Curriculum vitae, three letters of recommendation, and a proposal of future research plans and teaching interests should be sent to: **Dr. Standish C. Hartman, Chairman, Department of Chemistry, Boston University, Boston, MA 02215.** *Boston University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT/ASSOCIATE PROFESSOR
Division of Rheumatology and Clinical Immunology

The Department of Medicine, University of Pittsburgh School of Medicine, invites applications for a tenure-track position at the Assistant or Associate Professor level in the areas of molecular immunology, immunogenetics or related basic science areas with an interest in the basic mechanisms of autoimmunity. Candidates must have an M.D., M.D./Ph.D., or Ph.D., postdoctoral research experience, and a well-developed plan for an independent research program. Applicants should send curriculum vitae, list of publications, selected reprints, a statement of research interests and plans, and the names of three references to: **Thomas A. Medsger, Jr., M.D., Chief, Division of Rheumatology and Clinical Immunology, University of Pittsburgh School of Medicine, 985 Scaife Hall, Pittsburgh, PA 15261. Telephone: 412-648-9698.** Applications accepted until February 15, 1994, or until a suitable candidate is found. *University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer.*

AACR SPECIAL CONFERENCES IN CANCER RESEARCH

Risk Assessment in Environmental Carcinogenesis

January 17-22, 1994
Whistler Resort and Conference Centre
Whistler, British Columbia, Canada

Conference Chairpersons: Philip C. Hanawalt, James A. Swenberg
Program Committee: John Ashby, William H. Farland, Carol J. Henry, B. Singer, Thomas R. Skopek, Roger W. Wiseman, Barry W. Glickman

SCIENTIFIC PROGRAM

Special Lectures: James A. Swenberg, Paul Kleihues; **Critical Events in Human Carcinogenesis**: Helmut Bartsch, Monica Hollstein; **Molecular Epidemiology and Biomarkers of Exposure:** John D. Groopman, Fred F. Kadlubar, Frederica Perera, David H. Phillips; **Genetic Predisposition to Cancer:** Norman R. Drinkwater, F. Peter Guengerich, Mark Skolnick, Roger W. Wiseman; **Mutational Spectra for Environmental Carcinogenesis:** Richard J. Albertini, John A. Heddle, Alain R. Sarasin, Thomas R. Skopek; **Endogenous Factors:** Fung-Lung Chung, Philip C. Hanawalt, Barbara Sedgwick, Steven R. Tannenbaum; **Scientific Basis of Extrapolation I:** John Ashby, Frederick A. Beland, Anthony B. DeAngelo, Rolf Schulte-Hermann; **Scientific Basis of Extrapolation II:** Samuel M. Cohen, George W. Lucier, Lawrence J. Marnett, B. Singer, Bernard S. Strauss; **Biologically Based Risk Assessment and Public Policy:** Rory Conolly, William H. Farland, Carol J. Henry, Suresh Moolgavkar

Molecular Genetics of Tumor Progression and Metastasis

January 31 - February 5, 1994
Big Sky Resort, Big Sky, Montana

Conference Chairperson: Lance A. Liotta
Program Committee: Eric R. Fearon, Patricia S. Steeg, William G. Stetler-Stevenson, Dennis J. Slamon

SCIENTIFIC PROGRAM

Keynote Address: Marc E. Lippman; **Colon Cancer:** Eric R. Fearon, Stanley R. Hamilton, Bernard Levin, Li-Kuo Su, Raymond L. White; **Melanoma:** Wallace Clark, Robert S. Kerbel, Ian R. Hart, Garth L. Nicolson, George F. Vande Woude; **Breast/Ovarian:** Dennis J. Slamon, Eddie Reed, Mina J. Bissell, Larry Norton, Lynn M. Matrisian; **Prostate:** John T. Issacs, Donald S. Coffey, Leland W.K. Chung, Mark E. Stearns, Walter Birchmeier; **Genomic Instability and Repair:** Vilhelm A. Bohr, Ruth J. Muschel, Carlo M. Croce, Silvia Bacchetti; **Model Systems:** Isaiah J. Fidler, Allen Shearn, Elizabeth J. Luna, Susan Mackem, Gregory R. Dressler, Ann F. Chambers; **Metastasis Suppression:** Patricia S. Steeg, William G. Stetler-Stevenson, Paul B. Fisher, Ursula Gunthert, Amin Fazilli; **Clinical Approaches to Cancer Progression:** Lance A. Liotta, John R. Murphy, Ingegerd Hellstrom, Victor Ling, Elise C. Kohn, Kenneth W. Culver

Cancer: Perturbations in Cell Cycle Control and Genomic Integrity

February 19-24, 1994
Banff Springs Hotel, Banff, Alberta, Canada

Conference Chairpersons: Thea D. Tlsty, Lawrence A. Loeb
Program Committee: Philippe Gros, Michael Smith

SCIENTIFIC PROGRAM

Keynote Address: Manfred Eigen; **Modulators of Growth and Development:** J. Michael Bishop, Harold Weintraub, Tom Curran; **Tumor Suppressor Genes:** Carol L. Prives, Mary Claire King; **Endogenous Sources of DNA Damage:** Lawrence A. Loeb, Tomas Lindahl, Curtis C. Harris, Miroslav Radman; **Responses to DNA Damage:** Albert J. Fornace, Jr., Michael B. Kastan, Sara Lavi; **Controls on Genomic Integrity:** Thea D. Tlsty, Joyce L. Hamlin, Carol W. Greider, Randal N. Johnston; **Genetic Integrity and Carcinogenesis:** Takashi Sugimura, Joe W. Gray, Glenna Burmer; **Cell Cycle:** Robert A. Weinberg, Jean Y. J. Wang; **Terminal Arrest:** J. Carl Barrett, Judith Campisi, Eileen White

Growth Factors, Development, and Cancer

March 5-11, 1994
Congress Center, Interlaken, Switzerland

Conference Chairpersons: Harold L. Moses, Bernd Groner
Program Committee: Max M. Burger, Tom Curran, Rik Derynck, Nancy E. Hynes, Jean-Pierre Mach, Lynn M. Matrisian, John Mendelsohn

SCIENTIFIC PROGRAM

Special Lectures: Harald zur Hausen, Walter J. Gehring; **Positive and Negative Growth Factors and Their Receptors:** Rik Derynck, Yoseph Yarden, Harold L. Moses, Nancy E. Hynes; **Receptor-Associated Kinases and Phosphatases:** Anthony J. Pawson, Sara A. Courtneidge, Benjamin G. Neel, Ernst Hafen; **Signal Transduction Including Targets for Therapy:** George Thomas, Ulf R. Rapp, Frank P. McCormick; **Transcription Factors and Homeobox Genes:** Tom Curran, Robert Eisenman, Frits Meijlink, Michael Z. Gilman; **Tumor Suppressor Genes:** Stephen H. Friend, Bernard M. Mechler, David P. Lane, Jacqueline A. Lees; **Cell-Cell Interactions:** Peter Herrlich, Walter Birchmeier, Patricia S. Steeg, Rudolph L. Juliano; **Cell-Matrix Interactions and Proteases:** Jean Paul Thiery, Ruth Chiquet-Ehrismann, Lynn M. Matrisian; **Targeted Therapy Including Immunotherapy:** John Mendelsohn, Bernd Groner, Michael Blaese, Cornelis J.M. Melief

Information and Application Forms:

American Association for Cancer Research
Public Ledger Building, 620 Chestnut Street, Suite 816
Philadelphia, PA 19106-3483
Phone: 215-440-9300 **Fax:** 215-440-9313

POSITIONS OPEN

PHARMACOLOGY: Department of Pharmacology, Southeastern University of the Health Sciences, invites applications for full-time **ASSISTANT PROFESSOR**. Ph.D. in Pharmacology required and teaching experience highly desirable. Curriculum vitae and list of three references by January 15, 1994, to: **Lynn Crespo, Ph.D., Department of Pharmacology, 1750 N.E. 168th Street, North Miami Beach, FL 33162.**

BIOLOGY: The Department of Biology at Hood College invites applications for 2 **ASSISTANT PROFESSOR** tenure-track positions to begin August 1, 1994. One position involves Cell Structure and Function in the M.S. program in Biomedical Sciences and undergraduate courses including Developmental Biology. The other position includes undergraduate and graduate courses in Ecology, Environmental Biology, Vertebrate Zoology, and Population Biology and being involved actively in field research. Qualified applicants will have a Ph.D. and a strong commitment to research with students. Postdoctoral and teaching experience desired. Send curriculum vitae, transcripts, statement of research interests and 3 letters of reference to: **Betsy Estilow, Hood College, 401 Rosemont Avenue, Frederick, MD 21701** by January 1, 1994. Hood is a comprehensive college serving approximately 1200 undergraduates, primarily women, and 970 graduate students. *Hood College subscribes to the policy of hiring only U.S. citizens and lawfully authorized alien workers. We actively encourage applications from women and members of minority groups. Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR: The Department of Internal Medicine at the University of California at Davis invites applications from qualified individuals for a full-time faculty position at the Assistant/Associate Professor level in the Division of Endocrinology & Metabolism. Candidates must possess an M.D. degree, be Board-certified/eligible in Internal Medicine and Endocrinology & Metabolism and be eligible for licensure in the State of California. A research interest in general endocrinology with an emphasis on basic or clinical thyroidology is preferred. Please send a letter outlining research, teaching background and interests and name of five references by February 28, 1994. Reply to: **Thomas T. Aoki, M.D., Chair of Search Committee, Division of Endocrinology & Metabolism, University of California, Davis, School of Medicine, 4301 X Street, Sacramento, CA 95817.** *The University of California, Davis, is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION IN CELL AND MOLECULAR BIOLOGY

Applications are invited for a tenure-track position beginning July 1, 1994, at the level of **ASSISTANT PROFESSOR**. Applicants must have a Ph.D., at least 2 years of postdoctoral experience and a strong publication record. The successful applicant will be expected to establish a vigorous, independent research program and to participate in graduate and undergraduate teaching. We seek applications from individuals whose research addresses basic questions related to the molecular biology of development. Opportunities exist for research collaborations and participation in one or more interdisciplinary graduate programs. The deadline for applications is January 15, 1994. Applicants for the position should send curriculum vitae, a brief statement of research plans and the names of three references to: **Dr. Ken Muneoka, Chair, Department of Cell and Molecular Biology, Tulane University, New Orleans, LA 70118.**

Tulane University is an Equal Opportunity/Affirmative Action Employer and encourages minority and female applicants to apply.

FACULTY POSITION IN GENETICS. The Department of Biology, Middle Tennessee State University, invites applications for a tenure-track position (Number 103120, **ASSISTANT PROFESSOR**, Ph.D. required by first day of class) available August 1994. The successful applicant must have a broad background in biology with genetics specialization. Research/Public Service is expected. *Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.* Applicant reviews begin 15 December 1993. Send application referencing position number, transcripts, and three letters of reference to: **Dr. Philip M. Mathis, Committee Chair, Box 578, MTSU, Murfreesboro, TN 37132.**

POPULATION BIOLOGIST

The Department of Zoology, University of Texas at Austin, invites applications for a tenure-track position at the level of **ASSISTANT PROFESSOR** in the area of empirical/experimental population biology. Possible areas of specialization include but are not limited to **Population or Evolutionary Genetics; Population, Evolutionary, or Behavioral Ecology; and Conservation Genetics/Biology**. The successful candidate will be expected to join and contribute to a strong research and training program in evolutionary biology and ecology. Candidates who complement the current strengths of the program in this area by adding new dimensions to the group are especially encouraged to apply. Current strengths include theoretical evolutionary biology, phylogenetics, experimental evolution of microorganisms, molecular evolution, behavioral ecology of insects and heterothermic vertebrates, mathematical ecology, evolutionary community ecology, and functional morphology. Applicants should submit curriculum vitae, a description of research interests, copies of up to five of their most significant publications, and the names of at least three references to: **Chairman, Department of Zoology, The University of Texas, Austin, TX 78712, U.S.A.** Application review will begin by January 1, 1994. *The University of Texas at Austin is an Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF CALIFORNIA–DAVIS ASSISTANT PROFESSOR

The Department of Entomology invites applications for a tenure-track position as an Assistant Professor (25% teaching) and Assistant Entomologist in the Agricultural Experiment Station (75% research) in the area of aquatic entomology (mosquito biology). Applicants must have a Ph.D. in entomology or a biological science, with training and experience in ecology of aquatic ecosystems. Interest and experience in biology of mosquitoes are desirable. The successful candidate must become involved in undergraduate and graduate instruction and will be expected to develop a program of research on the ecology of aquatic ecosystems, with primary emphasis on biology of mosquitoes and associated aquatic organisms. Candidates should submit a letter of application, curriculum vitae, transcripts, reprints, names and address of three referees, and a brief statement of career goals to: **Chair, Search Committee, Department of Entomology, University of California, Davis, CA 95616**. Applications must be postmarked no later than January 15, 1994. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

ANIMAL ECOLOGY/ BEHAVIORAL ECOLOGY Harvard University

The Department of Organismic and Evolutionary Biology at Harvard University invites applications for two **ASSISTANT PROFESSORSHIPS**, one in animal ecology and one in behavioral ecology. We encourage applications from a broad range of subdisciplines, including empirical and theoretical approaches to behavioral ecology, population biology and/or community ecology.

Applicants should send by January 1, 1994, curriculum vitae, statement of research interests, and names, addresses and telephone numbers of at least three referees to: **Professor N. E. Pierce, Animal Ecology/Behavior Search Committee, Department of Organismic and Evolutionary Biology, 26 Oxford Street, Cambridge, MA 02138.**

Harvard University is an Equal Opportunity/Affirmative Action Employer. We encourage applications from women and minority groups.

ECOLOGIST

Canisius College is searching for an **ASSISTANT PROFESSOR** (tenure-track) in ecology. The candidates should complement the expertise of existing faculty, which include an environmental toxicologist, plant genetist, microbiologist, and animal behaviorist, and be able to teach general biology and upper-level electives in their specialty. The development of a field-based research program involving undergraduates is required. Submit curriculum vitae, plan of proposed research, areas of teaching competence, and names and telephone numbers of 3 references to: **Dr. Paula Dehn, Chair, Biology Department, Canisius College, 2001 Main Street, Buffalo, NY 14208**, by January 5, 1993. Informal inquiries are welcome **(716) 888-2550.**

CELLULAR BIOLOGISTS

The Department of Zoology (reorganizing as the Department of Cellular Biology) at the University of Georgia seeks to fill two tenure-track **ASSISTANT PROFESSOR** positions. One position requires expertise in electron microscopy and in cell structure. Obligations for both positions include research as well as teaching at the undergraduate and graduate levels. Send curriculum vitae, statements of proposed research and teaching interests, and at least four letters of recommendation to: **Dr. Kojo Mensa-Wilmot, Chair of Search Committee, Department of Zoology, The University of Georgia, Athens, GA 30602**. Applications received by December 22, 1993, are assured of consideration. *The University of Georgia is an Equal Opportunity/Affirmative Action Employer.*

ECOSYSTEM ECOLOGIST University of California, Santa Barbara

The Department of Biological Sciences and the Environmental Studies Program are seeking qualified applicants for a shared tenure-track position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level in terrestrial ecosystem ecology. Candidates must have a Ph.D., outstanding research accomplishments and a strong commitment to teaching at the undergraduate and graduate levels. We encourage applicants with broad research interests that may include the biogeochemistry of terrestrial ecosystems, understanding of ecosystem and community processes through population-based approaches, or biological controls on cycling of nutrients and exchanges of atmospheric gases. We expect applicants to apply techniques such as mathematical modeling, remote sensing or advanced analytical methods. The appointee will contribute to teaching in upper-division and graduate courses in plant ecology and environmental biology including a requisite core course in the new School of Environmental Science and Management being started at the University of California, Santa Barbara.

To apply, please submit curriculum vitae, publications list, statement of research interests and names of three references by 14 January 1994 to: **Chair, Ecosystem Ecology Search Committee, Department of Biological Sciences, University of California, Santa Barbara, CA 93106.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

NEW OPPORTUNITIES FOR MOLECULAR GENETICISTS

The Center for Human Genetics at Boston University School of Medicine (BUSM) now offers new positions for Ph.D. molecular geneticists at the **ASSISTANT** or **ASSOCIATE PROFESSOR** rank. Established investigators preferred with expertise in gene mapping, cloning, *in situ* hybridization, sequencing, immunogenetics, cancer genetics, or use of novel techniques applicable to complex genomes. Interaction with over 40 molecular biologists/geneticists. Send curriculum vitae to: **Aubrey Milunsky, M.D., D.Sc., Director, Center for Human Genetics, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118.** *BUSM is an Equal Opportunity/Affirmative Action Employer.*

MOUSE DEVELOPMENTAL GENETICS Department of Genetics School of Medicine Case Western Reserve University

The Department of Genetics, chaired by **Dr. Huntington F. Willard**, is continuing to expand and is seeking a tenure-track **ASSISTANT** or **ASSOCIATE PROFESSOR** in the area of mouse developmental genetics. The Genetics Department presently consists of 17 faculty whose research programs focus on genetics of humans, mice, *Drosophila*, and *C. elegans*. The successful candidate should have at least two years of postdoctoral experience and will be expected to initiate an active, externally funded research program. Generous start-up funds are available through the Department and the Lucille P. Markey Center for Developmental Genetics. Interested candidates should submit curriculum vitae, representative reprints, a statement of research interests and arrange to have three letters of recommendation sent to: **Dr. Terry Magnuson, Department of Genetics, Case Western Reserve University, 10900 Euclid Avenue, Cleveland, OH 44106–4955**. Deadline is February 1, 1994.

Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIPS

HIPPLE IS HOPE

Are you interested in developing your career in one of these cutting edge disciplines?

- **Mechanism of Action of Interferons**
- **Signal Transduction**
- **Molecular Regulation of Hematopoiesis**
- **Purification and Biology of Stem Cells**
- **Molecular Analysis of Chemotherapy-induced Myelotoxicity**

If you are, send your curriculum vitae and the names of at least three referees to:

Chairman, Postdoctoral Search Committee
Hipple Cancer Research Center
4100 South Kettering Boulevard
Dayton, Ohio 45439-2092
Fax: 513-293-7652

The **Hipple Cancer Research Center** provides a creative environment with competitive salaries and excellent benefits. Affiliated with area universities and hospitals, the **Hipple Cancer Research Center** is supported by NCI peer-reviewed grants and contracts and private philanthropy.

An Equal Opportunity, Affirmative Action Employer, the **Hipple Cancer Research Center** offers a smoke-free environment.

Scientific Programmer

Qualified candidates must have a BS/MS in Biological Science and 3 to 5 years' programming experience in Fortran and C. Experience with UNIX and VMS operating systems and standard sequence analysis packages is required. You will work on the detection of structural motifs in amino acid sequences involving the application and modification of existing software as well as the development of new applications. Familiarity with sequence alignments and 3-D structures of proteins as well as experience with homology modeling and programming of parallel architecture is desired. Knowledge of protein structure will be helpful.

At Amgen Inc., our staff plays an integral role in maintaining the highest of standards and product excellence. We offer a highly competitive compensation and benefits package that includes a retirement and savings plan, medical/dental/life insurance plans, on-site fitness and child care facilities and three weeks vacation. If you're qualified for these positions, please FAX/mail your resume and/or curriculum vitae to **FAX: (805) 447-1985, Amgen Inc., Staffing, Job Code OA-SC-RL-001, Amgen Center, Thousand Oaks, CA 91320-1789.** Please, principals only.

AMGEN®

We are an equal opportunity employer M/F/D/V.

University of Tennessee

The Department of Biological Sciences at the University of Tennessee at Martin invites applications for a tenure-track **ASSISTANT PROFESSOR** position for August 1994. Ph.D. by time of employment required. The primary duty will be teaching an upper-division course in genetics, and introductory biology courses. Development of an upper-division course in molecular biology is desired. All teaching is at the undergraduate level and we seek individuals committed to excellence at that level. There are other responsibilities in the department and university and interaction with students outside the classroom is expected. Research activity is expected but is secondary to teaching. Research interests can be in the area of genetics/molecular biology or related areas. Applicants should submit a letter of application, a curriculum vitae, transcripts, and three letters of recommendation from individuals who can comment on your capability as a teacher to: **Dr. James E. Deck, Chair of the Search Committee, Department of Biological Sciences, University of Tennessee at Martin, Martin, TN 38238.** Review of applications will begin in late November 1993, and continue until the position is filled. The University strongly encourages applications from minorities and women.

The University is an Equal Opportunity/ Affirmative Action/Title 9/Section 504/ADA Employer.

Head, Department of Statistics, North Carolina State University

The Department of Statistics at North Carolina State University invites applications for the position of Professor and Head. The Department is one of the oldest and largest in the United States, having 39 faculty, 20 staff, 140 graduate students, and 100 undergraduate majors. It provides a dynamic environment for teaching, research, and collaborations across disciplines, with formal programs in genetic, environmental and industrial statistics, and in biomathematics. It also has strong programs in statistics education, mathematical statistics, and a wide range of other applications. The Department is a founding cooperator of the National Institute of Statistical Sciences, and, facilitated by its location in the Research Triangle, has rich research and training interactions with other nonprofit, private, and government institutions. The Department has modern computing and communications facilities for research and instruction. The Head reports to the Deans of Physical and Mathematical Sciences and of Agricultural and Life Sciences and is responsible for administrative, budgetary, and personnel matters. The Head is expected to set the highest standard for the Department with regard to scholarship and professional activities and to have a balanced appreciation for teaching, research, and consulting. Applicants should send a letter of interest, curriculum vitae, and the names of at least three references to Chair, Search Committee, Department of Statistics, North Carolina State University, Raleigh, NC 27695-8203. Review of applications will begin January 18, 1994 and continue until the position is filled. North Carolina State University is an equal opportunity, affirmative action employer and especially solicits applications from women, underrepresented minorities, and handicappped persons.

ASSISTANT/ASSOCIATE PROFESSOR
IMMUNOLOGY, VIROLOGY,
VIRAL IMMUNOLOGY

The Department of Molecular Microbiology and Immunology in the St. Louis University School of Medicine is undergoing a major expansion. We seek outstanding candidates with the Ph.D. or M.D. degree for 12-month tenure-track positions at the Assistant or Associate Professor level. Expertise should be in any area of immunology or virology, including HIV, viral pathogenesis, animal and transgenic models, and oncogenes. Immunologists interested in virus disease are especially encouraged to apply. The Medical School has active research groups in molecular virology including HIV, tumor viruses, RNA viruses and poxviruses, in vaccine development, and in many areas of molecular and cell biology. Candidates are expected to develop a vigorous externally funded research program, and to teach medical and graduate students. Graduate students are funded by an NIH grant and by the University. Newly renovated laboratories, excellent start-up funds, and competitive salaries are offered. St. Louis is a strong center of academic and industrial biomedical research.

Applicants should send their curriculum vitae, names of three references, and a brief description of research interests to:

Dr. William Wold, Professor and Chairman
Department of Molecular Microbiology & Immunology
St. Louis University School of Medicine
1402 South Grand Blvd.
St. Louis, Missouri 63104

(Equal Opportunity Employer)

BIOLOGY FACULTY

The Department of Biology, University of Southwestern Louisiana invites applications for tenure-track positions in support of the doctoral program in Environmental and Evolutionary Biology. Faculty are expected to develop active research programs, seek extramural funding and participate in undergraduate and graduate education. The biology professorial faculty numbers 30, with research interests ranging from molecular to ecosystem studies. USL has an exceptionally well-equipped Electron Microscopy Center and Center for Advanced Computer Studies. Other resources include the Primate Research Center, Center for Crustacean Research, Center for Molecular Evolution, Louisiana Universities Marine Consortium (LUMCON) Marine Laboratory and research vessels, U.S. Fish and Wildlife Service's National Wetlands Research Center and National Marine Fisheries Service's Estuarine Habitats and Coastal Fisheries Research Center.

We anticipate hiring in the following areas:
FISH BIOLOGY - preferred research areas include molecular, developmental or evolutionary biology.
MICROBIAL ECOLOGY - preferred research areas include estuarine and marine systems, biogeochemistry or rhizospheres.
MICROBIAL GENETICS - preferred research areas include molecular or evolutionary biology.
PLANT EVOLUTIONARY BIOLOGY - preferred research areas include plant evolution, systematics or molecular studies.
NEUROBIOLOGY - preferred research areas include physiological, biochemical or developmental biology.

Applicants should submit curriculum vitae, selected reprints, a concise statement of research goals, and names, addresses and telephone numbers of three referees. Review of applications will begin 17 January 1994 and continue until positions are filled. Direct application to: Faculty Development Search Committee, Department of Biology, University of Southwestern Louisiana, Lafayette, LA 70504-2451. *AA/EOE.*

Two Faculty Positions
University of California, Riverside
Department of Entomology

Assistant Professor/Assistant Entomologist; Molecular Cell Biologist; Ph.D. in a Biological Science and at least 1 year postdoc experience in area of insect cell biology, molecular genetics and recombinant DNA techniques required. Tenure-track, 11-month, 20% teaching, 80% research; appointment level/salary commensurate with experience. Develop research programs on molecular cell biology of basic biological processes in insects; develop novel molecular strategies to control insect pests/disease vectors. Teaching: Graduate student supervision; participation in curriculum of Entomology Department, other departments on campus. Participation in Interdepartmental Graduate Programs possible. Send curriculum vitae, reprints and manuscripts in press, names/addresses of 5 referees, and statement of research experience and interests describing how your goals are in accord with above objectives to Dr. B.A. Federici, Chair, Search Committee (address below).

Assistant Professor/Assistant Entomologist in Medical Entomology/ Aquatic Ecology. Ph.D. in Entomology or Biological Science required; training and experience in medical entomology and ecology of aquatic ecosystems desirable. Tenure track, 11-month, 20% teaching, 80% research. Salary level commensurate with training and experience. Participate in teaching programs in medical/veterinary entomology or aquatic entomology. Develop field-oriented research program on population dynamics and community ecology of mosquitoes in aquatic habitats or on epidemiology of mosquito-borne diseases. Collaborative research with other UC scientists, state vector control districts, etc. encouraged. Send application letter, curriculum vitae, transcripts, reprints, names/addresses of 4 references, Ph.D. dissertation research summary, and a brief statement of career goals to Dr. B.A. Mullens, Chair, Search Committee.

Address for both positions: Department of Entomology, University of California, Riverside, CA 92521-0314 (FAX 909-787-3086).

Application **deadline** for both positions: January 15, 1994.

The University of California is an equal opportunity/ affirmative action employer.

CALL FOR RESEARCH PROPOSALS
Environmental Release of Biotechnology Products
USEPA Office of Research and Development

The Office of Research and Development (ORD) of the U.S. Environmental Protection Agency anticipates funding new Research Cooperative Agreements in FY94 pertaining to the assessment of the ecological risks of releasing biotechnology products into the environment. "Biotechnology products" include recombinant or non-recombinant plants or bacteria, protists, viruses, and fungi used in pest control, bioremediation, or for other purposes.

Specific areas of emphasis are the following:

1. Field Demonstration of laboratory methods and models to track and predict the fate, movement, and nontarget effects of microbes, plants, genes, and gene products.

2. Risk Assessment of the potential effects of bioremediation agents, processes, or metabolites resulting from bioremediation processes on nontarget microbial, plant, and invertebrate communities.

3. Community stress response to biotechnology products to examine effects of stressors resulting from deliberate or accidental biotechnology products release at the population and community level.

Requests from individuals in universities and not-for-profit institutions for a copy of the complete Request for Applications should be addressed to **Ms. Jan Kurtz, Environmental Research Laboratory, USEPA, 1 Sabine Island Drive, Gulf Breeze, FL 32561**

Phone: (904) 934-9286 FAX: (904) 934-9201

FISHERIES SCIENTIST - The Chesapeake Biological Laboratory (CBL), the University of Maryland Center for Environmental and Estuarine Studies (CEES), seeks two fishery scientists for tenure-track positions preferably at the Assistant Professor level to be based at Chesapeake Biological Laboratory (CBL). We seek candidates with postdoctoral experience who are productive researchers and who will be effective teachers and supervisors of graduate students. Applicants with quantitative skills in fisheries science/ecology, especially in the areas of population dynamics, fish ecology, and fishery oceanography, are encouraged to apply. Interdisciplinary research is strongly encouraged and excellent opportunities exist for collaboration with the fisheries, toxicology and environmental chemistry groups at CBL and with ecologists and oceanographers at our sister laboratories (Horn Point Environmental Laboratory and Appalachian Environmental Laboratory). Application should include personal statement of qualifications and interest, curriculum vitae, and names of at least four references. To be insured full consideration, applications should be received by 20 December 1993. CEES specifically welcomes and encourages women and minority candidates to apply.

Send applications to Dr. Edward D. Houde, Chair, Fisheries Search Committee, Chesapeake Biological Laboratory, Center for Environmental and Estuarine Studies, University of Maryland System, P.O. Box 38, Solomons, Maryland 20688.

The University of Maryland System is an Equal Opportunity, Affirmative Action Employer.

ARS Agricultural Research Service — United States Department of Agriculture

VACANCY ANNOUNCEMENT

RESEARCH ENTOMOLOGIST. Knipling-Bushland U.S. Livestock Insects Research Laboratory, Kerrville, Texas.

The United States Department of Agriculture, Agricultural Research Service is seeking a Research Entomologist, GS-0414-11/12, to plan, coordinate, and conduct research on strategies for the management of acaricide resistance in cattle fever ticks and the horn fly. The specific objectives are to: (1) use nucleic acid probes to investigate the population genetics of pesticide resistance in cattle fever ticks and the horn fly; (2) develop models to simulate the effects of different management strategies on frequency of resistance genes in a target population; (3) test selected resistance management strategies to determine the most effective approaches for the control of resistant tick or horn fly populations; and (4) develop guidelines that regulatory program personnel, livestock extension specialities, and livestock procedures may use in controlling populations of cattle fever ticks or the horn fly in which pesticide resistance hinders control efforts. The position is permanent with a salary range of $33,623 to $40,298 per annum.

For information on the research program/position and the required application procedures/forms, contact Dr. John George at 210/792-0338. Applications in response to this advertisement should be marked ARS-D4S-005 (S-4-001) and must be post-marked by December 30, 1993. Mail application materials to USDA, ARS, Dawn McCourt, 6305 Ivy Lane, Room 341, Greenbelt, MD 20770-1435. The USDA is an equal opportunity employer.

ars

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE

RESEARCH PHYSICAL SCIENTIST. USDA-ARS has a permanent position at the Remote Sensing Research Laboratory, Beltsville, Maryland. Incumbent will plan, coordinate, and conduct field experiments on agricultural crops using conventional field measurement techniques and a full range of remote sensing instruments, including satellite sensing, for the purpose of relating these measurements to plant growth and development. A scientific degree plus knowledge of plant growth process modeling and remote sensing and image processing techniques are required. A Ph.D. in a relevant scientific discipline and research experience using remote sensing are preferred. Must be a US citizen, salary commensurate with experience (range GS-12, $40,298 to $52,385; GS-13, $47,920 to $62,293). For information on the research program and/or position contact Galen F. Hart, Research Leader, Remote Sensing Research Laboratory, Natural Resources Institute, Beltsville, MD 20705-2350 or call (301) 504-6822; FAX: (301) 504-5031. For the vacancy announcement and application procedures contact Rose Cunningham, ARS Personnel, 6305 Ivy Lane, Greenbelt, Maryland 20770-1435 or call 301-344-0105. Applications should be marked ARS-D-4-B003-3 and postmarked by December 20, 1993. Minorities and women are encouraged to apply. ARS is an Equal Opportunity Employer.

NIH Research Fellowship Position

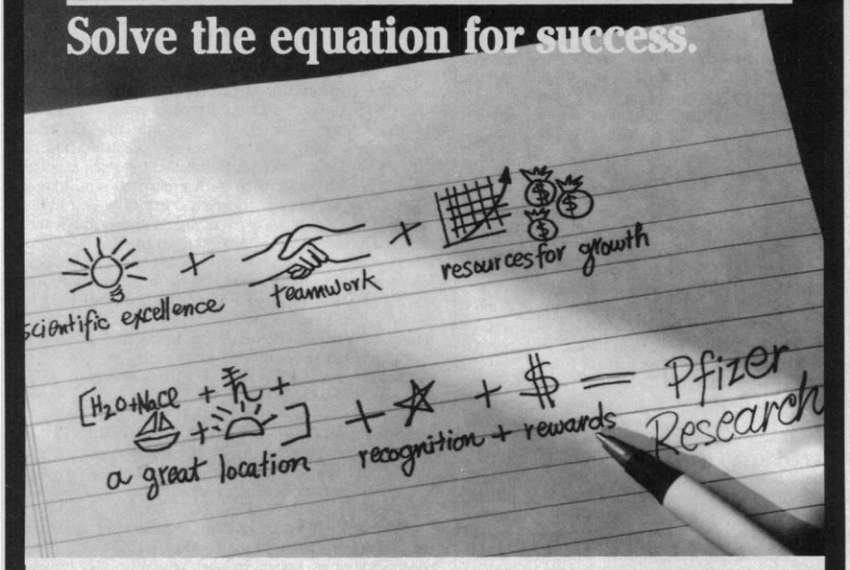
The Laboratory of Molecular Biology is studying the alterations of immunological cell function by external agents. We are presently assessing the biochemical activities of HIV accessory proteins and their capacity to modify immunological responses. A post-doctoral opening within the laboratory is now available and can provide an opportunity for a highly capable individual to join the NIH community and to explore the biochemical mechanisms of HIV pathogenesis. Stipend range is $25,000 to $36,000, depending on training and experience. Candidates with experience in gene transfer and retrovirology or signal transduction would be given preference. Please forward curriculum vitae and the names of three references to:

Dr. Jon W. Marsh, Chief
Unit on Lymphocyte Function
Laboratory of
Molecular Biology
National Institute
of Mental Health
Building 36, Room 1B08
9000 Rockville Pike
Bethesda, Maryland, 20892

NIH is an Equal Opportunity Employer

Research Scientist Opportunities

Solve the equation for success.



The field of pharmaceuticals and health care is more rewarding than ever as new products create a healthier world population. As one of the leaders in this dynamic industry, Pfizer Inc, a Fortune 100 company, is committed to continuing its remarkable growth. We are expanding our resources to support drug discovery and development in the areas listed below.

Diabetes and Obesity, BS/MS/PhD

We are currently seeking a scientist with a **PhD** or equivalent in Biochemistry or related fields. Experience with either Molecular Biology techniques or with *in vivo* modeling required. Research experience in insulin action, carbohydrate metabolism or mechanisms controlling energy expenditure would be advantageous. Opportunities are also available for four laboratory assistant scientists. Requires a **BS/MS** or equivalent in a biological science, plus previous laboratory research experience, especially in the areas described above.

Drug Metabolism, BS/MS

We are looking for a **BS/MS** or equivalent level scientist with relevant experience in determining enzyme activities by chromatographic, spectrophotometric, and/or fluorometric methods to perform *in vitro* metabolism studies. Experience with additional techniques such as microsome preparation, electrophoresis (SDS PAGE, Western, Northern), and conducting induction/inhibition studies would be helpful. Specialization in a particular aspect on *in vitro* metabolism such as preparation of hepatocytes, liver slices, enzyme purification or cell culturing also an advantage.

The primary R&D facility for Pfizer Inc is located in a southeastern Connecticut shore community, giving easy access to the well known academic and cultural centers of the Northeast and offers the attractions of a New England lifestyle.

We offer competitive salaries and flexible benefits package including medical and dental insurance, paid holidays and vacation, educational assistance, savings and investment plan, pension plan, relocation assistance and more.To learn how you can be a part of the future of Pfizer, send your resume to: **Lynn Beaulieu, Employee Resources, Pfizer Inc, Central Research Division, Eastern Point Road, Groton, CT 06340.** An equal opportunity employer.

Pfizer

Central Research
Bringing science to life.

POSITIONS OPEN

CELLULAR AND MOLECULAR PHYSIOLOGY OR PHARMACOLOGY at **ASSISTANT** or **ASSOCIATE PROFESSOR** level. Applications are invited for a full-time tenure-track position in the Department of Veterinary Physiology and Pharmacology. Applicants should have a Ph.D. or equivalent degree and at least 3 years of postdoctoral experience. Requirements will be: to develop an independent, extramurally funded, integrative research program that complements existing programs within the department and the NCI-designated Cancer Center; a demonstrated interest in translational research; a commitment to excellence and participation in one or more of our educational programs, which include courses offered to undergraduate, graduate, veterinary, and medical students; and a commitment to the goals of the department and school. Research areas of special interest include signal transduction, gene transfer, cell cycle regulation, receptor pharmacology, intracellular targeting, channels, and transporters. Applicants should send curriculum vitae; relevant reprints; a 1 to 3 page description of teaching interests and research plans and goals; and address, telephone, and FAX numbers of 3 references to: **Dr. Gordon L. Coppoc, School of Veterinary Medicine, Purdue University, West Lafayette, IN 47907–1246**. Review of applications will begin January 1, 1994; anticipated filing date is July 1, 1994. *Minority and female applicants are especially welcome. Purdue University is an Equal Opportunity/Affirmative Action Employer.*

EUKARYOTIC GENETICIST. The Program in Medical Sciences and the Department of Biological Science of the Florida State University invite applications for a tenure-track faculty position at the level of **ASSISTANT PROFESSOR**. The selected candidate will have had extensive graduate and postgraduate experience with either classical or molecular genetics and will be expected to develop a competitive research program that utilizes a mainstream eukaryotic model to study important molecular, cellular, organismal or developmental processes. Excellent departmental support facilities are available, and numerous opportunities exist for interactions with ongoing research programs in genetics, cell and molecular biology, structural biology, and neuroscience. Teaching responsibilities will include a cell and molecular biology course for first-year medical students that emphasizes the molecular basis of human genetic diseases. Send curriculum vitae, a concise description of research interests, and the names, addresses, and telephone numbers of three references to: **Bonnie Wright, Genetics Search Coordinator, Program in Medical Sciences, 104 SCN, The Florida State University, Tallahassee, FL 32306–4051**. Review of applications will begin **January 15, 1994.**

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

FACULTY POSITION IN BOTANY. The Department of Biology, Middle Tennessee State University, invites applications for a tenure-track position (Number 103150, **ASSISTANT PROFESSOR**, Ph.D. required by first day of class) available August 1994. The successful applicant must have a broad background in morphology/anatomy of vascular plants. TEM/SEM experience is desirable. Teach lecture/laboratories in morphology/anatomy at the undergraduate/graduate level, introductory botany and general biology to undergraduates. Research/Public Service is expected. *Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.* Applicant reviews begin 15 December 1993. Send application referencing position number, transcripts, and three letters of reference to: **Dr. Kurt Blum, Committee Chair, Box 321, MTSU, Murfreesboro, TN 37132.**

Marquette University Biology Department invites applications for a tenure-track **ASSISTANT PROFESSOR**, beginning in August 1994, to teach a one-semester course in introductory biology annually and a graduate lecture or seminar course in his/her specialty in alternate years. The candidate is expected to establish an independent, extramurally funded research program and to train Ph.D. students. Must have postdoctoral training. Research emphasis in ecology, plant biology or microbiology preferred. Send curriculum vitae, a statement of research, and name and address of three references by February 1, 1994, to: **Dr. Walter Fredricks, Department of Biology, Marquette University, Milwaukee, WI 53233. POSITION CONTINGENT ON BUDGET APPROVAL.** *Marquette is an Equal Employment Opportunity and Affirmative Action Employer.*

FACULTY POSITION IN PHYSIOLOGY AND BIOPHYSICS

Applications are invited for a tenure-track position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level in the Department of Physiology and Biophysics, University of Miami School of Medicine. The Department has strength in cellular and molecular approaches to the study of physiology, and we seek an investigator with a Ph.D. and/or M.D. degree whose interests and skills will complement this strength. The candidate will be expected to conduct an active, independent, funded research program, and to execute with excellence a limited teaching load in graduate and medical school neuroscience and physiology courses. Outstanding candidates in all relevant fields are invited to apply, especially those with molecular biological expertise. Send letter of application, curriculum vitae, statements of research interests and teaching experience, and three publications before December 15, 1993, and arrange to have three letters of recommendation sent to: **Dr. Karl L. Magleby, Chairman, Department of Physiology and Biophysics, R-430, University of Miami School of Medicine, Miami, FL 33101–6430**. Previous applicants will remain under consideration and may update their curriculum vitae if there have been substantial changes.

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

ASSISTANT PROFESSOR OF BIOLOGY. The Biology Department at the University of Michigan–Flint invites applications for a tenure-track position to begin fall 1994. Primary teaching responsibilities include **GENETICS** and **BIOSTATISTICS**. Requirements: Ph.D. by September 1994, demonstrated teaching ability, active research record, broad training in biology, and commitment to undergraduate teaching and research. Send résumé, copies of recent publications, transcripts, and three letters of reference to: **Leo P. Bruederle, Ph.D., Biology Department, The University of Michigan–Flint, Flint, MI 48502–2186**. Review of applications will begin 15 January 1994. This campus is a 6,500 student, urban regional unit of the University of Michigan.

The University of Michigan–Flint is an Equal Opportunity/Equal Access/Affirmative Action Employer that encourages minorities, women, and persons with disabilities to apply.

ASSISTANT PROFESSOR BIOLOGICAL SCIENCES

Mesa State College invites application for Assistant Professor, tenure-track position available August 1994. Ph.D. required. Teaching upper-division and introductory nonmajors' courses, 12 credit hours per semester, to include zoology, physiology, and histology. Send curriculum vitae, statement of teaching and research interests, college transcripts, and names of references to: **Robert E. Kribel, Dean, School of Natural Sciences and Mathematics, Mesa State College, P.O. Box 2647, Grand Junction, CO 81502**. Deadline: January 15, 1994. *Mesa State College is an Affirmative Action/Equal Opportunity Employer. Applications from women, members of ethnic minorities, disabled individuals and veterans are encouraged. Mesa State College is a drug-free workplace. All employees of the College must agree to abide by our drug-free policy as a condition of employment.*

ENVIRONMENTAL PHYSIOLOGY

Applications are invited for a tenure-track **ASSISTANT PROFESSORSHIP** in environmental physiology, with interests focusing upon how organisms, populations and/or communities respond, acclimate or adapt to chemical or other environmental stresses. Research areas might include biochemical or physiological mechanisms that regulate responses to chemical stresses or effects of stress on such systems as respiration function, osmoregulation, locomotor activity or behavior. Priority will be given to candidates who work with macroinvertebrates, fish, or amphibians. In addition to establishing a vigorous, independent, and interactive research program, the successful candidate will be expected to contribute to graduate training and undergraduate teaching programs. Interested parties should submit curriculum vitae, statement of research interests, and have at least three letters of reference sent by January 7, 1994, to: **Environmental Physiology Search Committee, 101 T. H. Morgan Building, School of Biological Sciences, University of Kentucky, Lexington, KY 40506–0225.**

An Equal Opportunity/Affirmative Action Employer.

The Department of Biochemistry, Duke University Medical Center, invites applications for one or two faculty positions (**ASSISTANT, ASSOCIATE** or **FULL PROFESSOR**) in the area of structural biology. Duke University is in the process of building the Levine Science Resource Center that will house new X-ray and NMR facilities. The candidates will be expected to establish strong, independent research programs and to participate in departmental teaching. Send résumé, summary of research interest and three letters of reference to: **Christian R. H. Raetz, Department of Biochemistry, Duke University Medical Center, Durham, NC 27710.** *Duke University is an Equal Opportunity/Affirmative Action Employer.* Consideration of applications will commence in January 1994.

ASSISTANT OR ASSOCIATE PROFESSOR Observational Physical Oceanography

We are seeking candidates for a position as Assistant or Associate Professor in the Physical Oceanography section of the Department of Oceanography at Old Dominion University and in association with the state-funded Center for Coastal Physical Oceanography (CCPO). The successful candidate must have postdoctoral experience in physical oceanography with experience in an observational program, preferably in the coastal ocean. It would be beneficial for the candidate to have some experience developing, planning, funding, and conducting an oceanographic observational program.

The physical oceanography section of the department currently has seven faculty, three postdocs, and 17 graduate students. Computer facilities include a network of Sun workstations along with a Silicon Graphics 4D/310, a CDC 4330, and an IBM RS6000/580. Macintosh and IBM PC workstations are also available.

Applicants should send curriculum vitae, a brief description of research interests, and names of three references to: **Dr. John Klinck, Chairman, Search Committee, Center for Coastal Physical Oceanography, Crittenton Hall, Old Dominion University, Norfolk, VA 23529**. Application review will begin November 30, 1993, and continue until the position is filled.

Old Dominion University is an Affirmative Action/Equal Opportunity Employer and requires compliance with the Immigration Reform and Control Act of 1986.

ASSISTANT PROFESSOR: Harvard Medical School, Department of Biological Chemistry and Molecular Pharmacology (BCMP).

The Department of Biological Chemistry and Molecular Pharmacology invite applications for one tenure-track position at the Assistant Professor level.

We seek individuals in the broad area of RNA structure and function, including structural approaches by NMR and X-ray, aspects of RNA catalysis, splicing and molecular recognition.

Applicants should submit, by December 15, 1993, curriculum vitae, bibliography, statement of research plans and arrange for four letters of recommendation to be sent to: **Professor Christopher T. Walsh, BCMP, Harvard Medical School, 240 Longwood Avenue, C1-213, Boston, MA 02115.**

Harvard University is an Equal Opportunity/Affirmative Action Employer and encourages the applications of qualified women and minorities.

TUFTS UNIVERSITY, NEW ENGLAND MEDICAL CENTER ASSISTANT PROFESSOR, RHEUMATOLOGY/IMMUNOLOGY

The Division of Rheumatology/Immunology at Tufts University, New England Medical Center in Boston, invites applications for a position at the **ASSISTANT PROFESSOR** level. We are looking for candidates who have experience in T cell biology, including T cell cloning and molecular biology of T cell receptors, to direct a program in Lyme arthritis research and, if desired, in other related diseases. Candidates should hold a Ph.D. or M.D. degree with at least 2 years of postdoctoral experience. Candidates are expected to develop a strong research program with extramural support, but start-up support is available for 3 years. Applicants for this position should send curriculum vitae, list of publications, and a description of research to: **Allen C. Steere, Division of Rheumatology/Immunology, Box 406, 750 Washington Street, Boston, MA 02111** by December 1, 1993. *Tufts is an Equal Opportunity/Affirmative Action Employer.*

U.S. DEPARTMENT OF ENERGY
OFFICE OF HEALTH AND ENVIRONMENTAL RESEARCH

Alexander Hollaender

DISTINGUISHED

Postdoctoral Fellowship Program

Research Opportunities in Energy-Related Life, Biomedical, and Environmental Sciences

- Research in OHER-sponsored programs
- Tenable at various national laboratories
- Stipends $37,500
- Doctoral degree received after April 30, 1992
- U.S. citizens or PRA eligible

Information and applications:

Hollaender Postdoctoral Fellowships
Science/Engineering Education Division
Oak Ridge Institute for Science and Education
P.O. Box 117
Oak Ridge, TN 37831-0117
(615) 576-9975

Deadline January 15, 1994

Announcement and call for abstracts for conference on

PATHOGENESIS OF HIV INFECTION OF THE BRAIN: IMPACT ON FUNCTION AND BEHAVIOR

April 4- April 7, 1994
Westfield Conference Center
Chantilly, Virginia, USA

Organized by:
Office on AIDS and
Division of Neuroscience and Behavioral Science
National Institute of Mental Health, NIH

To receive conference registration and abstract submission information, please call or write to:

NeuroAIDS Conference Coordinator
Circle Solutions
8201 Greensboro Drive, Suite 600
McLean, VA 22102
703/821-8955 ext. 480
FAX 703/821-2098

Deadline for abstracts of posters is February 4, 1994

WORLD AIDS FOUNDATION

The World AIDS Foundation (WAF) announces its intent to support research and education relating to AIDS in the developing world. The goal of the WAF is to facilitate information exchange and to assist developing countries to respond to the AIDS pandemic.

The main area of interest of the WAF is education for health professionals in developing countries, especially in-country training. This includes highly focused workshops which enhance the scientific process and transfer knowledge needed in the effort against HIV infection and AIDS.

The Foundation is particularly interested in projects that are catalytic, and once in place could have a multiplicative effect. Projects that involve collaboration with the WHO Global Programme on AIDS are of particular interest. The WAF is also interested in applications that originate from developing countries and which emphasize collaboration between and among scientists, physicians and public health workers from developed and developing countries. Of special interest are projects which respond to the anticipated increase in HIV infection in South-East Asia and Western Pacific.

The limit of any single funding request to the Foundation is $200,000.

Application Procedures:

Concept letters and applications may be prepared in either English or French. Applicants should submit concept letters for initial consideration. Following review of concept letters, applicants may be invited to submit complete proposals. The annual deadline for receipt of concept letters is February 1, 1994. However, applicants are encourage to submit their concepts as soon as possible to assure the greatest amount of time to develop their full proposal.

Concept letters and inquiries should be directed by mail or by fax to either:

World AIDS Foundation
Assistant Secretary for Health
c/o Director,
Fogarty International Center
National Institutes of Health
Building 31, Room B2C02
9000 Rockville Pike
Bethesda, Maryland 20892 U.S.A.
Fax: (301) 402-2056

or

Fondation Mondiale SIDA
c/o Directeur de l'Institut Pasteur
28 rue du Docteur Roux
75724 Paris, Cedex 15 FRANCE
Fax: 0033-1-45688938

POSITIONS OPEN

FACULTY POSITION
LSUMC STANLEY S. SCOTT CANCER CENTER

The LSUMC Stanley S. Scott Cancer Center has an integrated basic/clinical sciences research program to investigate the molecular aspects of neoplastic transformation. We are recruiting an individual at the **ASSISTANT, ASSOCIATE,** or **FULL PROFESSOR** level to develop and sustain an outstanding program in cancer biology. While applications in all areas of cancer research are welcome, individuals with research experience and interests in molecular cytogenetics, tumor suppressor genes/oncogenes, or cancer gene therapy are particularly encouraged to apply. The successful applicant will hold a tenure-track appointment in the appropriate basic science department. The salary and the start-up package are highly competitive. Requirements are a Ph.D. and/or M.D., subsequent postdoctoral training, and evidence of excellent research productivity and promise. Applicants should submit curriculum vitae, a three-page summary of research goals, and the names of three references to: **Wayne V. Vedeckis, Ph.D., Chairman, Cancer Center Search Committee, Department of Biochemistry and Molecular Biology, Louisiana State University Medical Center, 1901 Perdido Street, New Orleans, LA 70112.** *LSU Medical Center is an Equal Employment Opportunity/Affirmative Action Employer.*

ECOLOGIST
LIBERAL ARTS COLLEGE

The Augsburg College Biology Department seeks a broadly trained ecologist for a tenure-track position at the **ASSISTANT PROFESSOR** level, starting September 1, 1994. Responsibilities will include, but are not limited to, an upper-level ecology course, participation in the introductory biology program for majors, and courses for non-majors. Requirements include Ph.D., commitment to teaching at the undergraduate level, and potential to involve students in research.

Augsburg College is a private, coeducational liberal arts college located in Minneapolis, Minnesota, and is affiliated with the Evangelical Lutheran Church in America. Enrollment is approximately 3,100 students. We seek an individual committed to the educational mission of our urban, church-related, liberal arts college to educate and support a diverse student body. Send letter of inquiry, curriculum vitae, and graduate and undergraduate transcripts, and arrange to have three letters of reference sent to: **Personnel Department, Augsburg College, 2211 Riverside Avenue, Minneapolis, MN 55454**. Deadline for applications is January 15, 1994.

Augsburg College is an Affirmative Action Employer.

ELECTROPHYSIOLOGIST/HISTOCHEMIST with experience in the olfactory system; **ASSISTANT** or **ASSOCIATE PROFESSOR** level (non-tenure-track). To join research team. Proven potential to develop an independent research program with extramural funding is expected. Interest in centrifugal olfactory pathways useful, as well as interest in axoplasmic transport. Contact: **Dr. Richard L. Doty, Director, Smell and Taste Center, Department of Otorhinolaryngology, Head and Neck Surgery, University of Pennsylvania School of Medicine, 3400 Spruce Street—5 Ravdin, Philadelphia, PA 19104.**

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Department of Brain and Cognitive Sciences

The MIT Department of Brain and Cognitive Sciences anticipates making a tenure-track appointment in computational brain and cognitive science at the **ASSISTANT PROFESSOR** level. Candidates should have a strong mathematical background and an active research interest in the mathematical modeling of specific neural or cognitive phenomena. Individuals whose research focuses on learning and memory are especially encouraged to apply. Responsibilities include graduate and undergraduate teaching and research supervision. Applications should include a brief cover letter stating the candidate's research and teaching interests, curriculum vitae, three letters of recommendation and representative reprints. **Send applications by January 15, 1994, to: Dr. Michael L. Jordan, Faculty Search Committee, MIT E10-018, 77 Massachusetts Avenue, Cambridge, MA 02139–4307.** *Qualified women and minorities are especially encouraged to apply. MIT is an Affirmative Action/Equal Opportunity Employer.*

Cornell University
Section of Biochemistry, Molecular and Cell Biology

Applications are invited for a tenure-track **ASSISTANT PROFESSORSHIP** in the area of **Physical Biochemistry** from individuals interested in applying multidimensional NMR to contemporary problems in biochemistry. Candidates will be selected based on accomplishments, strong motivation for creative research, and commitment to teaching. Applicants should send curriculum vitae and brief description of accomplishments and future research plans, and have 3 recommendation letters sent independently, by February 1, 1994, to: **Prof. D. Shalloway, Search Committee, Biochemistry, Molecular and Cell Biology, Biotechnology Building, Cornell University, Ithaca, NY 14853.**

Applications from women and minority group members are encouraged. Cornell University is an Affirmative Action/Equal Opportunity Employer.

LOYOLA UNIVERSITY CHICAGO
DEPARTMENT OF BIOLOGY
TWO TENURE-TRACK FACULTY POSITIONS

The Department of Biology at Loyola University Chicago seeks to hire two individuals at the level of **ASSISTANT PROFESSOR** starting in August 1994, in the following areas: (1) **VERTEBRATE MORPHOLOGIST**, with training in functional or evolutionary vertebrate anatomy or physiology, capable of teaching comparative anatomy and histology; and (2) **INVERTEBRATE ECOLOGIST**, preferably with training in aquatic systems, capable of teaching general ecology. Candidates must possess a Ph.D. degree (postdoctoral experience desired), and will be expected to teach both required and specialty courses at the undergraduate and graduate levels. Individuals must develop a research program that includes publication, pursuing extramural funding, and training graduate students. Candidates should submit a letter of application, curriculum vitae, statement of teaching and research interests, significant reprints, and three letters of recommendation by January 15, 1994, to: **Dr. John Smarrelli, Chairman, Department of Biology, Loyola University Chicago, 6525 North Sheridan Road, Chicago, IL 60626.**

Loyola University Chicago is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION in Forest Community Ecology, University of California, Berkeley, to start July 1, 1994. **ASSISTANT PROFESSOR**, tenure-track, 9-month position; 50/50% teaching/research. Ph.D. in Ecology, Botany, Forestry or related field required. Expertise to include ecosystem studies, biological diversity, and forest ecology as applied to silviculture and forest management. Applicant should have knowledge of statistics, computer applications, silviculture, and current issues in forest management and conservation. Teaching responsibilities include one undergraduate course in forest community ecology, one graduate course in forest ecology, and participation in teaching at summer field program. Send application, résumé, list of publications, transcripts, and names of four references before January 31, 1994, to: **James W. Bartolome, Chair Search Committee, Department of Environmental Science, Policy, and Management, 145 Mulford Hall, University of California, Berkeley, CA 94720**. For more information and full position description, call collect **(510) 642-0376.** *University of California is an Equal Opportunity/Affirmative Action Employer.*

ANALYTICAL CHEMIST—ASSISTANT PROFESSOR, tenure-track, Ph.D., September 1, 1994; teach general chemistry and analytical chemistry. The candidate's potential as a teacher and researcher for an undergraduate program is essential. Preference given to individuals with research background and resultant publication in refereed journals. Application deadline is December 15, 1993. Midwestern State University is a liberal arts university with an enrollment of 5,800 students. The Chemistry Department is ACS-certified, offering the B.S. in chemistry and in environmental chemical technology. Submit curriculum vitae, description of proposed research, a statement of educational philosophy and three letters of recommendation to: **Dr. Norman Horner, Director, Division of Sciences, Midwestern State University, 3410 Taft Boulevard, Wichita Falls, TX 76308–2099.** *Equal Opportunity/Affirmative Action Employer.*

THE DEPARTMENT OF COGNITIVE SCIENCE AT THE JOHNS HOPKINS UNIVERSITY expects to make an appointment in human cognitive neuropsychology at the level of **ASSISTANT PROFESSOR** (tenure-track). Applications are invited from individuals whose research uses the performance of cognitively impaired subjects, functional brain imaging methods, or the like as a basis for characterizing the cognitive processes and brain mechanisms underlying some aspect(s) of normal language processing. *Women and members of underrepresented minorities are especially encouraged to apply.* Please send curriculum vitae, statement of research and teaching interests, representative publications and three letters of recommendation to: **Chair, Cognitive Neuropsychology Search Committee, Department of Cognitive Science, The Johns Hopkins University, Baltimore, MD 21218.** *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

TENURE-TRACK FACULTY POSITIONS
(Molecular and Cell Biologists)

We are searching for two tenure-track faculty members at the **ASSISTANT, ASSOCIATE** or **FULL PROFESSOR** levels. Successful candidates will be expected to develop strong research programs in molecular or cell biology and to teach medical and graduate students. Candidates with interests in the area of cell cycle regulation or nucleic acids biochemistry are especially encouraged to apply. The positions offer competitive salaries and laboratory start-up packages. Send applications and three letters of recommendation by December 31, 1993, to: **Dr. Leroy F. Liu, Chair, Department of Pharmacology, UMDNJ–Robert Wood Johnson Medical School, 675 Hoes Lane, Piscataway, NJ 08854–5635.** *UMDNJ, New Jersey's University of the health sciences, is an Affirmative Action/Equal Employment Opportunity Employer, m/f/h/v, and a member of the University Health System of New Jersey.*

PHYCOLOGIST

Applications are invited for a tenure-track position available 1 September 1994 at the rank of **ASSISTANT PROFESSOR**. Candidate should have postdoctoral training in phycology and a willingness to teach microbiology and courses in his/her area of specialization. The appointee is also expected to establish an independent program of research and to participate in graduate education.

Review of applications will begin **15 January 1994** and continue until the position is filled. Candidates should submit a letter of application, curriculum vitae, and names of three references to: **Dr. Daniel D. Jones, Department of Biology, University of Alabama at Birmingham, UAB Station, Birmingham, AL 35294–1170.**

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

ASSISTANT PROFESSOR—PHYSICAL CHEMISTRY—AMHERST COLLEGE. A full-time tenure-track faculty position is available for a Ph.D. experimental physical chemist beginning in July 1994. The successful candidate will be expected to teach introductory chemistry as well as physical chemistry at the advanced undergraduate level, and will be encouraged to participate in interdisciplinary teaching. She/he will also be expected to establish a vigorous research program in which undergraduates can substantively participate. The research program can be drawn from any area of experimental physical chemistry, as well as from fields that span the boundaries between physical chemistry and other sciences. Amherst College, a private coeducational liberal arts college of some 1570 students and 165 faculty located in the Connecticut River Valley of Western Massachusetts, participates with Hampshire, Mount Holyoke, and Smith Colleges, and the University of Massachusetts, in the Five-College Consortium. Applicants should submit detailed curriculum vitae and a description of their teaching and research plans, and should arrange for the forwarding of three letters of reference, all to: **Dr. J. N. Kushick, Chairman, Department of Chemistry, Amherst College, Amherst, MA 01002**, by January 1, 1994. *Amherst College is an Affirmative Action/Equal Opportunity Employer and especially welcomes applications from women, minority and disabled candidates.*

Cardiovascular Disease

COR Therapeutics, Inc. is a publicly-held biopharmaceutical company located in the San Francisco Bay Area. We specialize in the discovery and development of novel therapeutics for the treatment of various aspects of cardiovascular disease. COR is actively recruiting two highly qualified Scientific Directors with proven track records to join our multidisciplinary research teams.

Director Cardiovascular Pharmacology

This position will have the opportunity to direct an established research facility which interacts extensively with ongoing research programs. The Director will be responsible for determining the *in vivo* pharmacology and therapeutic potential of new agents designed for the treatment of thrombosis, restenosis and cardiovascular-associated inflammation.

The successful candidate will have 7-10 years of experience in the development and characterization of cardiovascular models, preferrably within a pharmaceutical or biotechnology company, and a Ph.D., M.D. or D.V.M with training in Pharmacology, Physiology or related field. Candidates should have a proven track record in the pharmacological evaluation of therapeutics in a cardiovascular disease area as demonstrated through publications and/or product development. Candidates should also have outstanding interpersonal skills and the ability to lead an interdisciplinary research team. **(Job Code R14-93-S)**

Director Natural Products Chemistry

This position will have the opportunity to establish and direct a new Natural Products Chemistry facility at COR. The Director will interact extensively with ongoing research programs and will be responsible for purification and structural determination of novel compounds. The Natural Products Chemistry facility will also provide structural analytical determinations for Medicinal Chemistry.

The successful candidate will have a Ph.D. in Chemistry or related field with 7-10 years of experience in a pharmaceutical or biotechnology company focused on the isolation, characterization and evaluation of compounds from a variety of naturally occurring sources. Candidates should have a proven track record in the discovery and characterization of naturally occurring compounds. **(Job Code R13-93-S)**

COR Therapeutics, Inc. offers competitive salaries, benefits and attractive equity positions to its employees combined with the challenge and opportunity to make significant research contributions. ***To apply, please send curriculum vitae to: COR Therapeutics, Inc., Human Resources, 256 East Grand Avenue, South San Francisco, CA 94080.*** *Please reference Job Code in correspondence. COR is an Equal Opportunity Employer.*

COR THERAPEUTICS, INC.

CENTER FOR AGRICULTURAL BIOTECHNOLOGY
UNIVERSITY OF MARYLAND BIOTECHNOLOGY INSTITUTE

FACULTY POSITION
BIOCHEMICAL ENGINEERING

Applications are invited for a 9½-month tenure-track position available August 17, 1994 or thereafter within the Center for Agricultural Biotechnology (CAB). CAB is an interdisciplinary research center that includes basic and applied molecular biologists (currently 9) and biochemical engineers (currently 2), with at least five more faculty-level appointments to be made over the next several years. Rank is open, but ASSISTANT PROFESSOR is preferred. The appointee will hold affiliate status in the Department of Chemical Engineering at the University of Maryland College Park, will teach a 1-semester course each academic year, and will have the opportunity to train graduate students through the department. The appointee will build an independent engineering research program that relates to CAB's foci--plant-pathogen interactions, insect genetic engineering, and poultry viruses and vaccine production. Interactions with basic and applied molecular biologists within CAB is expected. Appointee must have a solid background both in biochemical engineering and molecular biology. Curriculum vitae, statement of research interests, reprints of relevant publications, and names and addresses of three recommenders should be sent to: **Dr. William Bentley, Search Committee Chair, Center for Agricultural Biotechnology, University of Maryland, Agriculture/Life Sciences Surge Bldg, College Park, MD 20742. Telephone: (301) 405-1906; FAX: (301) 314-9075.** The application deadline is January 7, 1994.

Women and minority candidates are encouraged to apply.
An Equal Opportunity/Affirmative Action Employer.

LeukoSite is a growing Biopharmaceutical Company, focused on the process of tissue-specific leukocyte trafficking and the discovery of novel therapies for inflammatory and autoimmune diseases. An outstanding team of scientists has been assembled to lead the Company's research and discovery program. The Company is based in Boston, providing close access to the biomedical complex of the Harvard Medical School.

Please send your resume, cover letter referencing appropriate position code, and the names of three references to: *Recruiting Office, LeukoSite, 800 Huntington Ave., Boston, MA 02115.* An Equal Opportunity Employer.

CELL BIOLOGY OF CHEMOTAXIS

This person will investigate the role of chemoattractants and their receptors in regulating the selective migration of leucocyte subsets in inflammation. Experience in cell motility, G protein coupled receptors, ligand binding assays and high throughput bioassays is highly desirable. A Ph.D. plus postdoctoral experience is required. Code 803.

EXPERIMENTAL THERAPEUTICS

This individual will have previous experience with animal models and a knowledge of mechanisms of inflammation. Various experimental approaches to the blockage of leucocyte emigration will be evaluated in vivo. A Ph.D. or D.V.M. degree plus postdoctoral experience is required. Code 804.

LEUKOSITE INC.

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR TREE PHYSIOLOGY

The School of Forestry, Auburn University, is soliciting applications for a tenure-track, twelve-month faculty position. The successful candidate will conduct tree physiology research that complements one or more of the School's strengths in ecology, nurseries, and regeneration. Teaching will include an undergraduate course in tree physiology and at least one graduate course in the candidate's specialization.

Applicants must have completed the requirements for a Ph.D. majoring in tree physiology, forest ecophysiology or closely related field. Expertise in one or more of the following is preferable: root systems or belowground ecology, abiotic or biotic stresses, silviculture, or plant competition. Research experience beyond the Ph.D., and professional or educational experience in forestry are desirable.

Send a letter of interest, curriculum vitae, transcripts, and addresses for three references to: **Lenore Martin, School of Forestry, Auburn University, AL 36849–5418; Telephone: (205) 844-1007**. Closing date for applications is March 1, 1994. For more information contact: **Bob Jones, School of Forestry, Telephone: (205) 844-1066.** *Auburn University is an Equal Opportunity/Affirmative Action Employer; applications from minorities and women are encouraged.*

CELL BIOLOGIST—ASSISTANT PROFESSOR. The Biology Department of Hobart and William Smith Colleges invites applications for a tenure-track position starting July 1994, pending final approval. Individuals with experience in eukaryotic cell biology are encouraged to apply. Responsibilities include teaching a course in cell biology, participating in a physiology course and an introductory biology course, and contributing to the Colleges' general curriculum. In addition, the candidate is expected to demonstrate excellence in teaching and implement a research program that involves undergraduates. Candidates must have the Ph.D. degree by the starting date. Hobart College for men and William Smith College for women are coordinate residential colleges that share a campus on Seneca Lake in upstate New York. The Biology Department has just received a four-year grant from the Howard Hughes Medical Institute and a new facility for biology and chemistry will be completed in summer 1994. Applicants should send curriculum vitae, a statement of teaching philosophy, a statement of research interests, official transcripts for all degrees received, and three letters of reference to: **Dr. Joel Kerlan, Biology Department, Hobart & William Smith Colleges, Geneva, NY 14456**. To ensure full consideration, applications should be received by December 15, 1993. *Equal Opportunity/Affirmative Action Employer.*

THE OHIO STATE UNIVERSITY

FACULTY POSITIONS at The Ohio State University

The Department of Chemistry seeks to fill tenure-track faculty positions at the **ASSISTANT PROFESSOR** level to begin September 1994. Outstanding candidates at higher levels will also be considered. Broadly defined areas of interest are **biological chemistry** and **theoretical chemistry**. Demonstrated excellence in innovative research and strong commitment to teaching at both undergraduate and graduate levels are essential. Candidates should submit curriculum vitae, graduate transcripts, list of publications, statements of research and teaching interests, and three letters of recommendation to: **Professor Russell M. Pitzer, Chair, Department of Chemistry, The Ohio State University, 120 West 18th Avenue, Columbus, OH 43210–1173**. Review of applications will start January 1, 1994.

The Ohio State University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, Vietnam-era veterans, disabled veterans and individuals with disabilities are encouraged to apply.

CLINICAL LAB DIRECTOR for Fort Lauderdale Laboratory. Ph.D. or M.D./Ph.D. candidate must be Florida licensable in Flow Cytometry, Hematology and Histocompatibility with interests in Clinical Research Applications in Immunology. Please FAX curriculum vitae and salary requirements to: **Ann Marie E. Patsy, Telephone: (305) 767-4715**.

POSITIONS OPEN

DEVELOPMENTAL BIOLOGIST: ASSISTANT PROFESSOR

The Department of Biological Sciences at Wright State University invites applications for an Assistant Professor tenure-track position in developmental biology. The University is a comprehensive public university with an enrollment of over 17,000. The Biological Sciences Department includes 20 full-time faculty, over 400 undergraduate majors and 40 graduate students. Applicants must have postdoctoral research experience in cellular/molecular aspects of development. Teaching duties will include undergraduate and graduate courses in developmental biology emphasizing cellular/molecular development and developmental genetics. The successful candidate will be expected to develop a fundable research program. Participation in the departmental B.S., B.A. and M.S. degree programs is expected. Faculty in the Biological Sciences Department also participate in the interdisciplinary Biomedical Sciences Ph.D. program. Departmental areas of expertise include molecular/cellular biology, environmental/organismic biology, medical technology, toxicology and environment health. Applicants should send curriculum vitae, separate statements of teaching philosophy and research goals, and the names and addresses of at least three referees to: **Developmental Biologist Search Committee, Department of Biological Sciences, Wright State University, Dayton, OH 45435**. We will begin reviewing applications on 17 January 1994. *Wright State University is an Equal Opportunity/Affirmative Action Employer.*

Medical University of South Carolina (MUSC) ASSISTANT PROFESSOR— MOLECULAR BIOLOGIST

The retinal-biochemistry group of the Vision Research Division of the Ophthalmology Department is inviting applications for a tenure-track Assistant Professor position available immediately. Candidates should have a Ph.D. or Ph.D./M.D., postdoctoral training, demonstrated excellence in research, and a desire to collaborate with both basic scientists and clinicians. The successful candidate will join the research program in rhodopsin structure and function, interact with other ongoing projects on vision research and develop independent funding. Please send curriculum vitae and references to: **Rosalie K. Crouch, Ph.D., Department of Ophthalmology, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425–2236.** *MUSC is an Equal Opportunity Employer and encourages applications from women and minorities.*

SCIENCE DIRECTOR FOR ENVIRONMENTAL CAMPAIGN. The National Religious Partnership for the Environment, a federation of major American faith groups, is undertaking a 3-year mobilization on environmental sustainability and justice. The Partnership seeks an individual to serve as its principal scientific advisor and liaison between the scientific and religious communities. The Science Director will be based at the offices of the Union of Concerned Scientists (UCS) and will draw on UCS's researchers, educators, and resources. A background in environmental science required, with a Ph.D. and 3 plus years of professional experience preferred. Starting date: January/February 1994. For a full job description, or to apply, contact: **Deputy Director, UCS, 26 Church Street, Cambridge, MA 02238. Telephone: (617-547-5552)**.

CAL POLY, SAN LUIS OBISPO. Candidates are sought from the fields of Biotechnology, Biochemistry, Chemistry, Biological Sciences, Microbiology and Science Education for a **TENURE-TRACK POSITION**. Starting date September 1994. Salary is commensurate with qualifications and experience. Responsibilities include courses in area of specialty and introductory courses. The successful candidate will show awareness of California's multicultural population, commitment to cross-cultural education, and leadership potential in related activities. Ph.D. required. Send letter of application with reference to **Recruitment #43011**, résumé, and statement of professional goals to: **Phil Bailey, Dean, College of Science and Math, Cal Poly, San Luis Obispo, CA 93407**. Three letters of recommendation should be supplied directly by references. Deadline: January 17, 1994. *Cal Poly is strongly committed to achieving excellence through cultural diversity. The university actively encourages applications and nominations of women, persons of color, applicants with disabilities, and members of other underrepresented groups.*

POSITIONS OPEN

DIRECTOR OF MONOCLONAL CORE FACILITY

Director of newly funded monoclonal Core Facility in the Department of Pediatrics, Case Western Reserve University School of Medicine. This individual will be responsible for making monoclonal antibodies oriented to Cystic Fibrosis Research, screening hybridomas, purifying antibodies and administrating the Core. Significant experience in making monoclonal antibodies, cell culture and molecular biology required. Opportunity for postdoctoral-level independent research. Send curriculum vitae and references to: **Dr. John R. Schreiber, Division of Infectious Diseases, Rainbow Babies and Children Hospital, 2074 Abington Road, Cleveland, OH 44106; Telephone: (216) 844-3237.**

DIRECTOR RESEARCH

National professional association is looking for director to develop programs to assist researchers in communication disorders and sciences. Responsibilities include: development and implementation of mechanisms to provide information and expansion of research within the disciplines. A doctoral degree in Audiology, Speech-Language Pathology, Psychology or a related field and 2 years of relevant experience are required. Send résumé to: **ASHA/DR, 10801 Rockville Pike, Rockville, MD 20852.** *Affirmative Action/Equal Opportunity Employer.*

NMR FACILITIES DIRECTOR

Montana State University seeks a Ph.D. NMR facilities director to ensure optimum performance of the NMR instruments, conduct research to extend NMR capabilities, and be responsible for maintenance of the instruments. AM500 with solids, wideline and inverse liquids, AC300, WM250, CMC200 solids and substantial instrument upgrades/additions anticipated. Bozeman is rated as one of the most desirable small cities in the United States with outstanding recreational opportunities. Screening will begin December 20, 1993. Applicants must request application materials from: **NMR Facilities Committee, Department of Chemistry and Biochemistry, Montana State University, Bozeman, MT 59717; FAX: (406) 994-5407. Email: uched @msu.oscs.montana.edu.** *ADA/Equal Opportunity/Affirmative Action/Veteran Preference.*

The Gene Therapy Program of the University of Alabama at Birmingham

We are offering faculty positions at the **ASSISTANT** and **ASSOCIATE** level for tenure-track positions. M.D. and/or Ph.D. candidates should be committed to pursuing careers in areas of gene therapy related to either basic/or clinical science.

Selected candidates will be given latitude to develop independent research programs within the Gene Therapy Program. The Program is committing significant resources to this effort by providing generous start-up packages including research space, support personnel and core facilities to support gene therapy studies at both the basic and clinical levels.

Contact: **David T. Curiel, M.D. Telephone: (205) 934-8627.**

Equal Opportunity Employer.

The Department of Cell Biology at Harvard Medical School invites applications for a position at the **INSTRUCTOR** level. The candidate must have demonstrated research experience in the high resolution imaging of fluorescently labelled proteins in live neurons, the generation and maintenance of primary CNS and PNS neuronal cultures, and direct laboratory experience with the purification and fluorescent modification of cytoskeletal proteins. In addition, the candidate must have broad knowledge of the pathology and pathophysiology of degenerative neurologic diseases. Must have an M.D. or Ph.D. in biochemistry or neuroscience and at least 3 years of postdoctoral experience. Duties will include using the above mentioned techniques to directly conduct ongoing experiments to evaluate the role of the cytoskeleton in growth cone function, and synapse formation and degeneration. In addition, the candidate will be required to teach a graduate course in Cell Biology specifically related to the cytoskeleton and cell morphogenesis. Send application and names and addresses of three referees by December 1, 1993, to: **Denise Zakher, Department of Cell Biology, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115.**

CHIEF OF CYTOGENETICS LABORATORY

The Department of Pathology at Roswell Park Cancer Institute is recruiting for a Chief of Cytogenetics. The successful candidate must have extensive training in the field of human cytogenetics, a preferable minimum of three-five years experience and a track record of publications commensurate with level of experience. The cytogenetics laboratory at RPCI has a tradition of excellence and scholarly activity, which is expected to continue. The candidate is expected to develop an ongoing clinical-based research program to support the variety of cancer research programs around the institute. A genetics program is being developed to center upon the study of population groups with familial and genetic cancer syndromes. The candidate is expected to become involved in the clinical aspects of this effort and provide support to basic scientists around the institute.

Interested candidates should forward their CV and 3 references to: **John J. Brooks, M.D., MRCPath, Chairman, Department of Pathology, Roswell Park Cancer Institute, Elm & Carlton Street, Buffalo, NY 14263.**

Roswell Park Cancer Institute is an M/F/D/V Affirmative Action Employer.

ROSWELL PARK CANCER INSTITUTE

PHYSICIAN/SCIENTIST

The Arthritis and Rheumatism Branch (ARB) of the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), National Institutes of Health (NIH), Public Health Service (PHS), which conducts laboratory and clinical research related to immunology, inflammation, and particularly autoimmunity and autoimmune diseases, is recruiting for two tenure-track or tenured positions.

One position requires the expertise of a physician/scientist who will develop an independent research program involving both laboratory and clinical research. In addition to laboratory and office space, common facilities are available.

The second position requires the expertise of a physician/clinical investigator who will develop an independent clinical research program related to the rheumatic diseases. Opportunities include both inpatient and outpatient research and collaborations with research scientists and clinical investigators on the NIH campus.

Candidates for both positions must hold an M.D. degree and be Board Eligible or Board certified in Rheumatology. Salary is $39,000 to $108.200 depending on experience and the type of appointment.

Send curriculum vitae, bibliography, a list of three individuals who can serve as references, and a one-page summary of research plans and interest to

Dr. Henry Metzger
Chief, ARB
9000 Rockville Pike
Building 10, Room 9N228
NIAMS, NIH
Bethesda, MD 20892

NATIONAL INSTITUTES OF HEALTH

NIH is a an Equal Opportunity Employer

DIRECTOR, DIVISION OF CHEMISTRY
NATIONAL SCIENCE FOUNDATION
Arlington, VA 22230

NSF's Directorate for Mathematical and Physical Sciences seeks qualified candidates for the position of Director, Division of Chemistry. The incumbent will provide management and direction to the Division which includes research support programs in areas involving Analytical and Surface Chemistry; Chemical Instrumentation; Inorganic, Bioinorganic, and Organometallic Chemistry; Organic Chemical Dynamics; Organic Synthesis; Experimental Physical Chemistry and Theoretical and Computational Chemistry.

Appointment to this Senior Executive Service position may be on a career or 2- to 3-year limited term basis, with a $92,900 to $107,300 salary range. Alternatively, selectee may be assigned under Intergovernmental Personnel Act provisions, retaining current salary and benefits. Applicants must have a Ph.D. or professional experience in chemistry or closely related field; substantial research experience and strong evidence of scholarship in chemistry or recognized leadership in research administration; and demonstrated supervisory skills.

Applicants should contact George Pittmon on 703-306-1187 (hearing impaired individuals may call TDD 703-306-0090) to request announcement EP 94-1 (SES career) EP 94-11 (SES limited term) and/or EP 94-21 (IPA) for complete qualification requirements and application procedures. Applications should be mailed to George Pittmon, National Science Foundation, Executive Personnel and Development Branch, Room 315, 4201 Wilson Blvd., Arlington, VA 22230. Applications must be received by January 14, 1994.

NSF is an Equal Opportunity Employer committed to employing a highly qualified staff that reflects the diversity of our nation.

POPULATION GENETICIST

Department of Medical Genetics
The University of British Columbia

The Department of Medical Genetics invites applications for a grant tenure track position in the area of Human Population Genetics. Appointment will be at the Assistant Professor level with the possibility of a higher rank for a suitable candidate with more experience.

Candidates for this position must have a doctoral degree, a minimum of two years' post-doctoral experience, and demonstration of outstanding research abilities. The successful candidate will be expected to develop a vigorous, independent research program in an interactive environment, and should be an enthusiastic teacher. The anticipated start date is July 1, 1994. **The deadline for applications is January 1, 1994** or until such time as a suitable candidate is identified. Salary will be commensurate with qualifications.

In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

The University of British Columbia welcomes all qualified applicants, especially women, aboriginal people, visible minorities and persons with disabilities.

Applications, including a curriculum vitae, selected reprints, a statement of research interests and present research activities, and the names of three referees should be sent to:

UBC

Dr. J.M. Friedman, Head
Department of Medical Genetics
The University of British Columbia
B.C.'s Children's Hospital at Shaughnessy Site
Room C201, 4500 Oak Street
Vancouver, B.C. CANADA V6H 3N1

ars

UNITED STATES
DEPARTMENT OF AGRICULTURE
AGRICULTURAL
RESEARCH SERVICE

RESEARCH HORTICULTURIST. USDA-ARS has a permanent position at the Remote Sensing Research Laboratory, Beltsville, Maryland. Incumbent will plan, coordinate, and conduct experiments for estimating crop yields. Experiments will be conducted in greenhouse, controlled environment growth chambers and in the field. A degree in Horticulture or related discipline plus knowledge of crop physiology and plant growth process modeling is required. A Ph.D. and research experience in the subject area are preferred. Must be a US citizen, salary commensurate with experience (range GS-12, $40,298 to $52,385; GS-13, $47,920 to $62,293). For information on the research program and/or position contact Galen F. Hart, Research Leader, Remote Sensing Research Laboratory, Natural Resources Institute, Beltsville, MD 20705-2350 or call (301) 504-6822; FAX: (301) 504-5031. For the vacancy announcement and application procedures contact Rose Cunningham, ARS Personnel, 6305 Ivy Lane, Greenbelt, Maryland 20770-1435 or call 301-344-0105. Applications should be marked ARS-D-4-B004-3 and postmarked by December 20, 1993. Minorities and women are encouraged to apply. ARS is an Equal Opportunity Employer.

POSITIONS OPEN

FACULTY POSITION

The Institute for Cancer Research at the Fox Chase Cancer Center has an opening for a tenured faculty position available to an established investigator with a record of achievement in the area of Immunology. The Investigator will benefit from interactions with laboratories of four other individuals with active programs in the areas of lymphocyte differentiation and immunodeficiency (**M. Bosma**), B lymphocyte differentiation and immunoglobulin gene repertoire (**R. Hardy**), B and T cell memory to self and nonself antigens (**K. Hayakawa**), and signal transduction in T lymphocyte activation and differentiation (**D. Kappes**). Large, newly renovated space and relocation funds are available. Access to superlative facilities is also provided by the Institution's core grant support. These include facilities for breeding and maintaining small animals, fluorescence-activated cell sorting, generation of transgenic and gene knock-out mice and production of hybridomas. Applicants should submit curriculum vitae and references to: **Dr. Anna Marie Skalka, Director of Basic Research, c/o Human Resources Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111.** *Equal Opportunity Employer.*

CARDIAC MOLECULAR BIOLOGY/BIOCHEMISTRY
RESEARCH FACULTY POSITION
Cardiac Surgery Research Laboratory
Department of Surgery
Duke University Medical Center

The Department of Surgery at Duke University Medical Center seeks well-qualified applicants with a background in cardiac molecular biology and biochemistry to direct a laboratory in the Division of Cardiac Surgery. Candidates should have completed 3 to 5 years of relevant postdoctoral experience and be prepared to conduct an independent program of molecular cardiac research. The position includes an academic appointment in the Department of Surgery and would involve opportunities to participate in teaching as well as opportunities to act as research adviser to medical students, graduate students, residents and postdoctoral fellows. Areas of interest include, but are not limited to, molecular pathways to myocyte differentiation and growth, cardiac receptor interactions, myosin regulation, study of cardiac ion channels, and myocardial gene transfer. Applicants should send curriculum vitae and statement of research interest, as well as the names of three references to: **Dr. David C. Sabiston, Jr., M.D., James B. Duke Professor and Chairman, Department of Surgery, Post Office Box 3704, Duke University Medical Center, Durham, NC 27710.**

DEVELOPMENTAL BIOLOGIST

The Department of Zoology, University of Maryland, College Park, invites applications for a **TENURE-TRACK POSITION** in **DEVELOPMENTAL BIOLOGY**. Individuals whose research interests lie in molecular biology, cell biology or neurobiology would be preferred. Rank of the appointment is open. *Minority and women applicants are especially encouraged to apply.* The successful candidate will be expected to develop an externally funded research program and teach cell biology and developmental biology to undergraduate and graduate students. Curriculum vitae, description of research and teaching interests, sample publications, and the names and addresses of at least three references should be forwarded by December 15, 1993, to: **Dr. Richard Payne, Chair, Developmental Biology Search Committee, Department of Zoology, University of Maryland, College Park, MD 20742.** *The University of Maryland is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN BIOLOGY

Biology—Ph.D. and teaching experience required. Responsibilities include teaching, advising students, and serving on university committees. Preference is for a broadly trained person with specialization toward animal/cellular fields. *Applicants are considered without regard to race, age, sex, handicapped condition, or national origin.* Send résumé to: **Dr. H. Glenn Sumrall, Vice President for Academic Affairs, Le Tourneau University, P.O. Box 7001, Longview, TX 75607–7001.**

UNIVERSITY OF COLORADO COLORADO SPRINGS

The Department of Biology invites applications for a **TENURE-TRACK POSITION**, beginning in AY94–95. The Department seeks an individual with broad expertise in immunology, ranging from molecular genetics to clinical immunology. Candidates for Assistant rank must have postdoctoral experience, a plan for establishing an externally funded research program, and a commitment to teaching core and elective courses at the undergraduate and graduate levels. Candidates with significant teaching experience and current research funding are also encouraged to apply, and will be considered for an appointment at the Associate or Professor level. Interested persons should send letter of application, curriculum vitae, statement of teaching and research interests, and names of three references to: **Dr. Douglas Swartzendruber, Department of Biology, University of Colorado, Colorado Springs, CO 80918–3733.** Applications will be reviewed beginning in January 1994, and will continue until the position is filled. *The University of Colorado is an Equal Opportunity/Affirmative Action Employer.*

Department of Neurology, Beth Israel Hospital/ Harvard Medical School is searching for full-time **LABORATORY-BASED FACULTY**, in particular those with research interests in the areas of cerebrovascular disease and neuronal death/protection, neural grafting and restorative neurology, movement disorders and molecular pharmacology of neurotransmitter receptors, and neuro-ophthalmology. Applicants should have completed a neurology residency and additional laboratory-based training, and should be competitive for external independent grant support. Please send curriculum vitae and one reprint of each of three publications; names of at least three references we may contact; and a statement of research interest to: **Clifford B. Saper, M.D., Ph.D., Professor and Chairman, Department of Neurology, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215.** *Beth Israel Hospital is an Equal Opportunity/ Affirmative Action Employer.*

BIOTECHNOLOGY/MOLECULAR BIOLOGY

A full-time, tenure-track position in the Department of Medical and Research Technology, School of Medicine, University of Maryland at Baltimore. The successful candidate must have a Ph.D. and postdoctoral experience. Experience in Molecular Biology required. The successful candidate is expected to have a commitment to teaching in the undergraduate Biomedical Science Research Track in the department, and develop an active research program. The position is available July 1, 1994. Completed applications will be considered beginning January 2, 1994, until the position is filled. Applicant should send curriculum vitae, statement of research interests, and letters of recommendation to: **Dr. Patrick Cummings, Chair, Search Committee, Department of Medical and Research Technology, Allied Health Building, 100 South Penn Street, Room 405, Baltimore, MD 21201; Telephone: (410) 706-7663.** *The University of Maryland is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL AND PREDOCTORAL POSITIONS available January 1994 to study toxin genes for transgenic, insect-resistant plants. Ph.D., and recombinant DNA experience required for postdoctoral; background in molecular/microbiology and entomology desirable for predoctoral. Send curriculum vitae, research statement, transcripts, and three letters to: **Dr. Shän Bilimoria, Biological Sciences, Box 43131, Texas Tech University, Lubbock, TX 79409. Telephone: (806) 742-2740; FAX: 742-2963.** *An Equal Opportunity Employer.*

A **POSTDOCTORAL POSITION** is available to study cytokine mechanisms in cutaneous wound healing using a diverse range of techniques including Northern Blot analysis, RNase protection, *in situ* hybridization, etc. Candidates should have a background in molecular biology and be willing to apply these techniques to *in vivo* applications in porcine and human wounds. Send curriculum vitae and names of 3 references to: **Lillian B. Nanney, Ph.D., Vanderbilt University School of Medicine, Plastic Surgery Research Labs, S-2221, MCN, Nashville, TN 37232–2631.** *Vanderbilt University is an Equal Opportunity/Affirmative Action Employer.*

COLUMBIA UNIVERSITY, Psychology Department, invites applications for two positions to start September 1994: **HUMAN COGNITION**: applications at any level will be considered, but of special interest is a senior scientist with a record of outstanding research contributions and a strong commitment to undergraduate and graduate teaching; send applications and recommendation letters to **BOX 28. BEHAVIORAL NEUROSCIENCE/ANIMAL COGNITION**, broadly defined: candidates should provide evidence of research excellence and strong commitment to graduate and undergraduate education; of particular interest are those who can contribute to other areas of Department strength; send curriculum vitae, relevant papers, and three letters of reference to **BOX 29**. Submit complete applications no later than January 1, 1994, to: **Search Committee, BOX ●●●, 406 Schermerhorn Hall, Columbia University, New York, NY 10027.** *Affirmative Action/Equal Opportunity Employer.*

TRAINING PROGRAM IN DIABETES RESEARCH AT WASHINGTON UNIVERSITY SCHOOL OF MEDICINE ST. LOUIS, MISSOURI

POSTDOCTORAL POSITIONS are available in the use of modern cellular and molecular techniques to investigate diabetes and related endocrine diseases. Trainees will be offered opportunities in the following areas of diabetes research: cellular mechanisms in insulin secretion from β-cells, lipid-derived mediators and signal transduction processes, insulin action on target cells, islet transplantation, autoimmunity and the role of nitric oxide and cytokines, and vascular and neurological complications. *U.S. citizenship or permanent resident status is required.* Salary on NIH scale. For information, please contact: **Dr. Michael L. McDaniel, Box 8118, Washington University School of Medicine, Department of Pathology, St. Louis, MO 63110. Telephone: 314-362-7435. FAX: 314-362-4096.** *Washington University is an Equal Opportunity Employer. We are particularly interested in minority applicants.*

POSTDOCTORAL POSITION DANA-FARBER CANCER INSTITUTE

A postdoctoral position is available immediately for a study of immunodeficiency after allogeneic bone marrow transplantation. Cellular or molecular immunology training will be helpful. Send curriculum vitae and names and telephone numbers of three references to: **Dr. Ilonna J. Rimm, Dana 1610C, DFCI, 44 Binney Street, Boston, MA 02115. Telephone: 617-632-3804, FAX: 617-632-2085.**

POSTDOCTORAL POSITIONS available to explore the molecular genetics of the mammalian alcohol/ retinol dehydrogenase gene family. Projects will include studies on its role in retinoic acid synthesis during mouse development, gene regulation, and fetal alcohol syndrome. Ph.D. with experience in molecular biology, biochemistry or embryology. Send curriculum vitae and letters of reference to: **Dr. Gregg Duester, La Jolla Cancer Research Foundation, 10901 North Torrey Pines Road, La Jolla, CA 92037.**

SENIOR POSTDOCTORAL POSITION available to study Mechanism of Autoimmune Skin Diseases. Two years of experience in Molecular Biology and/or Biochemistry required. Background in Immunology preferred. Present work on Regulation of Immune Response and T Cell involvement in Autoimmunity. Faculty appointment possible in near future. Send curriculum vitae, recent publications and names of three references to: **A. R. Ahmed, M.D., Department of Dermatology, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118.**

POSTDOCTORAL POSITION HARVARD MEDICAL SCHOOL

Opportunity available to study molecular mechanisms of mononuclear leukocyte adhesion to vascular endothelium during inflammation. Experience in gene cloning, molecular biology and cell biology required. Please send curriculum vitae, summary of research experience and 3 letters of reference to: **Francis W. Luscinskas, Ph.D., Vascular Research Division, Brigham and Women's Hospital, 221 Longwood Avenue, Boston, MA 02115.** *Equal Opportunity/Affirmative Action Employer.*

PHARMACEUTICAL RESEARCH

Zeneca Pharmaceuticals Group (formerly ICI Pharmaceuticals Group), dedicated to the challenge of discovering and developing important new therapeutic agents, has the following openings in the Pulmonary Pharmacology Group at our suburban Wilmington, Delaware location.

IMMUNOPHARMACOLOGIST

We seek an immunopharmacologist to study the role of cytokines in various aspects of airway allergy and inflammation, and contribute to drug discovery research. A background in inflammation, allergy or immune models is necessary. A PhD with postdoctoral experience in Immunology, Molecular Biology, Pathology, Pharmacology or a related biological science and a proven record of scientific achievement is sought. Must demonstrate leadership capability to create innovative research plans and supervise assistants.

ENZYMOLOGIST

We seek an enzymologist to study the role of proteases in pulmonary hypertension and contribute to drug discovery research. A PhD with postdoctoral experience in Enzymology, Biochemistry, Molecular Biology, Pharmacology or related discipline and a proven record of scientific achievement is sought. Must demonstrate leadership capability to create innovative research plans and supervise scientific staff.

CARDIOVASCULAR OR PULMONARY PHARMACOLOGIST

We seek a cardiovascular or pulmonary pharmacologist to study the roles of various mediators in pulmonary hypertension and contribute to drug discovery. A PhD with postdoctoral experience in Physiology, Biology, Pharmacology or related discipline and a proven record of scientific achievement involving cardiovascular or pulmonary physiology is sought. Must demonstrate leadership capability to create innovative research plans and supervise scientific staff.

PULMONARY PHARMACOLOGIST

We seek a BS/MS level scientist with at least 2 years' laboratory experience to study basic aspects of pulmonary hypertension and contribute to drug discovery efforts. Experience in laboratory techniques related to the development of new assays using Biochemistry, Enzymology, receptor interactions or *in vivo* techniques would be very useful.

We offer competitive compensation, comprehensive flexible benefits, a unique investment plan, and the opportunity for growth with one of the world's leading pharmaceutical research organizations.

If you are interested in joining a team of scientists from a broad range of disciplines in an industrial pharmaceutical research environment, please submit c.v. to: **Melanie M. Lewis, Human Resources Dept., Zeneca Pharmaceuticals Group, 1800 Concord Pike, Wilmington, DE 19897.** An Equal Opportunity Employer M/F.

ZENECA

Pharmaceuticals Group

ZENECA Pharmaceuticals/Stuart Pharmaceuticals
Business Units of ZENECA Inc.

Our entrepreneurial environment naturally evolves as a function of our mission: the development of recombinant DNA-based human therapeutics, utilizing the principles of cellular and molecular biology...through rapid product development and innovative commercialization strategies. We currently have a career opportunity in our Process Development Group for a:

RESEARCH SCIENTIST

Reporting to the Laboratory Head, Cell Culture Process Development, you will be responsible for providing biological insight and input into the development of scalable processes with a variety of mammalian cell lines. The selected candidate will research cell characteristics and culture conditions to determine optimum growth environments for successful scale-up and will develop novel serum-free media formulations for growth and culture of suspension- and anchorage-dependent mammalian cells. You will serve as the resident "cell expert" within the Process Development Group. Additionally, you will supervise two Research Associates; assist the Vector Development Group in the identification of cell lines that exhibit the most desirable scale-up characteristics; and provide guidance to the Analytical Group in the development of new assays.

Candidates must have a Ph.D. in biological sciences with emphasis on cell physiology, biochemistry and/or molecular biology desirable. Industrial experience in Process Development and a research background involving several different mammalian cells and culture conditions are required.

At Amgen, our staff plays an integral role in maintaining the highest of standards and product excellence. We offer a highly competitive compensation and benefits package. If you're interested in this position, please FAX/mail your resume to: **FAX: (805) 447-1985, Amgen Inc., Staffing, Job Code OA-SC-LD-006, Amgen Center, Thousand Oaks, CA 91320-1789.** Please, principals only

AMGEN®

We are an equal opportunity employer M/F/D/V.

POSITIONS OPEN

PHARMACEUTICAL SCIENTIST: Design/implement kinetic methods to study solution and enzymatic reactions. Conduct drug stability, preformulation and formulation studies. Synthesis of therapeutic and bioactive agents using novel synthetic methods applied to enzyme/protein systems. Familiarity with HPLC and UV methods. Perform analyses using UV, NMR, LC and IR. Interpret spectral and chromatographic data. Experience in experimental design to allow determination of kinetic organophosphorus chemical of therapeutic importance. Knowledge of following acquired through academic studies or work experience. Design and synthesis of potential therapeutic agents affecting enzyme/protein systems. *In vitro* evaluation of these systems with enzyme models by chromatographic and spectroscopic methods (equipment: UV/Visible spectrometer, GC, LC, FT-IR spectrometer, NMR spectrometer). Design and conduct kinetic studies of related reactions and determine stability, solubility and other physico chemical properties of drug entities. Perform formulation studies. Develop analytical methods to follow solution kinetics. Interpret kinetic data to establish chemical and biochemical reaction mechanmisms. Conduct synthesis and analytical work in organophosphorus pharmaceuticals. Ph.D. in Organic Chemistry required. 40 hours per week; $45,428 per year. All résumés must include applicant's Social Security number. Respond to: **Job Order # NC3031267 and DOB code 022.061-010** at your nearest **Job Service office** or to: **Job Service, 1105 Briggs Avenue, Durham, NC 27703.**

POSTDOCTORAL POSITION
YALE UNIVERSITY SCHOOL OF MEDICINE

Available to study the intracellular trafficking and transport of mRNA's and snRNA's. Please send curriculum vitae to: **Susan Baserga, M.D., Ph.D., Assistant Professor of Therapeutic Radiology and Genetics, Yale School of Medicine, Department of Therapeutic Radiology, 333 Cedar Street, New Haven, CT 06510** or **FAX to (203) 785-6309.**

POSTDOCTORAL POSITION IN NEMATODE CELL BIOLOGY

Postdoctoral position available to study proteins required for the attachment of actin filaments to cell membranes in the muscle of the nematode *Caenorhabditis elegans*. Will make use of state-of-the-art molecular-genetic techniques including the yeast "two-hybrid" protein interaction system. Candidates with a Ph.D. in cell and molecular biology are preferred. Send curriculum vitae with a statement of research interests to: **Dr. Robert Barstead, Program in Molecular and Cell Biology, Oklahoma Medical Research Foundation, 825 N.E. 13th Street, Oklahoma City, OK 73104.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS and GRADUATE RESEARCH ASSISTANTSHIPS available immediately. **Department of Biological Sciences, Texas Tech University, Lubbock, TX 79409–3131. (Telephone: 806-742-2715/FAX: 806-742-2963).** Send a letter stating research experience or interests, curriculum vitae, and three reference letters to persons indicated below. **Two Postdoctoral Positions, Plant Molecular Biology** to prepare chimeric gene constructs for plant transformation and perform molecular/biochemical analyses of transformants. Familiarity with oxidative stress (**Randy Allen**) or carbon metabolism (**Scott Holaday**) preferred. **Five Graduate Research Assistantships** (M.S./Ph.D.) for: **Plant Stress Physiology**, specifically biochemical/molecular regulation of cotton source/sink metabolism (**Candace Haigler**) or plant oxidative stress (**Randy Allen**); and **Fish Physiology/Molecular Biology** specifically endocrine-dietary interactions regulating intestinal function (membrane transport and cell proliferation) (**Nathan Collie**) and environmental control of sex determination or establishment of endogenous gene promoters supporting high-level transgenic expression (**Reynaldo Patino**).

POSITIONS OPEN

POSTDOCTORAL POSITION. Lipid-protein interactions in model membranes are being studied using a stop-flow method for measuring water transport. Experience with stop flow and fluorescence or light scattering, preparation of membrane enzymes or chemical synthesis of lipids would be of interest. Pay is $20,000 to $25,000 per year. Applications will be accepted until 4 January 1994. Please send curriculum vitae and names of three references to: **Dr. Gary L. Powell, Professor of Biochemistry, Department of Biological Sciences, Clemson University, Clemson, SC 29634–1903; Telephone: (803) 656-2328; FAX: (803) 656-0435.** *Clemson University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION. Purification of Δ^{12}-desaturase from microsomes of developing peanut and identification of the lipid substrate specificity using a new assay are immediate goals. Molecular biological techniques will be used to examine the structural basis of interactions with substrates and other membrane components. This project is funded by USDA for two years at $25,000 per year. Applications will be accepted until 4 January 1994. Please send curriculum vitae and names of three references to: **Dr. Gary L. Powell, Professor of Biochemistry, Department of Biological Sciences, Clemson University, Clemson, SC 29634–1903; Telephone: (803) 656-2328; FAX: (803) 656-0435.** *Clemson University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION to Study Molecular Biology of p53 and p53-induced Genes.
A position is available to study the molecular biology of the tumor suppressor p53 and p53-inducible genes. Applications are invited from persons with a keen interest in understanding the molecular biology of the tumor suppressor p53, associated proteins, and p53-inducible gene products. Current focus in the laboratory is understanding the involvement of p53 in transcription and how transforming mutants of p53 may aid in cancerous development. This challenging opportunity exists in a small but extremely well-equipped, intense, and very productive laboratory. Persons with expertise in recombinant DNA technology and protein purification are especially encouraged to apply with complete curriculum vitae and names of three references to: **Sumitra Deb, Ph.D., Department of Microbiology, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284–7758.** *The University of Texas Health Science Center at San Antonio is an Equal Employment Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION IN BIOCHEMISTRY to study expression, structure and potential role of certain copper proteins in transport and nutrition of the neonate. Background in proteins or molecular biology preferred. Please send curriculum vitae, reprints and names of three references to: **Dr. Maria C. Linder, Department of Chemistry and Biochemistry, California State University, Fullerton, CA 92634.**

POSTDOCTORAL POSITION
HARVARD MEDICAL SCHOOL

Immediate opening in an interdisciplinary Alzheimer's disease research program. Primary areas of focus are: (1) the protein chemical characterization of amyloid β-proteins (Aβ's) from brain and from cells in culture; and (2) characterization of the cellular pathway(s) and enzymes producing Aβ. Expertise in biochemistry desired. *Minority applicants encouraged to apply.* Curriculum vitae, names of three references, and a statement of interests should be sent to: **Dr. David B. Teplow, Center for Neurologic Diseases, Brigham & Women's Hospital, Boston, MA 02115–5817.**

POSTDOCTORAL POSITION available in fiber optic biosensor development and fluorescence spectroscopy. Research interests include time-resolved fluorescence in biophysics and biochemistry, and biosensor development (see *Anal. Chem.* **65**, 730–34, and 853–56, (1993)). Applicant's background should include fluorescence spectroscopy of biomolecules, opto-electronics, and/or optics. Please send curriculum vitae, three letters of reference, and availability date to: **Dr. Richard Thompson, Department of Biological Chemistry, University of Maryland School of Medicine, 108 North Greene Street, Baltimore, MD 21201.** *Affirmative Action/Equal Opportunity Employer/ADA.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS—DRUG METABOLISM. Studies focus on drugs in humans, both *in vivo* and *in vitro*, HPLC, MS and NMR work, characterization of enzymes involved and their regulation, and biological implications. A strong chemical/biochemical background is required. Available immediately. Send inquiries to: **Thomas Walle, Ph.D., Department of Pharmacology, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION
PRECLINICAL
NEUROPSYCHOPHARMACOLOGY

Mayo Clinic Jacksonville, Laboratory of Neuropsychopharmacology, has a postdoctoral position available to study the molecular biology and pharmacology of neurotransmitter receptors, especially those for the peptide neurotensin. Candidates should have a strong background in pharmacology or molecular biology. Applications including curriculum vitae, summary of research interests and experience, and names of three references should be forwarded to: **Elliott Richelson, M.D., Director of Research, Mayo Clinic Jacksonville, 4500 San Pablo Road, Jacksonville, FL 32224.**

An Equal Opportunity/Affirmative Action Employer.
Drug-free and Smoke-free workplace.

POSTDOCTORAL POSITIONS
Influenza Pathogenesis, Host Range Restriction

Positions are available to study the molecular pathogenesis of influenza virus. The research involves the elucidation of the assembly mechanism of influenza virus or the molecular basis of host range restriction of the virus. The candidate will receive training in state-of-the-art molecular and immunological techniques, including *reverse genetics*, that are being used to address these questions. Interested individuals should send curriculum vitae and the names of three references to: **Dr. Yoshihiro Kawaoka, Department of Virology and Molecular Biology, St. Jude Children's Research Hospital, Danny Thomas, Founder, 332 North Lauderdale, P.O. Box 318, Memphis, TN 38101–0318.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW

Applications are invited for a postdoctoral fellowship in an active molecular cardiology laboratory investigating cytokine regulation of cardiac matrix remodeling and transcriptional control of cardiac fatty acid metabolism. Candidates must have a Ph.D. in molecular biology or related field. Position available immediately. Please send curriculum vitae and three references to: **Dr. Jeff Rottman, Cardiology Division, Jewish Hospital at Washington University, 216 South Kingshighway, St. Louis, MO 63110.** *Equal Employment Opportunity.*

CAMILLE AND HENRY DREYFUS POSTDOCTORAL FELLOWSHIP (2 years) for new Ph.D.'s interested in careers that balance research and teaching at undergraduate-oriented institutions. Research on expression, regulation and structure of iron binding proteins (involved in inflammation) combined with some mentored teaching in a department of chemistry and biochemistry. Send curriculum vitae, names of three references, and summary of career goals to: **Dr. Maria C. Linder, Chemistry, California State University, Fullerton, CA 92634.** *Affirmative Action/Equal Opportunity Employment, Title IX Employer.*

RESEARCH FELLOWSHIPS
IN EPIDEMIOLOGY OF LUNG DISEASES

National Institutes of Health–supported stipends and tuition fees for a two-year program working in airways hyperreactivity and/or natural history studies on chronic lung disease along with didactic training in epidemiology leading to a Master's degree from Harvard University. Must be eligible in Internal Medicine or equivalent. Candidates with clinical training in Pulmonary Diseases preferred but not required. *Available for U.S. citizens or permanent residents.* Inquire: **Frank E. Speizer, M.D., Professor of Medicine, Harvard Medical School, Co-Director, Channing Laboratory, Department of Medicine, Brigham and Women's Hospital, 180 Longwood Avenue, Boston, MA 02115.** *This program specifically encourages applications by minority group members. The Brigham and Women's Hospital is an Equal Opportunity Employer.*

COMPUTATIONAL SCIENTIST

High-Performance Computing in Materials/Manufacturing Technologies

The Center for Computational Sciences (CCS) at the Oak Ridge National Laboratory (ORNL), a recognized leader in multidisciplinary research and development, is seeking a Computational Scientist for the development and implementation of computational methods on massively parallel computer architectures to help solve materials/manufacturing problems of critical importance to industry. The position is part of a multidisciplinary team of national laboratory and university collaborators working on the "Grand Challenges" related to materials process simulation, structural mechanics, computational fluid mechanics, synthesis of engineering materials, and process control and optimization.

The successful applicant will be able to work with scientists, programmers, and vendors to create effective implementation of existing codes on state-of-the-art parallel supercomputers employing new hardware and software. Where existing codes are inadequate, the researcher will be expected to develop innovative algorithms and software tools to simulate materials/manufacturing systems. The CCS currently houses a Kendall Square Research computer and two Intel Paragons.

The position requires a PhD (or MS and equivalent combination of education and experience) in a quantitative science (computer science, math, engineering, physics, or materials science). Application programming experience on massively parallel processors and FORTRAN programming proficiency are required. Familiarity with C and UNIX or OSF/1 based computers is desired, along with experience in development and use of visualization software and spatial analysis. Demonstrated interpersonal skills, oral and written communication skills and strong personal motivation are essential.

ORNL is a multi-purpose research facility managed by Martin Marietta Energy Systems for the U.S. Department of Energy. ORNL offers a competitive compensation and benefits package, including relocation. For immediate consideration, send your resume to: J.K. Johnson, Oak Ridge National Laboratory, Dept. SCI-2, P.O. Box 2008, Oak Ridge, TN 37831-6216.

ORNL is an equal opportunity employer committed to building and maintaining a diverse workforce.

ornl

UNIVERSITY OF

CONNECTICUT

Polymer Science Faculty Position

The Institute of Materials Science at the University of Connecticut invites applications for an anticipated tenure-track position in its interdisciplinary Polymer Science Program. We are seeking a Ph.D. who will establish a vigorous research program in the area of polymer characterization and participate effectively in teaching at the undergraduate and graduate levels. The successful candidate will hold an appropriate position at the Assistant, Associate or Full Professor level in the Department of Chemistry or a related science department. **Applicants should send their curricular vitae, a list of publications, and a description of their proposed research program to: Chair of Search Committee, Institute of Materials Science, University of Connecticut, 97 N. Eagleville Rd., Storrs, CT 06269-3136. Screening will begin immediately and continue until the position is filled.** *We encourage applications from underrepresented groups, including minorities, women and people with disabilities.* (Search #4A130)

FACULTY POSITION IN BIOLOGY

The Department of Biology at Boston College is seeking an individual with a Ph.D. and at least 2 years of postdoctoral experience for a tenure track position to be filled in the Fall of 1994.

The successful candidate will be expected to develop a strong extramurally funded research program in an aspect of eukaryotic cellular biology that complements our current research programs in: cellular and molecular biology, neurobiology and physiology, genetics, immunology, developmental and reproductive biology. The new faculty member will, in addition to teaching in his or her area of expertise, be expected to contribute to our needs in another area such as: cellular biology, introductory biology, biochemistry or molecular evolution.

Salary levels, start-up funds and laboratory resources are competitive with other research universities. Application deadline is December 10, 1993; however, early application is recommended since applications will be reviewed as received. Applications should include curriculum vitae, publications list and a one page summary of current and future research plan. Applicants should also arrange for three letters of recommendation to be sent to: **Search Committee, Department of Biology, Higgins Hall 321, BOSTON COLLEGE, Chestnut Hill, MA 02167**

An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

PATHOLOGIST WITH EXPERTISE IN MOLECULAR DIAGNOSTICS

A full-time, tenure-track, faculty position in the Department of Pathology at the George Washington University Medical Center for a pathologist with special interest and experience in molecular diagnostics (genotyping) is available at the Assistant to full Professor level. The Department has a well-established, fully-equipped and staffed molecular diagnostics laboratory actively engaged in clinical diagnostic and research activities, with current capabilities for Southern blot, PCR, and in-situ hybridization techniques in the area of molecular oncology and microbiology. The candidate should have a strong interest and commitment to research. Opportunities for collaboration within the Divisions of Clinical and Anatomic Pathology, as well as outside of the Department, are available. Review of applications will begin on December 1, 1993 and continue until position is filled.

For information or to submit an application, contact:

Herschel Sidransky, M.D.
Chairman, Department of Pathology
George Washington University
Medical Center
2300 Eye Street, NW, Room 502
Washington, DC 20037
(202) 994-3391

The University is an Equal Employment Opportunity/Affirmative Action employer..

POSITIONS OPEN

C. H. BEST POSTDOCTORAL FELLOWSHIP

Genetic and molecular research in diabetes and cell regulation including signal transduction mechanisms of hormones, receptors, protein kinases, transcription factors, membranes and lipids. Tenable in the Banting and Best Department of Medical Research, University of Toronto, for two years after July 1, 1994, with a competitive stipend available to new Ph.D.'s or candidates with less than two years of postdoctoral training by June 30, 1994. Send curriculum vitae, transcripts and three letters of reference, preferably before January 15, 1994, to: **Dr. M. Moran, Fellowship Committee Chair, Banting and Best Department of Medical Research, University of Toronto, Toronto, Ontario, Canada M5G 1L6.**

POSTDOCTORAL FELLOWSHIP POSITIONS: to study viral pathogenesis (EBV, HSV, HIV, enteroviruses) and host defense in the laboratories of **Drs. Jeffrey Bergelson, Robert Finberg,** and **Joyce Fingeroth**. Position available to study pathogenesis of septic shock and cellular activation by LPS in the laboratories of **Drs. Evelyn Kurt-Jones** and **George Siber**. Support will be through NIH training grants. Please send curriculum vitae and references to: **Dr. Robert Finberg, Laboratory of Infectious Diseases, Dana Farber Cancer Institute, Harvard Medical School, 44 Binney Street, Boston, MA 02115**; or **call 617-632-3514 (617-632-4257) for FAX.**

POSTDOCTORAL CLINICAL RESEARCH FELLOWSHIPS

At Harvard Medical School, Consolidated Department of Psychiatry: NIMH-funded postdoctoral fellowships in a two-year program involving independent research under supervision of experienced clinical researchers, participation in integrative seminars, and formal courses at Harvard. Faculty and research preceptors are involved in a diverse number of funded social/developmental and biological investigations providing a staggering array of opportunities including experience in brain imaging techniques, psychopharmacology research, psychiatric epidemiology, and longitudinal studies of development. The program, now entering its fourteenth year, is directed by **Drs. Stuart Hauser** and **Robert McCarley**. Acting directors for 1993–1994 are **Drs. Alan Jacobson** and **Martha Shenton**. Open to psychiatrists, residents in psychiatry, other physicians, and Ph.D.'s in biological or social sciences *who are U.S. citizens or hold a U.S. resident card.* Stipends begin in July 1994 and range from $18,600 to $32,300. Application deadline: February 15, 1994; early applications are accepted. *Minority applications encouraged.* Contact: **Program Administrator, Clinical Research Training Program, Massachusetts Mental Health Center, 74 Fenwood Road, Boston, MA 02115; Telephone: (617) 734-0031.**

POSTDOCTORAL RESEARCH ASSOCIATE—Soil Microbiology. Study nitrogen cycling in the vadose zone using a ^{15}N-based method for measuring *in situ* denitrifying activity. Ph.D. in soil science, microbiology, or related discipline with experience using stable isotopes, in-field sampling, and willing to make periodic visits to sites remote from campus. Send letter of application, curriculum vitae, academic transcripts, and provide the names, addresses, and telephone numbers of three references to: **Dr. David D. Myrold, Department of Crop and Soil Science, Oregon State University, ALS 3017, Corvallis, OR 97331–7306; Telephone: (503) 737-5737.** *OSU is an Affirmative Action/Equal Employment Opportunity Employer responsive to dual-career needs.*

RESEARCH ASSOCIATE IN NEUROSCIENCE. Position available for Ph.D. or M.D. with training in neuroscience to join research group studying the pathophysiology of axonal diseases at the cellular and molecular levels. Experience in patch clamping, axonal electrophysiology, glial cell transplantation, electron microscopy or immunocytochemistry, and/or molecular biology is essential. Excellent opportunities for participation in a multidisciplinary project. Send curriculum vitae, three letters of reference, and statement of interest to: **S. G. Waxman, M.D., Ph.D., Department of Neurology, LCI 708, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.**

Yale University is an Equal Opportunity/Affirmative Action Employer.

MOLECULAR BIOLOGIST SIGNAL TRANSDUCTION

RESEARCH ASSOCIATE POSITION: Highly experienced and productive individual wanted to join a group investigating signal transduction pathways focusing on PKC, raf-ras, lipid second messenger and cell growth regulation. Doctorate required. Must have experience with mammalian cells. Send curriculum vitae, references, and list of publications to: **Dr. Robert M. Bell, Chairman, Department of Molecular Cancer Biology, Duke University, Medical Center, Box 3711, Durham, NC 27710.** Deadline for application is December 22, 1993. *Duke University is An Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSISTANTS

The Ecosystems Center of the Marine Biological Laboratory is seeking two full-time research assistants with at least an M.S. degree or equivalent research experience in limnology to assist in a multi-investigator study of aquatic ecosystems of the Alaskan tundra. During the summer duties will include collecting data, supervising summer assistants and helping to conduct experiments at a remote field site in Alaska. The remainder of the year will be spent in Woods Hole running chemical analyses, managing data, and preparing for the field season. Priority will be given to applicants with a strong background in lake studies for one position and stream studies for the other. Positions will remain open until suitable candidates are identified. Please submit résumé and copy of transcripts to: **Human Resources, Marine Biological Lab, Woods Hole, MA 02543.** *An Equal Opportunity/Affirmative Action Employer/Non-smoking workplace.*

RESEARCH PHYSIOLOGIST (Molecular Biology/Immunology)

The Denver Wildlife Research Center, U.S. Department of Agriculture, Lakewood, Colorado, is recruiting for a Research Physiologist (Molecular Biology/Immunology) to serve on a biotechnology research team in the Product Development Section to develop immunocontraceptive and other immunological methods to alleviate problems caused by vertebrate pest species. This is a two-year term position at a GS-11 grade level and the beginning salary is approximately $33,623 per year. All inquiries should be directed to: **Dr. R. D. Thompson at Denver Federal Center, Building 16, P.O. Box 25266, Denver, CO 80225–0266.** All respondents will be notified how to apply for the position when it is advertised.

The U.S. Government is an Equal Opportunity Employer.

RESEARCH ASSOCIATE. Experience in immunocytochemistry/neurodevelopment to investigate neural cell differentiation with a group involved in human fetal tissue banking. Must be board-certified in Anatomic and Clinical Pathology, with at least 2 years of training in Neuropathology. Salary commensurate with level of training. Send curriculum vitae, statement of research interests and names of 3 references to: **Dr. W.D. Lyman, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.**

GRADUATE ASSISTANTSHIPS

Several teaching and research assistantships for M.S. and Ph.D. students are available for fall 1994 in: molecular genetics and physiology of development and signal transduction; fungal phytotoxins and biocontrol of weeds; physiological ecology of freshwater, marine and terrestrial plants; community ecology; composite plant systematics; anatomy. Inquiries to:

Dr. C. Gerald Van Dyke, Graduate Administrator
Department of Botany, Box 7612
North Carolina State University
Raleigh, NC 27695–7612

AIDS

Division of Infectious Diseases and Medical Biotechnology Center are seeking an experienced basic scientist in AIDS research. Position includes seed package with salary and rank commensurate with experience; M.D. or Ph.D. Send curriculum vitae to: **John Warren, M.D., Head, Division of Infectious Diseases, 10 South Pine Street, Baltimore, MD 21201.** *The University of Maryland at Baltimore is an Affirmative Action/Equal Opportunity Employer, M/F/H/V.*

SENIOR RESEARCH ASSOCIATE position available immediately to study the molecular and cellular basis of psychiatric disorders. Emphasis of research is on the role of brain monoaminergic neurons in the neurobiology of mood disorders and in the mechanism of action of drugs used to treat these disorders. Candidates should have a Ph.D. and/or M.D. with experience in biochemistry, biological psychology, molecular biology, or pharmacology. Salary is competitive and commensurate with experience. Send or FAX curriculum vitae, a statement of current and future research goals, and names of three references to: **Gregory A. Ordway, Ph.D., Department of Psychiatry and Human Behavior, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216–4505; FAX: 601-984-5885.** *Equal Opportunity Employer, M/F/D/V.*

CURATORIAL INTERNSHIP NATIONAL ZOOLOGICAL PARK SMITHSONIAN INSTITUTION

Provides experience in the daily management of an exhibit collection of exotic animals (birds, mammals, reptiles, amphibians, invertebrates), and experience in zoo administration, education, and conservation. Provides opportunity to conduct original research in a zoo.

Candidates must have a recent doctorate in life sciences; research or employment experiences in zoology, environmental biology, or conservation, and a career interest in conservation, zoo administration, or conservation education.

Not to exceed 2 years, beginning April 1, 1994, at $21,000 per year.

Send introductory letter, curriculum vitae, reprints, and three letters of reference by 31 December 1993 to: **Dr. Benjamin B. Beck, Associate Director for Biological Programs, National Zoological Park, Washington, DC 20008.**

All qualified candidates including handicapped individuals are invited to apply. The National Zoological Park, Smithsonian Institution, is an Equal Opportunity Employer.

ACCELERATOR PHYSICIST to work in Newport News, Virginia; forty hours per week (8:00 a.m. to 5:00 p.m.); salary: $45,200 to $71,400 per year.

Incumbent will provide analytical and numerical modeling of low energy beam transport, and will use PARMELA code to simulate present and future injectors for the electron accelerator, including the DC and RF guns, choppers, bunchers, magnetic elements, capture sections, and initial superconducting acceleration. Incumbent also will participate in the commissioning of the accelerator, particularly the injectors. Will provide computer simulation of other accelerator systems, especially free electron lasers. Forty hours per week; 8:00 a.m. to 5:00 p.m. schedule; $45,200 to $71,400 per year.

Requires a Ph.D. degree in Accelerator Physics plus three years of postdoctoral experience in computer simulation, with demonstrated expertise using PARMELA. Also requires experience modeling cathode emission and low energy beam transport; modeling RF guns; applying computer simulation to free electron lasers, including optical modeling and laser dynamics; and experience applying kinetic theory of plasmas.

To apply, mail résumé with copy of this ad attached to: **VEC #VA3104606, 5145 East VA Beach Boulevard, Norfolk, VA 23502.**

RESEARCH SCIENTIST

The MIT Center for Cancer Research seeks an individual to work on research aimed at isolation and characterization of yeast and fungal genes concerned with cell wall synthesis. Emphasis will be placed on search for genes with similar structure and/or function in higher organisms. Will be expected to supervise and/or train undergraduate and graduate students when necessary. **REQUIREMENTS**: Ph.D. and at least five years of relevant research experience. Should have significant research experience and publications in the area(s) of yeast and fungal genetics and molecular biology. Technical expertise in cloning, sequencing, and related areas of molecular biology essential. A broad knowledge of cell wall structure and metabolism desirable. Interested candidates are asked to send two copies of a cover letter and résumé referencing **Job Number 93-0594R** to: **Phillip Robbins, MIT Personnel Office, Building E19-239, 77 Massachusetts Avenue, Cambridge, MA 02139–4307.** *MIT is an Affirmative Action/Equal Opportunity Employer. MIT is a non-smoking environment.*

Leicester University

CHAIR OF MICROBIOLOGY

Faculty of Science

Applications are invited for appointment to a non-clinical Chair, one of the two Chairs in the Department of Microbiology.

The Department is located in the Medical Sciences Building where it occupies modern, well equipped laboratories on two floors. It has a number of active research groups in the area of microbial pathogenicity including virology and immunology, with complementary clinical interests in infectious diseases. There are other well-developed research interests in microbial systematics and environmental microbiology.

The successful applicant would be expected to provide academic leadership in research and to establish a major research group in an area of molecular microbiology of relevance to pathogenicity.

Teaching programmes reflect membership of both the Faculty of Medicine and the Faculty of Science. There are major teaching commitments to a range of BSc Honours courses in Biological Sciences, including a BSc Hons Microbiology option, as well as to both pre-clinical and clinical components of the MB ChB degree.

Salary will be on the non-clinical professorial scale depending on the qualifications and experience of the successful candidate.

Prospective applicants who wish to discuss the appointment informally should contact the **Head of Department, Dr. W. D. Grant, telephone (0533) 522950** and/or the **Biological Sciences Budget Centre Manager, Professor W. Brammar, telephone (0533) 523441.**

Further particulars may be obtained from the **Staffing Office (Academic Appointments), University of Leicester, University Road, Leicester LE1 7RH, telephone (0533) 522422, Fax number (0533) 522200.** U.K. candidates should submit twelve copies of their application (overseas candidates may submit one copy).

Closing date for applications is 7 January 1994.

Towards equal opportunities

FACULTY POSITIONS
UNIVERSITY OF MASSACHUSETTS
MEDICAL CENTER

Immediate opening for a senior tenured or a junior tenure track position in a newly formed interdepartmental Molecular Medicine Program. Rank will be commensurate with ability and experience. The appointment will be in one of the basic science departments. The laboratories for the Program are housed in a new building that contains approximately 80,000 square feet of modern research space. Core facilities for tissue-culture, media preparation, DNA synthesis, protein sequencing and peptide synthesis, fluorescence-activated cell sorting, and transgenic mice are available. The position will be highly competitive with regard to start-up funds, laboratory space, and salary.

The Program seeks an individual of outstanding research potential in the areas of cellular or molecular biology, Potential areas of interest include, but are not limited to cell and molecular mechanisms of morphogenesis, differentiation, or senescence.

Applicants should send a curriculum vitae, statement of research interests, and three letters of reference to:

Dr. Fredric Fay, Search Committee
Chairman or
Dr. Michael P. Czech, Director
Program in Molecular Medicine
University of Massachusetts Medical Center
373 Plantation St.
Worcester, MA 01605

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR
OF BIOLOGY

ECOLOGY AND BOTANY. The Department of Biology **at Georgia Southern University** has two tenure-track positions at the rank of assistant professor beginning September 1, 1994. Salary dependent upon qualifications. Commitment to excellence in teaching and research required. Send letter of application indicating position desired, statements of personal teaching philosophy and research goals, unofficial transcripts of all college work and curriculum vitae to search chair.

Community Ecologist. Specialist in sandhill, wetland, pine flatwood, or estuarine habitats preferred. Completed Ph.D. required at time of appointment. Teaching responsibilities include general biology, ecology and other lower and upper-level courses. Include three letters of reference. Search chair, Community Ecology position.
Deadline: **January 31, 1994.**

Botanist - Evolutionist. Teaching responsibilities include general biology and general botany. Research expertise in evolution of vascular plants required. Completed Ph.D. required at the time of application. Include the names and addresses of three references (reference letters will be requested from semi-finalists). Search Chair, Botanist position. Deadline **January 4, 1994.**

Department of Biology, Georgia Southern University, Statesboro, GA 30460-8042. Georgia is an Open Records State. Equal Opportunities/ Affirmative Action Institution. Persons who need accommodation(s) in the application process under the Americans with Disabilities Act should notify the search chair.

University of California, Davis

The Department of Human Physiology seeks an outstanding individual for tenure track Assistant Professor position. Must have doctoral degree, post-doctoral experience and be establishing an independent research program, capable of attracting extramural support, involving the application of molecular biology tools to investigations of the transport function of endothelial barriers in the microcirculation. The Department has been targeted to develop research strength in microvascular physiology. Collaboration with other investigators to apply molecular tools and approaches to studies of cardiovascular function is expected. Candidates must contribute to Departmental teaching. For further information call Dr. F.E. Curry, Chair, (916) 7521973. Applicants should send C.V., research plans, and names of five references to Dr. Peter Cala, Chair of Search Committee, Department of Human Physiology, School of Medicine, University of California, Davis, CA 95616. Salary is negotiable. Applications deadline is January 31, 1994. Start date is July 1, 1994.

The University of California, Davis is an equal opportunity/affirmative action employer. Minority and female applicants are encouraged to apply.

CONFERENCE

1st Announcement
8th International Conference on
Carcinogenesis and Risk Assessment

"Genetics and Susceptibility:
Impact on Risk Assessment"

Objectives

Recent advances in genetics have increased our understanding of the molecular basis of susceptibility to carcinogenesis in animals and humans. This information has impacted our ability to recognize subpopulations which are at increased risk for cancer development from the general human population exposed occupationally and environmentally to carcinogens. Both intrinsic genetic factors and extrinsic modifiers of human cancer risk are now being identified which will impact risk assessment in the future. In addition, the availability of genetically modified animal models in which susceptibility to tumor development can be modulated under a variety of experimental conditions raise new questions that must be addressed regarding the extrapolation of cancer bioassay data generated in these models to human risk assessment. The goal of this conference will be to provide an understanding of genetic factors that can influence cancer susceptibility and the role of these factors as determinants of human cancer risk. Sessions will focus on susceptibility factors that are the targets of chemical carcinogens, intrinsic factors that modify cancer risk and biomonitoring and extrinsic risk modification. This conference is the eighth international meeting in a series covering research and contemporary issues on carcinogenesis and risk assessment.

November 30 - December 3, 1994

Barton Creek Conference Resort
Austin, Texas

For additional information as it becomes available, send name and address to:

Genetics and Susceptibility Conference
P.O. Box 389
Smithville, Texas 78957
Telephone: 512-237-2403
Fax: 512-237-2522

THE 3rd SIGMA-TAU FOUNDATION ALZHEIMER JOURNALISM FELLOWSHIP

For journalistic excellence in reporting aspects of Alzheimer's disease

These Fellowships recognize journalists who have published or produced outstanding work communicating the scientific, medical, or psychological aspects of Alzheimer's disease to the public.

•

Fellowships will be awarded in three categories: consumer print media, radio/television, and trade or science publications.

THE FELLOWSHIPS

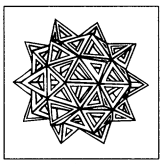
Awardees will receive a travel/lodging one-week fellowship to the Italian Spoleto Festival of Culture and Science in July 1994. In addition to attending the Festival, meetings will be arranged with members of the Italian science media.

•

All entries must have been published or broadcast between January 16, 1992 and January 15, 1994. Deadline for receipt of entries is February 4, 1994.

•

Entries will be judged by a panel of medical writers and scientists, including representatives of The Alzheimer's Association and The French Foundation for Alzheimer Research.



For an entry form, write:

The Sigma-Tau Foundation
Attn: Awards Chairperson
P.O. Box 3179
Gaithersburg, MD 20885-3179

or call 1-800-447-0169

The Sigma-Tau Foundation is an expression of Sigma-Tau Pharmaceuticals' international commitment to human health.

UNIVERSITY OF LAPLAND ARCTIC CENTRE

The Arctic Centre is a separate Institute affiliated with the University of Lapland in Rovaniemi, Finland. The research department of the Arctic Centre strives to assess the effects rather than causes of global changes and anthropogenic influences on Arctic nature and Arctic societies.

The Arctic Centre invites applications for the post of:

DIRECTOR OF RESEARCH

to act as Head of the Centre's research department. The applicant should be an acknowledged natural or social scientist with substantial post-doctoral experiences in Arctic research.

Key responsibilities of the Director of Research include shaping the research profile of the Centre, coordination of research projects, soliciting research funds, developing exchange and cooperation with partner institutions, and the overall administration of the research department.

The position is open for an initial period of three years. The salary ranges from FIM 11,634 to FIM 18,566, depending on qualifications. Applications in English, including a CV, a description of previous work, an outline of prospective activities at the Centre, and three references, should be sent to the University of Lapland, P.O. Box 122, FIN-96101 ROVANIEMI, FINLAND, by December 30, 1993. Inquiries: Arctic Centre, tel. +358 60 324773, fax. +358 60 324 760.

UNIVERSITY COLLEGE DUBLIN DEPARTMENT OF ZOOLOGY

One Permanent Post
(Ref: 110/93). Closing Date: Thursday, 20 January 1994

Applications are invited for a full-time permanent academic post, commencing in Spring 1994. Preference will be given to candidates who have a relevant Ph.D. degree, post-doctoral and/or teaching experience and who are committed to productive research and excellence in teaching. Research experience in Marine Ecology and Developmental Biology would be an advantage, but applications from scientists working in other areas relevant to the research in the Department will also be considered. Applications from young researchers will be welcomed. The appointment will be made at the level of Assistant Lecturer or College Lecturer.

The current salary scales are:

Assistant Lecturer: IR£13,108 - IR£20,947
College Lecturer: IR£20,245 - IR£32,607

Entry point on the relevant scale will be in accordance with qualifications and experience.

Prior to application, further information (including application procedure) should be obtained from The Personnel Office, University College Dublin, Belfield, Dublin 4, Ireland, (quoting above reference number). Telephone enquiries: (353 1) 7061436 and (353 1) 7061508 - direct lines. Fax: (353 1) 2692472.

UCD IS AN EQUAL OPPORTUNITIES EMPLOYER

A significant worldwide responsibility...

Veterinary Resources Director

Substantial salary package *US/Europe Base*

My client is a $4+ billion turnover, research-driven pharmaceutical company with R&D facilities on four sites in the USA and Europe. They are currently globalising many of their functions which operate at top international standards.

The Veterinary Resources Director is responsible for providing professional LA services to all the biological functions in the corporation. Responsible for 115 people, you will also provide the strategy on LA issues and facilities, ensuring your group's contribution to the success of the business.

Qualified at DVM/VMD level, you should have speciality post-graduate LAM training and ACLAM Board Certification. With 8 to 10 years LA management experience in the pharmaceutical industry, you can handle people issues and have a professional interest in LA science.

You will have the tact and personal skills to manage professional scientists and technologists, and relate to a variety of specialist managers in a range of cultures and environments.

The role can be based in the USA or Europe with local terms and conditions applying, together with a generous relocation package. The job requires regular travel to visit all sites and, in Europe, they are situated in major cities which are cultural centres.

This position offers a substantial career step in a dynamic, major league organisation. Ring me today for further information on this important opportunity. Alternatively, send or fax your CV, quoting Ref AS/825/IC to Dr Ian Collins, Managing Director, *Executive Scientist Appointments Ltd, 15-17 The Broadway, Old Hatfield, Hertfordshire, AL9 5HZ, UK. Tel: +44 707 264311 Fax: +44 707*

A Salisbury Consulting Group Company

ESCA

EXECUTIVE SCIENTIST APPOINTMENTS

BS 5750 APPROVED

SCG

BIOLOGY OF DISEASE VECTORS

17–30 July 1994

INSECT MOLECULAR GENETICS GROUP
I.M.B.B.-FO.R.T.H.
P.O. BOX 1527, HERAKLION, CRETE
GREECE

This unique course introduces the biology of vectors of infectious diseases and emphasizes current molecular biological, genetic, biochemical, and physiological research. Introductions to significant aspects of vector biology, including host seeking, blood feeding, organ structure-function, gene regulation, vector manipulation, and control, are covered and followed by in depth analyses of selected major vector borne diseases. Faculty are drawn mainly from the MacArthur Foundation Network on the Biology of Parasite Vectors supplemented by invited experts.

The course is designed for advanced graduate students, post-doctoral fellows, and independent investigators. The lecture course will be given at the Orthodox Academy of Crete (Colymbari) and the experimental work will be carried out in the laboratories of the Insect Molecular Genetics Group at the IMBB, Heraklion, Crete.

Limited to approximately 30 students. Enrollment is competitive. Financial aid (based on need) will be available. Application deadline is February 28, 1994. For information and application forms, contact:

Dr. Alan S. Robinson
Insect Molecular Genetics Group,
I.M.B.B.-FO.R.T.H.
P.O. Box 1527,
Heraklion 711 10, Crete,
GREECE
(Tel. xx30-81-210362,
Fax. xx30-81-231308)

OR

Dr. Laurence J. Zwiebel
Department of Cellular & Developmental Biology
Harvard University
16 Divinity Avenue
Cambridge, MA 02138,
USA
(Tel. xx1-617-495-3292
Fax. xx1-617-495-4312)

University of Heidelberg

THE FACULTY OF THEORETICAL MEDICINE, UNIVERSITY OF HEIDELBERG, invites applications for the position of:

UNIVERSITY PROFESSOR (C4)
FOR MEDICAL GENETICS

The successful candidate will be head of the Department of Medical Genetics. This is one of two new departments of the Institute of Human Genetics and Anthropology, which was restructured after the retirement of Professor F. Vogel.

Prerequisites are "habilitation" or equivalent scientific qualification, good tutorial abilities and academic teaching experience. The applicant should be specially trained in medical genetics and an internationally recognized scientist in this field and will be expected to collaborate with other groups of the same or related disciplines at the university.

He (she) will be responsible for patient care (genetic counseling, cytogenetic and molecular genetic diagnosis) and for the training of medical doctors in Medical Genetics. The individual sought must have experience as the head of a department and in patient care.

Applications should include a complete resume, a CV and the names and addresses of three references and should be submitted to:

Prof. Dr. N. Victor
Dean, Faculty of Theoretical Medicine
University of Heidelberg
Im Neuenheimer Feld 346
69120 Heidelberg
Germany

Application deadline: 31.01.1994

POSITIONS OPEN

SEXUALLY TRANSMITTED DISEASES

Division of Infectious Diseases and Medical Biotechnology Center seek an M.D. or Ph.D. experienced in clinical or basic research in sexually transmitted diseases including AIDS. Includes seed package with salary and rank commensurate with experience. Send curriculum vitae to: **John Warren, M.D., Head, Division of Infectious Diseases, University of Maryland School of Medicine, 10 South Pine Street, Baltimore, MD 21201.** *The University of Maryland at Baltimore is an Affirmative Action/Equal Opportunity Employer, M/F/H/V.*

TECHNICAL SUPPORT COORDINATOR

The **Genetics Computer Group (GCG)** is seeking an individual with a strong background in molecular biology, sequence analysis, and VMS and Unix systems, as well as good interpersonal skills. This person will be responsible for coordinating technical support for the international community of scientists that use the GCG Wisconsin Sequence Analysis Package. Applicants should have an advanced degree in science.

Submit curriculum vitae with references to:

Genetics Computer Group, Inc.,
575 Science Drive,
Madison, WI 53711

Genetics Computer Group is an Equal Opportunity Employer.

SCIENTIFIC WRITER/RESEARCH GRANT COORDINATOR—to coordinate and facilitate preparation and submission of research proposals for Department of Radiology, serve as liaison during preparation of collaborative proposals, keep department aware of NIH and other funding opportunities, establish an internal review process for research proposals and counsel new faculty about funding process and assist with their grant submissions. Experience in scientific writing and degree in English required. Expertise in research funding mechanisms desirable. Salary commensurate with experience. Please reply to: **Dr. Stanley Baum, Chairman University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA 19104.** *The University of Pennsylvania is an Equal Opportunity Employer.*

ANNOUNCEMENTS

PARKINSON RESEARCH GRANTS 1994–1995

The National Parkinson Foundation of Miami, Florida, invites the submission of grant proposals for Parkinson research. Funding is made available to support basic bench research in Parkinson's disease. The award for a single grant will not exceed $40,000. None of the monies are to be utilized for administrative overhead or travel expenses. The application deadline is February 1, 1994. Funding will commence on June 1, 1994. It is required that proposed studies specifically focus on mechanisms involved in the disease process and that they have the potential of finding the cause and prevention of Parkinson's disease. Scientists entering the field of Parkinson research are encouraged to apply. Proposals will be assessed by the National Parkinson Foundation Scientific Advisory Board. To obtain submission information please write to:

National Parkinson Foundation
Research Grants
1501 N.W. 9th Avenue
Miami, FL 33136

COMPUTER MARKETPLACE

MARKETPLACE

RNA Synthesis

Create Biologically Active Ribozymes

At last you can create the high-quality RNA oligonucleotides you need for ribozyme, protein binding and other studies. Introducing Applied Biosystems RNA phosphoramidites and columns–superior reagents that assure biologically active RNA.

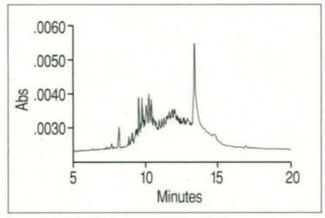
One user[1] says, "Coupling yields were excellent, as was the quality of the crude product analyzed by PAGE."

Unique Chemistry

Applied Biosystems reagents offer advantages other products can't equal. The labile base-protecting groups on our new RNA phosphoramidite monomers produce a superior oligo by permitting faster deprotection. Reduced exposure to heat during deprotection minimizes potential base modifications, phosphate migration, and internucleotidic cleavage.

Our proven polystyrene support promotes successful RNA synthesis in two important ways. The inert nature of the polystyrene prevents unwanted side reactions, and its hydrophobic nature facilitates efficient coupling. As a result, you get a higher yield of the full-length oligoribonucleotide you need.

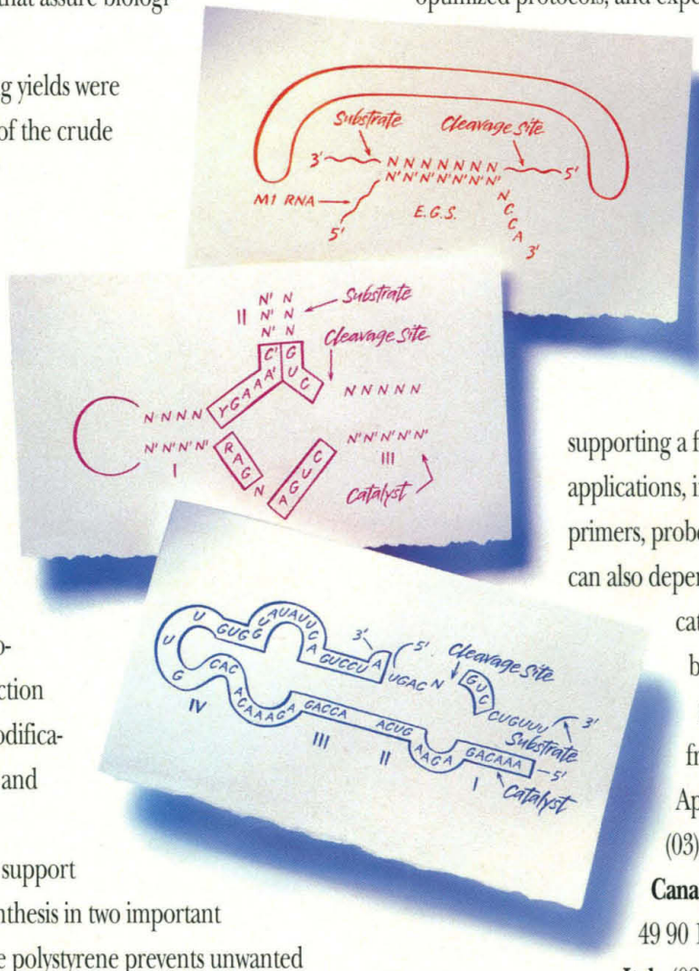
Why not choose the products able to deliver long, high-quality synthetic RNA?



Capillary electrophoresis of a crude 50-mer ribozyme made for Dr. Arnold Hampel at Northern Illinois University. It demonstrated full biological activity, comparable to that of a transcribed ribozyme.

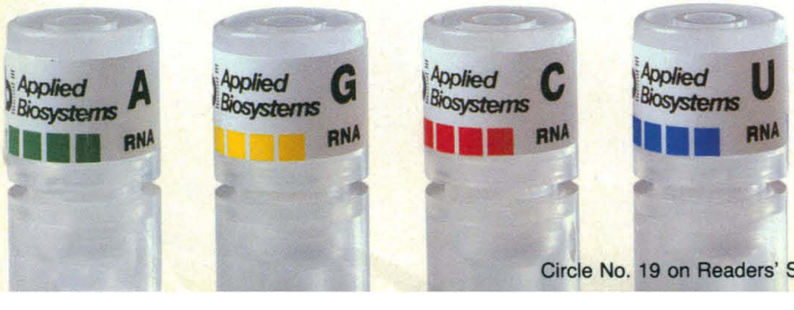
Your Strategy for Success

Our combination of quality reagents, fully automated DNA/RNA synthesizers, optimized protocols, and experienced technical support staff ensures your success in RNA synthesis. And with our proven order fulfillment record, you know you'll get reagents when you need them.



For over a decade we've helped break new ground in molecular biology by supporting a full range of oligonucleotide applications, including sequencing and PCR primers, probes and gene synthesis. Now you can also depend on us for RNA synthesis applications such as ribozyme, protein binding, tRNA interaction, antisense studies and more. For free product information phone Applied Biosystems at: **Australia** (03) 808-7777, **Benelux** (0) 3465-74868, **Canada** (800) 668-6913, **France** (1) 49 90 18 00, **Germany** (0) 6150/101-0, **Italy** (02) 8912 6011, **Japan** (03) 3699-0700, **U.K.** (0925) 825650, **U.S.** (800) 345-5ABI.

Innovation, Integration, Expertise.



[1] Brian Sproat, European Molecular Biology Laboratory, Heidelberg, Germany

Applied Biosystems

A Division of Perkin-Elmer Corporation

SequaMark™

The DNA size marker designed for the specific needs of sequencing

SequaMark™ is used in standard sequencing reactions using ddT as the exclusive terminator. The products of the resulting reaction will produce a ladder with bands appearing every 10 bases beginning ten bases from the special sequencing primer provided and extending to 500 bases. Distinctive banding patterns are provided for orientation at 100, 200, 300, 400, and 500 bases along the ladder. The end of the SequaMark™ ladder is evident by the clear lack of bands above 500 for 31 bases. This marker aids in orientations of bands appearing in neighboring lanes on gels and serves as a reference point for proper scoring of sequencing reactions and the resolving power of each gel run.

Kits are available for either isotopic or non-isotopic sequencing methods and include primers, template and protocols. The amount of SequaMark™ provided is sufficient for 400 lanes.

Catalog No.	*Description*	*Price*
701001	SequaMark™ for isotopic methods	$180.00
701002	SequaMark™ for non-isotopic methods	$180.00

Research Genetics

2130 Memorial Parkway SW
Huntsville, AL 35801
U.S or Canada 1-800-533-4363
U.K. 0-800-89-1393
FAX 1-205-536-9016

Circle No. 18 on Readers' Service Card