

Expanded Program

"Challenges for a New Century"

Anaheim Hilton and Towers
Anaheim Marriott Hotel
Anaheim, California

January 21–26, 1999



**REGISTER
Now
&
SAVE**

(SEE PAGES 21–22)



Inside

President's Invitation	2
Plenary and Topical Lectures	3
Daily Timetable	4
Symposia at a Glance	5
Genome Seminar	6
Forum for School Science	6
Symposia	7–20
Registration Forms	21–22
Exhibitors	23
General Information	24



AMERICAN ASSOCIATION FOR THE
ADVANCEMENT OF SCIENCE

1999 AAAS ANNUAL MEETING PROGRAM COMMITTEE

M. R. C. Greenwood
University of California–Santa Cruz
1999 Program Committee Chair

Stephen Jay Gould
Harvard University
2000 Program Committee Chair

Mildred S. Dresselhaus
Massachusetts Institute of
Technology
AAAS Chair

C. Eugene Allen
University of Minnesota

Lewis M. Branscomb
Harvard University, John F.
Kennedy School of Government

Halina S. Brown
Clark University

Robert Cairns
University of North Carolina

Paul G. Chapin
National Science Foundation

Ronald L. Graham
AT&T Labs

Richard T. Johnson
Johns Hopkins University Hospital

Judith T. Kildow
Massachusetts Institute of
Technology

Orie L. Loucks
Miami University

Julie Haynes Lutz
University of Washington and
Washington State University

Jane Maienschein
Arizona State University

Richard I. Morimoto
Northwestern University

Eloy Rodriguez
Cornell University

Warren M. Washington
National Center for Atmospheric
Research

Richard S. Williams Jr.
U.S. Geological Survey

LOCAL CO-CHAIRS

Richard Atkinson, President
University of California System

John Slaughter, President
Occidental College

Irwin Jacobs, Chairman and CEO
QUALCOMM Incorporated

UNIVERSITY OF CALIFORNIA, SANTA CRUZ

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

OFFICE OF THE CHANCELLOR



SANTA BARBARA • SANTA CRUZ

296 McHenry Library, Santa Cruz, CA 95064-1078

October 1998

The AAAS Meeting is always one of the year's premier scientific events. Next January the meeting will explore "*Challenges for a New Century*," with a program that is diverse, comprehensive, and cutting edge. We are assembling lectures, symposia, seminars, and other events filled with vibrant discussions on emerging issues in science, technology, and engineering. With meeting co-chairs, Richard Atkinson, President of the University of California; John Slaughter, President of Occidental College; and Irwin Jacobs, Chairman and CEO of QUALCOMM Incorporated, I invite you to be a part of a most exciting and intellectually stimulating week.

Addressing the 1998 AAAS meeting, President Clinton portrayed a future of great scientific, technological, and social challenge, but also one of great promise. He underscored the pivotal role for science and engineering. One year earlier, a *Seattle Times* headline pointed to this Association's role in discussions of the future when it portrayed the meeting as "A showcase for America's top minds." As the new millennium approaches, it is clear that these are exciting and innovative times for all of us in science and engineering!

See you next January in Anaheim!

M. R. C. Greenwood

M.R.C. Greenwood
President, AAAS
Chancellor, University of California, Santa Cruz

1999 MEETING HIGHLIGHTS

Plenary Lectures

Eric Haseltine
Walt Disney Imagineering

Federico Mayor
UNESCO

M.R.C. Greenwood
U.C. Santa Cruz

Carla Shatz
U.C. Berkeley

Rita Colwell
NSF

Bill Nye*

* = invited

14 Tracks Address Today's Critical Science Challenges

Choose from over 125 symposia. A unique, exciting, interdisciplinary blend of symposia, plenary and topical lectures, specialized seminars, and posters. You'll come away with practical, hands-on ideas and insights you can put to work immediately.

Science Innovation

Find out the latest information from top investigators in emerging areas of cell biology, medicine, bioengineering, neuroscience, and more!

Special Seminars

Genome Seminar

- *Powerful Forces in Small Packages: Harnessing the Microbial World*

Forum for School Science

- *Science Futures: Education in the New Millennium*

**BEST
BUY...**

Get the
'99 PASSPORT
for unlimited
access to it all...

AT THE AAAS MEETING YOU GET MORE

Poster Sessions...

covering the biological, physical, social sciences, and education.

Career Development Workshops...

practical advice to help advance your career.

Science Career Fair...

FREE to all! Many opportunities in biotech and pharmaceutical industries!

The 1999 Exhibition...

more than 100 booths demonstrating products, services, and programs you need.

Exhibitor Workshops...

hands-on demonstrations of cutting-edge technology.

Internet Access Center...

surf the web or check your e-mail.

Lectures

PLENARY LECTURES

Thursday, January 21
4:30 pm

Student Science Convocation

Science displays from local schools and posters from the American Junior Academy of Science (AJAS)

KEYNOTE LECTURE

6:30 pm

Eric Haseltine, Walt Disney Imagineering

Technological Innovation in the Movies: Achievements and Challenges

Friday, January 22
6:30 pm

International Issues for the 21st Century

Moderators

Neal Lane,* Office of Science and Technology Policy and **Rita Colwell**, National Science Foundation

Speakers

Federico Mayor, U.N. Educational, Scientific, and Cultural Organization (UNESCO)

Nafis Sadik,* U.N. Population Fund (UNFPA)
James Gustave Speth,* U.N. Development Program (UNDP)

Saturday, January 23
6:30 pm

AAAS President's Lecture

M.R.C. Greenwood, University of California—Santa Cruz
Science Through the Looking Glass: Winning the Battles but Losing the War?

Sunday, January 24
6:30 pm

Carla Shatz, University of California—Berkeley
Exploring the Brain

Monday, January 25
8:00 am

Michael Crichton*

6:30 pm

Bill Nye*
Science Education and the Media

Information as of September 15, 1998.
See Updates on our web page at:
www.aaas.org/meetings/scope

Fri—Sun: am = 8:00–8:45;

pm = 1:30–2:15 (Except as noted)

Monday pm = 2:00–2:45

* = Invited

Friday pm

Ralph J. Cicerone and **F. Sherwood Rowland**, University of California—Irvine

Global Change During the 20th Century: A Period of Growing Human Influence (12noon–1:30pm)

Catharine E. Johnson, Johns Hopkins School of Medicine and **Sharon L. Hays**, Office of Representative Vernon J. Ehlers
The Changing Graduate School Environment

Saturday, January 23 am

Owen Gingerich, Harvard-Smithsonian Center for Astrophysics
Why Is the Day 24 Hours, and When Will the Millennium Begin?

Peter Ladefoged, University of California—Los Angeles

Sounds of the World's Languages

Jared M. Diamond, University of California—Los Angeles School of Medicine

A Short History of Everybody for the Last 13,000 Years

Saturday pm

Francisco J. Ayala, University of California—Irvine

Darwin's Devolution: Design without Designer

Claire Max,* University of California, Lawrence Livermore National Laboratory

Mike McCormack, The Institute for Science and Society

21st Century Energy Resources: Avoiding Crises in Electricity and Transportation

Sunday, January 24 am

Claudia Henrion, Dartmouth College

Women in Mathematics: The Addition of Difference

Frans B. M. de Waal, Emory University

Natural Conflict Resolution

Sunday pm

Hiroo Kanamori, California Institute of Technology and **Paul Silver**, Carnegie Institution of Washington
The Earthquake Prediction Problem: How We Can Make Progress

1999 George Sarton Award Lecture in the History and Philosophy of Science

Mary Jo Nye, Oregon State University
What Price Politics: Scientists and Political Controversy

1999 John P. McGovern Award Lecture in the Behavioral Sciences

Richard F. Thompson, University of Southern California

Monday, January 25 pm

Peter Schröder, California Institute of Technology
Bringing Geometric Modeling to the Desktop: From 3D Scanning at Home to Transmission over the Internet

SCIENCE INNOVATION TOPICAL LECTURES



Friday, January 22 am

Susan Lindquist, University of Chicago
Prions and Chaperone Proteins

Friday pm

David Baltimore, California Institute of Technology
Designing an AIDS Vaccine

Saturday, January 23 am

Sharon R. Long, Stanford University/HHMI

Signal Exchange and Signal Transduction in Plant-Bacteria Symbiosis

Saturday pm

Thomas D. Schneider, National Cancer Institute, National Institutes of Health

Molecular Information Theory: From Clinical Applications to Molecular Machine Efficiency

Sunday, January 24 pm

David Botstein,* Stanford University School of Medicine

Monday, January 25 pm

Stephen L. Mayo,* California Institute of Technology/HHMI
Protein Design

Save!

Register Early and Save!

Special Advance

registration rates

are as much as \$50.00

below regular rates.

Daily Timetable

January 21–26, 1999

	Thursday, 21	Friday, 22	Saturday, 23	Sunday, 24	Monday, 25	Tuesday, 26
Morning	San Andreas Fault Field Trip 7:30am–5:30pm <i>Hilton</i>	Meeting Registration 7:00am–7:00pm <i>Hilton</i>	Meeting Registration 7:30am–5:00pm <i>Hilton</i>	Meeting Registration 7:30am–5:00pm <i>Hilton</i>	Meeting Registration 7:30am–5:00pm <i>Hilton</i>	Meeting Registration 7:30am–12noon <i>Hilton</i>
	Public Science Day* 8:00am–1:00pm <i>Marriott</i>	SI Topical Lecture 8:00am–8:45am <i>Hilton</i>	SI Topical Lecture 8:00am–8:45am <i>Hilton</i>	SI Topical Lecture 8:00am–8:45am <i>Hilton</i>	Special Plenary Lecture 8:00am–9:00am <i>Hilton</i>	Forum for School Science 8:00am–1:00pm <i>Marriott</i>
		Topical Lectures 8:00am–8:45am <i>Hilton/Marriott</i>	Topical Lectures 8:00am–8:45am <i>Hilton/Marriott</i>	Topical Lectures 8:00am–8:45am <i>Hilton/Marriott</i>	Exhibition 9:00am–2:00pm <i>Hilton</i>	Career Workshops 8:00am–3:30pm <i>Marriott</i>
Afternoon		Concurrent Sessions 9:00am–12:00noon <i>Hilton/Marriott</i>	Genome Seminar 9:00am–5:30pm <i>Hilton</i>	Genome Seminar 9:00am–5:30pm <i>Hilton</i>	Concurrent Sessions 9:30am–12:30pm <i>Hilton/Marriott</i>	Science Career Fair 11:00am–4:00pm <i>Marriott</i>
			Concurrent Sessions 9:00am–12:00noon <i>Hilton/Marriott</i>	Concurrent Sessions 9:00am–12:00noon <i>Hilton/Marriott</i>	Career Workshops 9:30am–6:00pm <i>Marriott</i>	
			Career Workshops 9:00am–5:30pm <i>Marriott</i>	Career Workshops 9:00am–5:30pm <i>Marriott</i>	Forum for School Science 9:30am–6:30pm <i>Marriott</i>	
Evening			General Poster Session and Student Award Competition 9:30am–2:30pm <i>Marriott</i>	Exhibition 10:00am–3:00pm <i>Hilton</i>		
	Meeting Registration 2:00pm–7:00pm <i>Hilton</i>	SI Topical Lecture 1:30pm–2:15pm <i>Hilton</i>	Exhibition 10:00am–3:00pm <i>Hilton</i>	Exhibitor Workshops 12:30pm–2:00pm <i>Hilton</i>	SI Topical Lecture 2:00pm–2:45pm <i>Hilton</i>	
	Student Science Convocation and AJAS Posters 4:30pm–6:30pm <i>Marriott</i>	Topical Lectures 12:00noon–1:30pm 1:30pm–2:15pm <i>Hilton/Marriott</i>	Exhibitor Workshops 12:30pm–2:00pm <i>Hilton</i>	SI Topical Lecture 1:30pm–2:15pm <i>Hilton</i>	Topical Lectures 2:00pm–2:45pm <i>Hilton/Marriott</i>	
		AJAS Oral Presentations 1:30pm–5:30pm <i>Hilton</i>	Awards Ceremony 12:15pm–1:15pm <i>Hilton</i>	Topical Lectures 1:30pm–2:15pm <i>Hilton/Marriott</i>	Concurrent Sessions 3:00pm–6:00pm <i>Hilton/Marriott</i>	
		Concurrent Sessions 2:30pm–5:30pm <i>Hilton/Marriott</i>	SI Topical Lecture 1:30pm–2:15pm <i>Hilton</i>	Concurrent Sessions 2:30pm–5:30pm <i>Hilton/Marriott</i>	Forum/Education Poster Session 4:00pm–6:30pm <i>Marriott</i>	
		Exhibition 4:00pm–6:30pm <i>Hilton</i>	Topical Lectures 1:30pm–2:15pm <i>Hilton/Marriott</i>			
		Exhibition Opening Night Reception 5:00pm–6:30pm <i>Hilton</i>	Concurrent Sessions 2:30pm–5:30pm <i>Marriott/Hilton</i>			
	Opening Ceremony and Keynote Lecture 6:30pm–8:00pm <i>Marriott</i>	Plenary Lecture 6:30pm–8:00pm <i>Marriott</i>	President's Lecture 6:30pm–7:30pm <i>Marriott</i>	Plenary Lecture 6:30pm–7:30pm <i>Marriott</i>	Plenary Lecture 6:30pm–7:30pm <i>Marriott</i>	
			President's Reception 7:30pm–8:30pm <i>Marriott</i>			

* = by Invitation Only

Symposia at a Glance

TRACK	FRIDAY, 22	SATURDAY, 23	SUNDAY, 24	MONDAY, 25
The Changing Environment of Higher Education <i>page 7</i>	am Information Technology and Higher Ed pm Preparing to Teach Teachers	am Academic Labor Markets pm Higher Education Admission: Tests/Talent	am Diversity in University Admissions	am Diversity in the Biotechnology Workforce
Computers, the Internet, and Information <i>page 7</i>	am Internet Research As Science pm Massive Data Sets pm Policing the Internet	am Virtual Communities pm Logic in Computer Science	pm Science Publishing in the Year 2020	am Building the Next Generation NBII pm Science and the Internet
Education, Entertainment, and Literacy <i>page 8</i>		am Adding Public Outreach to Research pm NCTM Standards 2000 pm Science Is Fun!	am Mathematics through Science pm Portraying Science in the Media pm Restructuring Pre-College Science	am What Can Online Frogs Teach?
Environment, Food, and Natural Resources <i>page 9</i>	am/pm Science, Tech, and Food Safety Policy pm Diseases of the Ocean	am Food and Agriculture Policy pm Conservation/Conflict in the West	am Grazing Animals and Rangeland	am Genetic Engineering of Food am Sustainable Development in China pm Environmental Mgmt and Civil Society pm UC Natural Reserve System
Geology, Geography, and Human History <i>page 10</i>	am The "Modern" Human Form pm S. California Indian Languages at the Millennium	am Paleoclimate and Civilization pm History of Science and Religion	am Knowledge and Earthquake Losses pm Earthquakes and the Urban Environment pm Global "Hot Spots" and GIS	pm Boom and Bust in the Geosciences pm History of Present-Day Science
Industry, Engineering, and Innovation <i>page 11</i>	am The University/Industry Technology Transfer	am Large Hadron Collider pm Intellectual Capital/Knowledge Management pm The International Space Station	am Scientometrics pm Intelligent Transportation Systems	am High-Tech and Venture Capital am Innovation: Company Strategies pm The Science of Stockpile Stewardship pm The University/Industry Interface
Instability in Earth and Human Systems <i>page 12</i>	am Chemistry, Radiation, and Climate pm 21st Century Environment	am Harmful Algal Blooms pm Watershed Nutrients in the Gulf	am/pm El Niño: Impacts and Lessons am Role of Estuaries in Fisheries	am Understanding Land-Use Change
Life Science from Cells to the Environment <i>page 13</i>	am Integrative Biology pm Modeling Evolution	am Accelerating Crop Evolution	am Genetics and Reproduction pm Impacts and Control of Alien Species	am Where Biology and Physics Meet pm Detecting Gene-Environment Interactions pm Homing in on the Magnetic Sense
Mathematics and Physical Sciences <i>page 14</i>	am Innovations in Mathematics am The Wide World of Chemistry pm Excitement in the Solar System	am/pm Frontiers of the Physical Sciences pm Mt. Wilson Observatory	am Quantum Mechanics Today pm Before the Beginning	am Keys to the Cosmos pm Fate of the Universe pm Understanding Life in the Universe
Medicine and Public Health <i>page 15</i>	am Forever Young: Postponing Aging am Health Risks in the Ocean pm Systemic Conditions and Oral Disease	am The Math of Epidemics and Disease pm New Approaches to Medical Discovery	am Conversions of Health Organizations pm Environmental Hazards and Cancer pm Health Care and Alternative Medicine	am Prescriptions with a Personal Touch
Neurobiology, Brain, and Behavior <i>page 16</i>	am Grammar: What's Innate? pm Multiple Matings—Multiple Fathers	am Language Impairment in Children pm Consequences of Early Child Care	am Perception, Illusion, and Brain pm Neurology of Consciousness	am Perspectives on Dreaming pm Biomedical Enhancement of Cognition
Science and Society <i>page 17</i>	am Children in Risky Environments pm 150 Years After the Gold Rush pm Work/Family Strategies in the Next Century	pm The Metropolis in the Millennium	am/pm Genetics, Media, and Public Anxiety am The New Strategic Philanthropist	
Science, Engineering, and Public Policy <i>page 17</i>	am UNESCO and Global Science pm Precautionary Principle and Policy-Making	am Accountability and Research am Science and Technology in Foreign Affairs pm Science Policy in the Next Millennium	am Investing in Research pm Democratizing the Use of Science in Policy pm Integration and Synthesis	am Scientific Predictions in Environmental Policy pm Land Use Change/Forestry: Kyoto Protocol
Science Innovation <i>page 19</i>	am Imaging Development am/pm Medicine in the 21st Century pm Navigation of Cells and Organisms	am Tissue Engineering of Vital Organs pm Ultracold Atoms	am Windows on the Mind pm Brain-Immune Connections	am Chemistry on the Edge am Diet, Estrogens, and Breast Cancer pm Neural Transplants
<div> Seminars see page 6 <div> Genome Seminar: Saturday, 23 am/pm Forum for School Science: Sunday, 24 am/pm Monday, 25 am/pm Tuesday, 26 am/pm </div> </div>				

Seminars

GENOME SEMINAR: POWERFUL FORCES IN SMALL PACKAGES— HARNESSING THE MICROBIAL WORLD

Saturday, January 23

Sunday, January 24

Organized by J. Craig Venter, Celera Genomics, and Barbara Jasny, AAAS and *Science*

The second in a three-year series of special genomics seminars at the AAAS Annual Meeting and Science Innovation Exposition, this comprehensive two-day event focuses on the impact of genomics on science and the social, legal, ethical, and general communities. In particular, this session will examine the revolution in microbial genomics on science and society. Speakers will address issues in basic research, public health and emerging disease, evolution, biotechnology, biodiversity, and national security—including biological warfare.

This special seminar is co-sponsored by AAAS, *Science*, and The Institute for Genomics Research (TIGR).

Saturday, January 23

Morning Genome Session 9:00am

J. Craig Venter, Celera Genomics Corporation
Microbial Evolution of Minimal Genomes
Richard M. Losick, Harvard University
A Four-Dimensional View of the Bacterial Cell

Thomas M. Shinnick, U.S. Center for Disease Control and Prevention
Tuberculosis

Stephen L. Hoffman, Naval Medical Research Institute
From Genomic Sequence to Vaccines: Malaria as a Model System
Robert H. Purcell,* National Institutes of Health
Synthetic Viruses

Afternoon Genome Session 2:30pm

Frank E. Young, U.S. Food and Drug Administration (Ret.) and Reformed Theological Seminary
Biological Warfare

Mitchell L. Cohen, U.S. Centers for Disease Control and Prevention
Emerging Bacterial and Mycolic Diseases

Rita R. Colwell, National Science Foundation
Science (or) Scientific Issues for the Future

Martin Rosenberg, SmithKline Beecham Pharmaceuticals
Genomic Approaches to Anti-microbial Discovery: Opportunities and Hurdles

Joshua Lederberg,* Rockefeller University

Sunday, January 24

Morning Genome Session 9:00am

Kenneth H. Nealson, National Aeronautics and Space Administration
Origin of Life and Searching for it Elsewhere

Lucy Shapiro, Stanford University Medical Center
The Bacterial Cell Cycle: An Entry Way to New Antibiotics

Claire M. Fraser, The Institute for Genomic Research
Comparative Genetics

Norman R. Pace, University of California–Berkeley
Evolution

Afternoon Genome Session 2:30pm

David Relman, Stanford University
Microbial Pathogenesis and Pathogen Discovery

Adolphus P.G.M. van Loon, Hoffmann-La Roche Ltd, Switzerland
Genome Engineering to Produce Commercially Important Material
The Honorable Vernon Ehlers,* United States House of Representatives
The Genome and Science Policy

AAAS FORUM FOR SCHOOL SCIENCE: SCIENCE FUTURES— EDUCATION FOR THE NEW MILLENNIUM

Monday, January 25

9:30am–6:30pm

Tuesday, January 26

8:00am–1:00pm

Organized by Jerry Bell, Betty Calinger, Mary Koppal, and George Nelson, AAAS

In 1999, the Forum for School Science will celebrate the tenth anniversary of the release of AAAS's landmark report *Science for All Americans*. A special program will examine progress in various scientific disciplines and the opportunities for all students to learn science. The program and discussions will also look to the future to consider how new scientific knowledge, technological innovations, and a changing society will affect science education in the 21st Century.

On Monday, January 25, two panels of experts from the physical, life, social and behavioral sciences, and mathematics will describe the advancements in their fields over the past ten years and highlight how this could affect the science taught in schools. On Tuesday, January 26, practitioners will discuss the progress of national, state, and local groups to engage every student in the study of science.

Each of these plenary sessions will be linked to small group discussions and to the Forum Poster Session and Reception held Monday afternoon which will highlight the work of teachers, schools, and districts who have adopted recommendations of *Science for All Americans*. To present a poster in this special session contact Betty Calinger, AAAS (bcaling@aaas.org) Fax (202) 371-9849.

Invited Forum speakers include:

Leon Lederman,* Illinois Institute of Technology and Fermi Lab

James McGaugh,* University of California–Irvine

Warren Washington,* National Center for Atmospheric Research

Kenji Hakuta,* University of California–Los Angeles

Eric Jolly, Education Development Center

Greg Stefanich, University of Northern Iowa

The Forum for School Science is co-sponsored by the AAAS Directorate for Education and Human Resources and AAAS Project 2061.

Register!

See page
21 for
Registration
form!

* = invited, not confirmed

Information as of September 15, 1998.

Symposia

THE CHANGING ENVIRONMENT OF HIGHER EDUCATION

Information Technology and the Future of Higher Education
(Fri 9:00am-12:00noon)

Organized by Maureen C. Kelly, BIOSIS; Joel K. Hammond, BIOSIS

Speakers

Eli Noam,* Columbia Inst for Tele-Info
Electronics and the Dim Future of the University
Carol Twigg,* EDUCOM
The National Learning Infrastructure
Michael L. Dertouzos,* MIT
Technology and Learning
Carol Tomlinson-Keasey, Univ of Calif
The California Virtual University
James J. O'Donnell,* Univ of Penn
Technology and the Reorganization of Scholarship

Preparing University Faculty to Teach While Educating Future Teachers

(Fri 2:30pm-5:30pm)

Organized by Kenneth L. Anderson, Calif State-Los Angeles; Laurie Fathe, Occidental Coll

Speakers

Susan Wyckoff, Ariz State Univ
Driving Arizona Reforms in Science and Mathematics Teaching
Kenneth L. Anderson, Calif State-Los Angeles
Faculty Curriculum Awards Used to Transform Course Content and Pedagogy
Dan B. Walker, Calif State-San Jose
Changes in Faculty Rewards for Teaching: Retention, Tenure, and Promotion
Laurie Fathe, Occidental Coll
Defining and Facilitating Faculty Participation in a Large Collaborative Project

Changing Academic Labor Markets and Careers in Science and Engineering

(Sat 9:00am-12:00noon)

Organized by Michael S. Teitelbaum, Alfred P. Sloan Fnd; Charlotte V. Kuh, NRC, NAS

Speakers

Donald N. Langenberg, Univ System of Maryland
Chancellors Facing the Real World: Current Trends and Plausible Futures
David W. Leslie, Coll of William and Mary
The "Other" Faculty: Who Are They and What Do They Do?
Larry L. Leslie, Univ of Ariz
Changes in Institutional Revenue Patterns and Undergraduate Education
Charles A. Goldman, Rand Corp
Analyzing the University and Academic Labor Market As Dynamic Systems
Charlotte V. Kuh, NRC, NAS
Improving Models of Supply and Demand for Scientists and Engineers

Higher Education Admissions: Standardized Tests and Identifying Talent

(Sat 2:30pm-5:30pm)

Organized by Michael Feuer, NRC, NAS; Charlotte V. Kuh, NRC, NAS

Speakers

Robert L. Linn,* Univ of Colo
Policy and Practice: Gauging the Range of Current Admissions Practices at Undergraduate Institutions
M. R. C. Greenwood,* U.C.-Santa Cruz
Basic Principles: What Do Current Tests Tell Us and How Are They Misused?

Attaining Diversity in University Admissions: The California Experience

(Sun 9:00am-12:00noon)

Organized by Juliet P. Shaffer, U.C.-Berkeley; Jessica Utts, U.C.-Davis

Speakers

Eugene E. Garcia, U.C.-Berkeley
The SAT and Merit: Latino Students in California
Colette Patt, U.C.-Berkeley
The New Cut-Off: Graduate Admissions after Proposition 209
Keith F. Widaman, U.C.-Riverside
Enhancing Undergraduate Student Diversity and Quality: The Faculty Viewpoint
Susan A. Wilbur, U.C.-Irvine
Undergraduate Admission to UC: Challenges and the Search for Alternatives
Gwyneth M. Boodoo, Educ Testing Serv
Research Related to Affirmative Action with the SAT and GRE

Community College, Public, and Private Partnerships for Diversity in the Biotechnology Workforce

(Mon 9:30am-12:30pm)

Organized by Barton L. Gledhill, Contra Costa Coll; Jenny W. Haire, U.S. Army

Speakers

Jenny W. Haire, U.S. Army
Army Research Office: Enhancing Science, Mathematics, and Engineering Education Pipeline
George Cachianes, Abraham Lincoln High Schl
Principles of Biotechnology: A High School Course to Motivate Students
Joseph E. Ledbetter, Contra Costa Coll
Attracting and Retaining Minority Students in the Sciences
Elaine A. Johnson, City Coll of San Francisco
Advanced Technology Education in Biotechnology
Hank Stern, Genentech, Inc.
Bringing College Students into Biopharmaceutical Careers

COMPUTERS, THE INTERNET, AND INFORMATION

Internet Research As an Experimental Science
(Fri 9:00am-12:00noon)

Organized by Walter Willinger, AT&T Labs

Speakers

Vern Paxson, LBNL
Why Understanding Anything About the Internet is Painfully Hard
Anna Gilbert, AT&T Labs and Yale Univ
Multifractals, Wavelets, and the Internet
Hideki Takayasu, Sony Comp Sci Labs Inc.
1/f-Noise and Phase Transition in the Internet
Andrew Odlyzko, AT&T Labs
The Economics of the Internet: Utility, Utilization, and Pricing
Deborah Estrin, USC
Lessons from Scaling the Internet

Massive Data Sets in Mathematics, Science, and Technology

(Fri 2:30pm-5:30pm)

Organized by Joan Feigenbaum, AT&T Labs

Speakers

Joan Feigenbaum, AT&T Labs
Massive Data Sets: Challenges for the Mathematical Sciences
David R. Karger, MIT
Interactive-Time Manipulation of Large Text Corpora
Michael S. Vogeley, Princeton Univ
Massive Data Sets in Astronomy
Anthony Kerlavage, TIGR
Managing and Mining Data from High-Throughput Genomic Sequencing Projects

Policing the Internet: Cybercensorship and Its Potential Impact

(Fri 2:30pm-5:30pm)

Organized by Stephen A. Hansen, AAAS

* invited, not confirmed
Information as of September 1, 1998.

Speakers

Stephen A. Hansen, AAAS
The Unhindered Use of the Internet in Human Rights
Alexander Fowler, Electronic Frontier Fnd
The Internet in Eastern Europe
Eric Goldstein, Human Rights Watch
Government Control and the Internet in Middle East/North Africa
Patrick Ball, AAAS
Security Issues for Human Rights Organizations Using the Internet
Scott Charney,* U.S. Dept of Justice
Governmental Internet Security Concerns
Ann Beeson, ACLU
Cyber-Censorship and Its Potential Impact in the United States

Virtual Communities

(Sat 9:00am-12:00noon)

Organized by Christopher Allen Landauer, Aerospace Integration Sci Ctr; Kirstie L. Bellman, The Aerospace Corp

Speakers

Kirstie L. Bellman, The Aerospace Corp
Virtual Realities Are Real Places for Interactions
Valerie Polichar, U.C.-San Diego
MUDs for Distributed Collaboration in Service Organizations
Julie Albright, USC
Why On-Line Relationships Are Real
Mia Lipner, Univ of Washington
Access for All: Why the Web Is Getting Worse
Christopher Allen Landauer, Aerospace Integration Sci Ctr
New MUVE Servers: A Synthesis of Mechanisms for Collaboration

On the Unusual Effectiveness of Logic in Computer Science

(Sat 2:30pm-5:30pm)

Organized by Moshe Y. Vardi, Rice Univ

Speakers

Phokion G. Kolaitis, U.C.-Santa Cruz
Logic in Computer Science: An Overview
Victor Vianu, U.C.-San Diego
Logic As a Query Language
Joseph Y. Halpern, Cornell Univ
Reasoning About Knowledge in Multi-Agent Systems

Christos Papadimitriou, U.C.-Berkeley
Computational Complexity As a Metaphor
Moshe Y. Vardi, Rice Univ
From Boole to the Pentium

The Grand Unified eArchive: Scientific Publishing in the Year 2020

(Sun 2:30pm-5:30pm)

Organized by R. Stephen Berry, Univ of Chicago; Mark S. Frankel, AAAS

Speakers

Paul Ginsparg, Los Alamos Natl Lab
The State of Scientific Publishing in the Year 2020
Ann Okerson, Yale Univ
Libraries 2020: Who Needs Them?
Andrew Odlyzko, AT&T Labs
The Economics of Scientific ePublishing in the Year 2020
Thomas von Foerster, Springer-Verlag
Peer Review in the Electronic Era
R. Stephen Berry, Univ of Chicago
How We Got Here from There: The Transition from Paper

Building the Next Generation National Biological Information Infrastructure

(Mon 9:30am-12:30pm)

Organized by Bonnie C. Carroll, USGS and Info Intl Assoc; Gladys A. Cotter, USGS

Speakers

Meredith A. Lane, Univ of Kans and **Rosina Bierbaum,* OSTP**
Concepts Behind the PCAST Report and Progress Made: Policy Perspectives
Gladys A. Cotter, USGS and **Anne Frondorf, USGS**
Coordinating the Development and Applications of the Infrastructure
James L. Edwards,* NSF
Research Opportunities for the Next Generation National Biological Information Infrastructure
James Beach, USGS
Building a Community Framework for the National Biological Information Infrastructure: Results of a National Workshop

Science and the Internet: Globalization, Cooperation, and Development

(Mon 3:00pm-6:00pm)

Organized by Michael Snyder, AAAS; John Schoneboom, AAAS

Speakers

Patricia Rosenfield,* Carnegie Corp of NY
Internet versus Other Priorities: A Foundation Perspective
Gary M. Olson,* Univ of Mich
Communication Technologies Connecting Developing Countries' and Developed Countries' Scientists
Kyaw Myaing, UNDP
United Nations and Asia Pacific Internet for Development Programme
Gail D. McClure,* W. K. Kellogg Fnd
Human Capacity Building for an Information-Based Society
Ray Akwule,* George Mason Univ
Internet and Global Telecommunications: Challenge and Opportunities for Developing Countries
Gabriel Accascina, Asia-Pac Dev Info Prog UNDP, Malaysia
Information Technology for Asian Sustainable Development: Activities, Heuristics, and Outlook

EDUCATION, ENTERTAINMENT, AND LITERACY

Adding Public Outreach to Research Agendas

(Sat 9:00am-12:00noon)

Organized by Bruce V. Lewenstein, Cornell Univ; Judy Kass, AAAS

Speakers

Yervant Terzian, Cornell Univ
Public Outreach and Scientific Research
David Heil, David Heil & Assoc, Inc.
Outreach Opportunities from A to Z
Jeffrey Rudolph, Calif Sci Ctr
How Science Centers and Museums Can Increase Your Impact
David L. Crippens, KCET-TV
Using Media and Technology to Reach the Public
Sylvia M. Mavrogenes, Miami Dade Pub Lib
Look to Public Libraries for More Than Books

Discussant

Hyman Field,* NSF

National Council of Teachers of Mathematics (NCTM) Standards 2000 Draft: Reflecting on Progress and Looking Ahead

(Sat 2:30pm-5:30pm)

Organized by Edie Huffman, Natl Council of Teachers of Math

Moderator

Mary Lindquist, Columbus State Univ

Speakers

Douglas B. McLeod, San Diego State Univ
A Historical Perspective on the National Council of Teachers of Mathematics Standards
Thomas Romberg, Univ of Wisc-Madison
Perspectives on Standards
Mary Lindquist, Columbus State Univ
Summary of Input and Advice
Joan Ferrini-Mundy, NRC, NAS and Univ of New Hampshire
Overview of Standards 2000 Draft
Glenda Lappan, Michigan State Univ
Standards 2000 Draft Discussion

Science Is Fun!

(Sat 2:30pm-5:30pm)

Organized by Bassam Z. Shakhashiri, Univ of Wisc-Madison

Speakers

Jill Tarter, SETI Inst
Life in a Cosmic Context
Richard Zare, Stanford Univ
Research: The Pleasure and the Pain
Arthur Benjamin, Harvey Mudd Coll
Mathemagics: The Art of Mental Calculating
Denice Denton, Univ of Washington
Microfabrication: How the Brain of Your Computer is Made
Bassam Z. Shakhashiri, Univ of Wisc-Madison
The Joy of Science

Mathematics through Science in the Middle Grades

(Sun 9:00am-12:00noon)

Organized by Gerald Kulm, AAAS

Speakers

Gerald Kulm, AAAS
Building the Case for Teaching Mathematics through Science

Beth Cole, Univ of Wisc-Madison
Mathematics Learning in the Context of Science: The Research Base
Sandi Abell, Purdue Univ
A New Approach to Teacher Preparation
Debbie Faigenbaum, San Fran Comm Elem Schl
Knowing When to Use Science to Teach Mathematics

Portraying Science in the Media: Why the Ambivalence? (Sun 2:30pm-5:30pm)

Organized by Lynn Spigel, USC; Elliot Siegel, NLM, NIH

Speakers

Constance Penley, U.C.-Santa Barbara
Biosphere 2 as Popular Science
Vivian Sobchack, UCLA
Spectacle and Science in the American Science Fiction Film
Lynn Spigel, USC
White Flight: Race, Family Life, and the Space Race
Paula Treichler,* Univ of Ill-Urbana-Champaign

Discussant

Leon Lederman, Ill Math Sci Acad and Fermilab

Restructuring Pre-College Science: We're Not There Yet (Sun 2:30pm-5:30pm)

Organized by Joseph D. McNerney, BSCS

Speakers

Joseph D. McNerney, BSCS
The Price of Integrity: Special Interest Groups and Science Curriculum
James W. Behnke, Peregrine Publishers
Educational Technology in the Science Classroom: What Works? What Doesn't?
Rodger W. Bybee, NRC, NAS
Incorporating National Standards into Curriculum Materials
Timothy H. Goldsmith, Yale Univ
Selecting the Content: A Perspective from the University
Ellen M. Standafer, Holt, Rinehart and Winston
The Role of the Publishing Industry in Pre-College Science

"Yuck, Gross!": What Can Online Deformed Frogs Teach About Science? (Mon 9:30am-12:30pm)

Organized by Marcia C. Linn, U.C.-Berkeley; Philip Bell, Univ of Washington

Speakers

Marcia C. Linn, U.C.-Berkeley
Can Scientists' Disagreements About Deformed Frogs Help Students Understand Science?
Stanley K. Sessions, Hartwick Coll
Deformed Frogs: What Does the Evidence Tell Us?
David Gardiner, U.C.-Irvine
Do Environmental Agents Disrupt Frog (and Maybe Human) Development?
Philip Bell, Univ of Washington and Linda Shear, U.C.-Berkeley
What Students Learn About the Frog Controversy through On-Line Activities

Discussants

Ronald D. Anderson, Univ of Colo-Boulder
Where Do Current Science Controversies Fit in the Science Curriculum?
Shirley M. Malcom, AAAS
Controversy: Can It Make Science More Accessible to Diverse Learners?
Pamela J. Hines, AAAS and Science
How Can Science Magazine Help Inform Pre-College Students?

ENVIRONMENT, FOOD, AND NATURAL RESOURCES

Science, Technology, and Food Safety Policy (Fri 9:00am-12:00noon; 2:30pm-5:30pm)

Organized by Lawrence Busch, Michigan State Univ; David H. Guston, Rutgers Univ

AM Speakers

Robert M. Hollingworth, Michigan State Univ
Relative Risks and the Food Safety Research Agenda
I. Kaye Wachsmuth, USDA
The View from U.S. Department of Agriculture

Samuel W. Page, U.S. FDA
Food Safety Research at FDA: Public-Private Partnerships for Regulatory Science
Douglas Powell, Univ of Guelph
Public Perceptions of Food Safety
Lawrence Busch, Michigan State Univ
Food Safety Is About More than Food Safety
David H. Guston, Rutgers Univ
Policy for Food Safety Science

PM Speakers

Rhona S. Applebaum, Natl Food Processors Assoc
Food Safety: An Industry Perspective
Caroline Smith-DeWaal, Ctr for Sci in the Pub Interest
Food Safety: The Perspective from the Grassroots
Paul B. Thompson, Purdue Univ
Risk and Consent: The Ethics of Food Safety
Alicia Sandoval,* United Farm Workers
Dean R. Kleckner,* Amer Farm Bur Fed
Food Safety: A View from the Farm
David Stockman, Lawry's Restaurants, Inc. and Calif Restaurant Assoc
Food Safety in Restaurants

Diseases of the Ocean: A New Environmental Challenge? (Fri 2:30pm-5:30pm)

Organized by C. Drew Harvell, Cornell Univ; Kiho Kim, Cornell Univ

Speakers

Albert Osterhaus, Inst of Virology, The Netherlands
Sleuthing Pathogens: Morbilliviruses Affecting Marine Mammals
Gerardo Vasta, Ctr of Marine Biotech
Disease Resistance of Invertebrates
Eileen E. Hofmann, Old Dominion Univ
Disease Dynamics: Modeling the Spread of Oyster Disease
James W. Porter, Univ of Georgia
Coral Disease in the Florida Keys: New Problems and Paradigms
Kiho Kim, Cornell Univ
Aspergillosis of Caribbean Sea Fans: An Emergent Opportunistic Disease

Global and Local Dimensions of America's Food and Agricultural Systems (Sat 9:00am-12:00noon)

Organized by Thomas A. Lyson, Cornell Univ; Albert G. Medvitz, Rio Vista, CA

Speakers

Rick Welsh, Henry A. Wallace Inst for Alt Agric
Structural Change in U.S. Agriculture and Environmental Implications
Paul Rhode, Univ of North Carolina-Chapel Hill
The Economics of the Changing Structure of California Agriculture
Frederick H. Buttel, Univ of Wisc-Madison
Defining the Contours of the Global Agrofood System
David C. Campbell, U.C.-Davis
The Political Evolution of the Sustainable Agriculture Movement in California
Duncan Hilchey, Cornell Univ
The New Agriculture: Forging Linkages between Producers and Consumers

Beyond the 100th Meridian—and into the 21st Century: Development, Conservation, and Conflict in the American West (Sat 2:30pm-5:30pm)

Organized by Carroll Ann Hodges, Woodside, CA; William R. Freudenburg, Univ of Wisc-Madison

Speakers

Thomas M. Power, Univ of Mont
The Changing Role of Natural Resources in the Inland West
Barton H. Thompson, Stanford Univ Law Schl
Whither Western Water Policy: Blind Salamanders and Markets
James Winder, Lake Valley Ranch, New Mexico
Solving Resource Conflicts: Ranching in the 21st Century
Odin D. Christensen, Newmont Gold Co
Mining in the American West: A Search for Balance
John E. Echohawk, Native Amer Rights Fnd
Challenges for the West's Indian Nations: Surviving or Thriving?

William R. Freudenburg, Univ of Wisc-Madison
The People, the Places, and the Paradoxes of the West

Grazing Animals and the Protection of Rangelands in California

(Sun 9:00am-12:00noon)

Organized by Albert G. Medvitz, Rio Vista, CA

Speakers

Albert G. Medvitz, Rio Vista, CA
California Grazing Lands: Whither They Go

Lynn Huntsinger, U.C.-Berkeley
Rangeland and Grazing Ecology in California

Sally K. Fairfax, U.C.-Berkeley
Grazing Lands: Federal/State Comparison with Lessons for California

Jack Hanson, Agric Res Solutions and Calif Cattlemen's Assoc
California's Grazing Lands: Science, Policy, and the Rancher

Richard J. Reiner, The Nat Conserv
Protecting Biodiversity on Grazed Rangelands in California

Richard Hamilton, Hamilton Bros Ranch

A Ranchers-Eye View of Environmental Collaboration on Grazing Land

Discussant

Montague W. Demment, U.C.-Davis

Genetic Engineering of Food

(Mon 9:30am-12:30pm)

Organized by R. James Cook, Washington State Univ; Alan B. Bennett, U.C.-Davis

Speakers

Alan B. Bennett, U.C.-Davis
Exotic Germplasm or Engineered Genes: Strategies to Improve Fruit Quality

Robert T. Fraley, Monsanto Co
Ceregen

The Future of Food and Agricultural Biotechnology

James D. Murray, U.C.-Davis
Engineered Foods Produced from Animals

Susan Harlander, The Pillsbury Co
Labeling: A Food Industry Perspective

Susanne Huttner, U.C.-Berkeley
Public Perception of Transgenic Crops

James H. Maryanski, U.S. FDA
Food Safety and Biotechnology: FDA's Approach

Sustainable Development in China: Near Term Approaches

(Mon 9:30am-12:30pm)

Organized by Joel A. Snow, Iowa State Univ

Speakers

David A. Wendt, Idaho State Univ
Meeting the Energy and Environment Needs of Chongqing

Joel A. Snow, Iowa State Univ
Sustainable Development in Henan Province

Ya-Hui Zhuang, Chinese Acad of Sci, PRC

Sustainable Development and Environmentally Sound Carbon Cycling

Gregory R. Carmichael, Univ of Iowa

Air Quality Implications of Growing Energy Use in Asia

Milton Russell, Univ of Tenn-Knoxville

China Progresses Toward Pollution Control Using Incentives for Clean-Up

University of California Natural Reserve System: Managing Resources, Preparing for the Future

(Mon 3:00pm-6:00pm)

Organized by Alexander N. Glazer, U.C.-Berkeley; Mary E. Power, U.C.-Berkeley

Speakers

Mary E. Power, U.C.-Berkeley
Disturbing Ecosystems to Conserve Them: Insights from UC-NRS Field Studies

Walter D. Koenig, U.C.-Berkeley
Long-Term Studies, Acorn Woodpeckers, and Reserves

Timothy J. Bradley, U.C.-Irvine
Biodiversity versus Public Health: A Win-Win Situation

Michael P. Hamilton, U.C.-Riverside

Forging the Link Between NRS Science and Natural Resource Stewardship

Frank W. Davis, U.C.-Santa Barbara

Nature Reserves in California

Values Matter: Environmental Management and Civil Society

(Mon 3:00pm-6:00pm)

Organized by Rachele D. Hollander, NSF; Halina S. Brown, Clark Univ

Speakers

Timothy C. Earle, Western Washington Univ

Pluralistic and Cosmopolitan Values: Implications for Understanding Environmental Controversies

Halina S. Brown, Clark Univ
Response of a Regulatory System to Societal Change: Lessons from Poland

JoAnn Carmin, Univ of North Carolina-Chapel Hill

Community Participation in Environmental Decision-Making in the Czech Republic

Michael Vincent McGinnis, U.C.-Santa Barbara

The Role of Scientific Information in Watershed Restoration and Management

Theresa A. Satterfield, Decision Sci Rsrch Inst

New Methods to Elicit and Identify Environmental Values

GEOLOGY, GEOGRAPHY, AND HISTORY

(Fri 9:00am-12:00noon)

Organized by C. Loring Brace, Univ of Mich-Ann Arbor

Speakers

John J. Shea, SUNY-Stony Brook
Lower and Middle Paleolithic Hunting Technologies: Evidence and Evolutionary Implications

Sarah A. Tishkoff, Penn State Univ
Modern Human Origins Inferred from Nuclear Genetic Haplotype Data

Christopher B. Ruff, Johns Hopkins Univ Schl of Med

Change in Human Post-Cranial Robustness during the Pleistocene

Fred H. Smith, Northern Ill Univ
Late Pleistocene Facial Form

C. Loring Brace, Univ of Mich-Ann Arbor

The Dynamics of the Emergence of "Modern" Human Morphology

Southern California Indian Languages at the Millennium

(Fri 2:30pm-5:30pm)

Organized by Pamela Munro, UCLA

Speakers

Darlene Franco, Advoc for Indig Calif Language Survival
The California Master-Apprentice Program

Paul V. Kroskrity, UCLA
A Mono Language CD-ROM

Margaret Langdon, U.C.-San Diego
Diegueño: How Many Languages?

Jayne Liera, UCLA
Keeping Cahuilla Alive

Pamela Munro, UCLA
Accessible Preservation of Southern California Languages

Ernest H. Siva, Morongo Band of Mission Indians
Serrano Preservation Efforts

Discussant

Leanne Hinton, U.C.-Berkeley

Changes in Paleoclimate and Civilization

(Sat 9:00am-12:00noon)

Organized by Harvey Weiss, Yale Univ; Paul A. Mayewski, Univ of New Hampshire; Priscilla C. Grew, Univ of Neb-Lincoln

Speakers

Paul A. Mayewski, Univ of New Hampshire

Holocene Climate Variability as Determined from Ice Cores

Russanne Low, Univ of Minn

Lake Evidence for Late Holocene Climate Change and Anthropogenic Impacts

Heidi M. Cullen, Columbia Univ
Possible Role of Climate in the Collapse of the Akkadian Empire

Harvey Weiss, Yale Univ
Climate Changes and Refractions of the Mesopotamian Developmental Trajectory

Ofer Bar-Yosef, Harvard Univ
Role of Younger Dryas in Origins of Agriculture in Western Asia

Discussant

Dena F. Dincauze, Univ of Mass-Amherst

Causes, Choices, Contingencies, and Coincidence: Risks and Strategies in Archaeology

The History of Science and Religion Revisited (Sat 2:30pm–5:30pm)

Organized by Ronald L. Numbers, Univ of Wisc–Madison; David C. Lindberg, Univ of Wisc–Madison

Speakers

Ronald L. Numbers, Univ of Wisc–Madison
Scientific Naturalism and Natural Science

Jon H. Roberts, Univ of Wisc–Stevens Point
Freudianism and American Religion, 1910–1940

David C. Lindberg, Univ of Wisc–Madison
Galileo, the Church, and Cosmology

Using Knowledge to Reduce Earthquake Losses (Sun 9:00am–12:00noon)

Organized by Richard N. Wright, NIST; Joanne M. Nigg, Univ of Del

Speakers

George E. Brown,* U.S. House of Reps
Purpose, History, and Accomplishments of NEHRP

Michael Mahoney, FEMA

NEHRP Strategic Plan
Thomas H. Jordan, MIT
Science of Earthquakes: Accomplishments and Frontiers

Daniel P. Abrams, Univ of Ill–Urbana-Champaign
Engineering Accomplishments and Frontiers
Joanne M. Nigg, Univ of Delaware
Social Science Accomplishments and Frontiers

Earthquakes and the Urban Environment (Sun 2:30pm–5:30pm)

Organized by Thomas L. Henyey, USC; John K. McRaney, USC

Speakers

Jim Mori, USGS
Lessons Learned from Recent Earthquakes in California and Japan
Thomas L. Henyey, USC
New Frontiers in Earthquake Forecasting
Ross Stein, USGS
The Bungee-Cord Connection: How One Earthquake Sets Up the Next

Tom Heaton, Caltech
Predicting Ground Motions from Earthquakes: The Basis for Engineering Designs
Edward H. Field, USC
Earthquakes in Urbanized Sedimentary Basins
Jack Popejoy, KFWB Headline News
Earthquakes: A Way of Life in California

Identifying Global Population—Environmental “Hot Spots” through GIS Mapping (Sun 2:30pm–5:30pm)

Organized by Victoria Dompka, AAAS; Lars Bromley, AAAS

Speakers

Lourdes Arizpes,* UNESCO, France
Uwe Deichmann,* Takoma Park, MD
Ashbindu Singh,* UNEP Envir Info & Assessment–North Amer
Robin White,* World Res Inst
Paul Williams,* The Nat Hist Mus

“Writing It Right—Now!”: Problems in the History of Present-Day Science (Mon 3:00pm–6:00pm)

Organized by Horace Freeland Judson, George Washington Univ

Speakers

Thomas Söderqvist, Roskilde Univ, Denmark
Writing Lives in Recent Science
Vassiliki Betty Smocovitis, Univ of Florida

Problems of Distance in the Biography of G. Ledyard Stebbins
Horace Freeland Judson, George Washington Univ
The Seductive Interview: Who Remembers What and to What Purpose?

Anne Fitzpatrick, George Washington Univ
The Problems of Writing History of Classified Science
Steven C. Weiss, George Washington Univ
Integrating Science, Policy, Politics: History of the Superconducting Super Collider

Boom and Bust in the Geosciences: Implications for the Future (Mon 3:00pm–6:00pm)

Organized by John F. Shroder, Jr., Univ of Neb–Omaha

Speakers TBA

INDUSTRY, ENGINEERING, AND INNOVATION

Breaking the University-Industry Technology Transfer Logjam (Fri 9:00am–12:00noon)

Organized by Nir Kossovsky, Heisenberg Principals Inc.

Speakers

Gordon M. Binder, AMGEN
Building and Sustaining a Company with Technology Transfer
Lita L. Nelsen, MIT
Critical Success Factors in Technology Transfer
C. Kumar N. Patel, UCLA
University-Industry Relationship: Ready for Prime Time?
David Baltimore, Caltech
Getting the Most Advantage from University Technology
Alfred E. Mann, MiniMed Inc.
How an Industry's Needs Can Map into a University's Mission
Steven B. Sample, USC
The Entrepreneurial University
Nir Kossovsky, Heisenberg Principals Inc.
Creating an Efficient Technology Transfer Market

Large Hadron Collider: Mega-Science and Mega-Engineering for Everyone (Sat 9:00am–12:00noon)

Organized by Istvan Szemenyei, Emb of the Republic of Hungary; Martha A. Krebs, U.S. DOE–Office of Energy Rsrch

Speakers

C. H. Llewellyn-Smith, Univ Coll London, Switzerland
CERN and the Large Hadron Collider As a World Project
Lorenzo Foa, CERN and Sevola Normale Superiore Pisa
Challenges of a Worldwide Physics Collaboration

Martha A. Krebs, U.S. DOE–Office of Energy Rsrch
U.S. Participation in the Large Hadron Collider Project
George H. Trilling, LBNL
LHC—Scientific Challenges for a Global Collaboration

Intellectual Capital and Knowledge Management (Sat 2:30pm–5:30pm)

Organized by Barry G. Silverman, Univ of Penn; Albert H. Rubenstein, Senior Strategy Grp L.L.C.

Speakers

Debra M. Amidon, Entovation International Ltd.
Building a Knowledge Strategy for “Real-Time” Innovation
Rita Moya, Natl Health Fnd
Managing Knowledge across Networks and through the Web: A Case Study
Barry G. Silverman, Univ of Penn
Will Better Knowledge Management Revolutionize the Health Care Sector?
Theodore W. Schlie,* Lehigh Univ
Albert H. Rubenstein, Senior Strategy Grp L.L.C.
Barriers and Facilitators to an Effective IC/KM Program: User Needs

The International Space Station: Bridging the Earth and the Universe (Sat 2:30pm–5:30pm)

Organized by Istvan Szemenyei, Emb of the Republic of Hungary

Speakers

K. Knott, European Space Agcy, The Netherlands
The ESA Partnership in the ISS Program
John David Schumacher, NASA
Arnauld E. Nicogossian, NASA

Scientometrics: Recent Advances in Measurement and Application in Industry (Sun 9:00am–12:00noon)

Organized by W. Gregg Wilcove, Wilcove Assoc, Inc.

Speakers

Richard Klavans, Ctr for Rsrch Planning and **Mary Ellen Mogee**, Mogee Rsrch & Analysis Assoc
Mapping Science and Mapping Technology: Complementary Missions, Methods, and Accomplishments

Peter J. Lane, Ariz State Univ
Using Scientometrics to Better Understand Innovation and Organizational Performance
Wayne A. Rosenkrans, Jr., Zeneca Pharmaceuticals
Case Study: Strategic Planning at SmithKline Beecham Research and Development and Scientometrics
Francis Narin, CHI Rsrch, Inc.
Links, Funds, Papers, Citations, Patents, and Market Performance

Intelligent Transportation Systems: Challenges of Implementing a Complex New Technology

(Sun 2:30pm–5:30pm)

Organized by Stein Weissenberger, LLNL

Speakers

Stein Weissenberger, LLNL
ITS: What Is It and How Did It Get That Way?
Randolph Hall, USC
Funding, Innovation, and Information Technology in Transportation
Jonathan Gifford, George Mason Univ
Case Studies of ITS Deployment
Thomas Horan, Claremont Graduate Univ
Institutions and Policy in ITS Deployment

Discussant

Martin Wachs, U.C.—Berkeley

Innovation Patterns: Value in Formulating Company Strategies and Public Policy

(Mon 9:30am–12:30pm)

Organized by Don E. Kash, George Mason Univ

Speakers

Don E. Kash, George Mason Univ
Innovation Patterns: Value in Formulating Company Strategies in Public Policy
William Kingston, Trinity Coll, Univ of Dublin
Antibiotics, Invention and Innovation

Richard C. Adams, PNNL

The Turbine Blade Case
Steven Lieberman, George Mason Univ and **Mike Chessman**,* Varian
Radiation Therapy Case Study
Robert Schaller, Comm Coll at St. Mary's Cty
The Microprocessor Case

Issues in High-Tech Startups and Venture Capital

(Mon 9:30am–12:30pm)

Organized by Bill Otterson, U.C.—San Diego; Albert H. Rubenstein, Senior Strategy Grp L.L.C.

Speakers

Albert H. Rubenstein, Senior Strategy Grp L.L.C.
High-Tech Spin-Offs from University Research: Technology Transfer Mechanism

Opening Scientific Frontiers?: The Science of Stockpile Stewardship

(Mon 3:00pm–6:00pm)

Organized by Philip D. Goldstone, Los Alamos Natl Lab

Speakers

Stephen M. Younger, Los Alamos Natl Lab
The Science of Stewardship: What It Holds for the Future
John L. Hennessy, Stanford Univ
ASCI and Challenges in High Performance Computing for Scientific Applications
Jim Williams, Gen Elec Aircraft Engines
Understanding Service History Effects in Materials for Component Life Prediction
Jon C. Weisheit, Rice Univ
High-Energy-Density Physics: Fundamental Science for Stockpile Stewardship
Richard L. Garwin, IBM Corp and Council on For Rel
Preserving the Stewardship in Science-Based Stockpile Stewardship

The University/Industry Interface: Room for Improvements

(Mon 3:00pm–6:00pm)

Organized by Howard J. Gobstein, Michigan State Univ; Raymond E. Spier, Univ of Surrey, UK

Speakers

Raymond E. Spier, Univ of Surrey, UK
Improving Technology Development and Transfer through an Ethical Audit
Sheldon Krinsky, Tufts Univ
Will Disclosure of Financial Interests Brighten the Image of Entrepreneurial Science?
Steven Shaya, Johnson & Johnson
Managing Industrial/Academic Collaborations for Mutual Benefits
Lita L. Nelsen, MIT
Bridging the Two Cultures in University/Industry Research Collaborations
James E. Anderson, Ford Motor Co
Auto Industry—University Partnerships in a Globalized 21st Century

INSTABILITY IN EARTH AND HUMAN SYSTEMS

Chemistry, Radiation, and Climate: How Molecular-Level Processes Drive Global-Scale Changes

(Fri 9:00am–12:00noon)

Organized by James G. Anderson, Harvard Univ

Speakers

John Seinfeld,* Caltech
Ralph Keeling,* Scripps Inst of Oceanog
Mario J. Molina,* MIT
Edward S. Sarachik,* Univ of Washington
Thomas R. Karl,* Natl Climate Data Ctr, NOAA
Steve C. Wofsy,* Harvard Univ

The 21st Century Environment: Potential for Human Dominance

(Fri 2:30pm–5:30pm)

Organized by Michael C. MacCracken, U.S. GCRP; Warren M. Washington, NCAR

Speakers

Hugh M. Pitcher, PNNL
Long Term Scenarios: What Can We Know?
Warren M. Washington, NCAR
Projections of Climate Change for the 21st Century
Ronald P. Neilson, Forest Serv, USDA
Projections of Changes in U.S. Ecosystems and Land Cover

Discussants

F. Sherwood Rowland, U.C.—Irvine
Changing Trace Gas Concentrations
Ralph J. Cicerone, U.C.—Irvine

Harmful Algal Blooms: Impacts, Trends, and Current Developments

(Sat 9:00am–12:00noon)

Organized by Donald M. Anderson, Woods Hole Oceanog Inst; Kevin G. Sellner, NOAA

Speakers

Donald M. Anderson, Woods Hole Oceanog Inst
Harmful Algal Blooms: The National Perspective
JoAnn M. Burkholder, NCSU
The Toxic Pfiesteria Complex: An Update
Daniel G. Baden, Univ of Miami
Harmful Algal Toxins: Detection, Toxicology, and Emerging Disease
Lora E. Fleming, Univ of Miami
The Epidemiology of Marine Algal Toxins
Vera L. Trainer, NMFS, NOAA
Domoic Acid and Amnesic Shellfish Poisoning: New Technologies and Approaches

Linking Watershed Nutrients to Hypoxia in the Gulf of Mexico

(Sat 2:30pm–5:30pm)

Organized by Nancy N. Rabalais, Louisiana Univ Marine Consort; R. Eugene Turner, Louisiana State Univ

Moderator

Donald Scavia, NOAA

Speakers

Nancy N. Rabalais, Louisiana Univ Marine Consort
Linking Gulf of Mexico Hypoxia with the Mississippi River
Robert J. Diaz, Coll of William and Mary and Virginia Inst of Marine Sci
Ecological Consequences of Hypoxia in the Northern Gulf of Mexico
Donald A. Goolsby, USGS
Source and Flux of Nutrients in the Mississippi River Basin
William J. Mitsch, Ohio State Univ
Reducing Nutrients to the Mississippi River and the Gulf of Mexico
Otto C. Doering III, Purdue Univ
Economics of Reducing Nutrients to the Gulf of Mexico

R. Eugene Turner, Louisiana State Univ
Linking Watershed Nutrients to Estuarine and Coastal Oxygen Depletions

El Niño 1997–1998: Predictions, Impacts, and Lessons

(Sun 9:00am–12:00noon; 2:30pm–5:30pm)

Organized by Cynthia E. Rosenzweig, NASA, Goddard Inst for Space Studies; Paul R. Epstein, Harvard Med Schl

AM Speakers

Ants Leetmaa, NOAA
The El Niño of 1997–1998: The Event and the Predictions
Compton J. Tucker, NASA, Goddard Space Flight Ctr
Tropical Forest Fires Associated with the 1997–1998 El Niño
David C. Duffy, Univ of Hawaii—Manoa

Pacific Ecosystems, Marine Mammals, and Seabirds

Cynthia E. Rosenzweig, NASA, Goddard Inst for Space Studies
El Niño and Agriculture
Paul R. Epstein, Harvard Med Schl
Climate Variability, Extreme Events and Human Health

PM Speakers

Walter E. Baethgen, IFDC Latin Amer, Uruguay
Impacts of El Niño on Crops in South America
Timothy J. Finan, Univ of Ariz;
Ephias Makaudze, Univ of Zimbabwe; and **Jennifer Phillips**, Columbia Univ
Agricultural Stakeholders and the Use of El Niño Predictions
Joan B. Rose, Univ of South Florida
Cryptosporidium and Extreme Events in the United States
German Poveda, Univ Nacional de Colombia
ENSO, Dengue, and Malaria in Colombia

Discussants

Antonio D. Moura, Intl Rsrch Inst for Climate Pred
Institutional Responses to ENSO: What Have We Learned?
Maxx Dilley, U.S. AID
Lessons Learned in International Disaster Reduction: ENSO 1997–98
David LeSueur, Univ of Natal, South Africa
Macol M. Stewart, NOAA

Role of Estuaries in Sustaining Coastal Fisheries: Is There One?

(Sun 9:00am–12:00noon)

Organized by Michael P. Weinstein, N. J. Marine Sci Consort

Speakers

Edward D. Houde, Univ of Maryland
Role of Estuaries in Sustaining Coastal Fisheries: North and Mid Atlantic
Larry B. Crowder, Duke Univ
Role of Estuaries in Sustaining Coastal Fisheries: South Atlantic
William H. Neill, Tex A&M Univ System
Role of Estuaries in Sustaining Coastal Fisheries: Gulf of Mexico
David A. Armstrong, Univ of Washington
Role of Estuaries in Sustaining Coastal Fisheries: North Pacific
George Boehlert, NMFS, NOAA
Role of Estuaries in Sustaining Coastal Fisheries: South Pacific

Understanding Land-Use Change: Cutting Edge Research and Application

(Mon 9:30am–12:30pm)

Organized by Richard Haeuber, Ecol Soc of Amer

Speakers

B. L. Turner II, Clark Univ
Understanding Land-Use Change: Research at the Cutting Edge
Virginia H. Dale, ORNL
Ecological Principles and Guidelines for Managing the Use of Land
Jacqueline Geoghegan, Clark Univ
Spatially Explicit Land Use Change Models: Linking Social and Natural Sciences
David W. Hulse, Univ of Oregon
Possible Futures for the Willamette River Basin, Oregon
David M. Theobald, Colo State Univ
Effects of Land Use Change on Wildlife Habitat

LIFE SCIENCE FROM CELLS TO THE ENVIRONMENT

Towards an Integrative Biology

(Fri 9:00am–12:00noon)

Organized by Marvalee H. Wake, U.C.—Berkeley

Speakers

Jean-Claude Mounolou, Centre de Genetique Moleculaire, France
A Molecular Geneticist's Perspective on Population Biology and Evolution
Motonori Hoshi, Tokyo Inst of Tech
A Developmental Biologist's View of Individuality and Reproduction
Roy L. Caldwell, U.C.—Berkeley
Putting the Mechanism Back into Behavioral Biology
Peter M. Kareiva, Univ of Washington
What Might Save Endangered Species from Human Avarice, Ignorance, and Fecundity?
Marvalee H. Wake, U.C.—Berkeley
Evolutionary Morphology: A Dynamic Approach to Integrative Biology

Modeling Evolution

(Fri 2:30pm–5:30pm)

Organized by Richard L. Coren, Drexel Univ

Speakers

John H. Campbell, UCLA
Evolution Is a Progressive Process
Bruce H. Weber, Calif State—Fullerton
Thermodynamics and Information in Development and Evolution
Jerry L. R. Chandler, George Mason Univ
A General Systems Model of the Emergence of Complexity
Richard L. Coren, Drexel Univ
Modeling Evolution from the Big-Bang to the Digital Computer

Discussant

Niles Eldredge, Amer Museum of Nat Hist

Accelerating Crop Evolution for Greater Productivity and Better Biodiversity Conservation

(Sat 9:00am–12:00noon)

Organized by Subodh Jain, U.C.—Davis; Calvin O. Qualset, U.C.—Davis

Speakers

John F. Doebley, Univ of Minn
The Evolution of Plant Form: An Example from Maize
Susan R. McCouch, Cornell Univ
Molecular Breeding and Genetic Resources

Fredrick A. Bliss, Seminis Veg Seeds, Inc.
Enhanced Uses of Genetic Resources: A Global Perspective
Christopher C. Mundt, Oregon State Univ
Evolutionary Responses of Pathogen Populations to Host Plant Resistance
Timothy Reeves, CIMMYT, Mexico
Diversity on the Farm: A World View of New Crop Science Developments
Jared M. Diamond, UCLA Schl of Med
Evolution of Domestication

Genetics and Reproduction: From Mice to Livestock to Humans

(Sun 9:00am–12:00noon)

Organized by Max F. Rothschild, Iowa State Univ

Speakers

Jacques Cohen, Saint Barnabas Med Ctr
Genetic Diagnosis in Human Oocytes and Embryos
Carol M. Warner, Northeastern Univ
Genetic Control of Embryo Survival
Brian W. Kirkpatrick, Univ of Wisc—Madison
Genetic Control of Twinning in Cattle
Max F. Rothschild, Iowa State Univ
Evidence for Major Genes Affecting Litter Size in Pigs

Alien Invasions!: Impacts and Control of Nonindigenous Species

(Sun 2:30pm–5:30pm)

Organized by Mary C. Barber, Ecol Soc of Amer; Judith S. Weis, Rutgers Univ; Lori Hidingier, Ecol Soc of Amer

Speakers

Andrew N. Cohen, San Fran Estuary Inst
Aquatic Invasive Species: A Case Study of San Francisco Bay
Allegra Cangelosi, NE-Midwest Inst
Great Lakes Ballast Technology Demonstration Project
Thomas Fritts, USGS
Managing the Brown Tree Snake on Pacific Islands
Don C. Schmitz, Florida Dept of Envir Prot
Strangers in Paradise: Alien Species in Florida

Isi A. Siddiqui, USDA

Invasive Species Impacts on Agriculture: Science and Policy
William P. Gregg Jr., USGS
Federal Roles and Initiatives

Where Biology and Physics Meet

(Mon 9:30am–12:30pm)

Organized by Hans Frauenfelder,
 Los Alamos Natl Lab

Speakers

Ivar Giaever, Rensselaer Polytech
Cells in Tissue Culture: Monitoring Motion Electrically
Johann Deisenhofer, HHMI and Univ of Texas SW Med Ctr
Cell Respiration at the Molecular Level
Klaus Schulten, Univ of Ill–Urbana-Champaign
How Nature Harvests Sunlight
Geoffrey B. West, Los Alamos Natl Lab and Santa Fe Inst
Universal Scaling Laws in Biology

Detecting Gene-Environment Interactions

(Mon 3:00pm–6:00pm)

Organized by Françoise Seillier-Moiseiwitsch, Univ of North Carolina–Chapel Hill

Speakers

Ruth Ottman, Columbia Univ
An Epidemiologic Approach to Gene-Environment Interaction
Clarice R. Weinberg, NIEHS, NIH
New Approaches to Studying Gene by Environment Interaction
Douglas A. Bell, NIEHS, NIH
Gene-Environment Interaction in Disease: Modulation of Exposure Risk

Discussant

Muin J. Khoury, U.S. CDC
The Role of Human Genome Epidemiology (HUGE)

Homing in on the Magnetic Sense

(Mon 3:00pm–6:00pm)

Organized by Michael M. Walker, Univ of Auckland; Joseph L. Kirschvink, Caltech

Speakers

Michael M. Walker, Univ of Auckland, NZ
Behavioral Analysis of the Magnetic Sense
Robert C. Beason, SUNY–Geneseo
Magnetic Perception in Animal Navigation
Carol E. Diebel, Univ of Auckland, NZ
The Structure of Candidate Magnetite-Based Magnetoreceptors
Joseph L. Kirschvink, Caltech
Magnetite-Based Magneto Reception

MATHEMATICS AND PHYSICAL SCIENCES**Innovations in Mathematics: Historical Perspectives**

(Fri 9:00am–12:00noon)

Organized by Karen V. H. Parshall, Univ of Virginia; Joseph W. Dauben, CUNY

Speakers

Judith V. Grabiner, Pitzer Coll
Colin Maclaurin: An Old-Fashioned Innovator
Adrian C. Rice, Univ of Virginia
The Introduction of Cauchian Calculus in Mid-19th-Century Britain
Karen V. H. Parshall, Univ of Virginia
J. J. Sylvester and the Creation of a Theory of Invariants
Gregory H. Moore, McMaster Univ, Canada
Resistance and Innovation: The Emergence of Abstract Group Theory
Joseph W. Dauben, CUNY
Abraham Robinson: Innovations in Applied Mathematics Using Nonstandard Analysis
Anne Guillaume, Academic Press, United Kingdom
Mathematical Innovation and the Development of Ocean Waves Forecasting
William Aspray, Computing Rsrch Assoc
John von Neumann, the Computer, and Mathematical Innovation

The Wide World of Chemistry

(Fri 9:00am–12:00noon)

Organized by Helen M. Free, Bayer Corp; Jeffrey Aube, Univ of Kans

Moderator

Peter Beak, Univ of Ill–Urbana-Champaign

Speakers

Edel Wasserman, DuPont Co and Amer Chem Soc
Chemistry, ACS, and AAAS
Helen M. Free, Bayer Corp and Ned D. Heindel, Lehigh Univ
The International Chemistry Celebration 1999
Mary Bullock, NSF
National Science Foundation's Year of Chemistry and Chemical Engineering
Mary L. Good, Univ of Ark–Little Rock and Venture Capital Investors L.L.C.
The Importance Chemistry and Related Industries to the Global Economy
Sylvia A. Ware, Amer Chem Soc
A Global Look at Education in Chemistry
Paul S. Anderson, DuPont Pharmaceuticals Co
Drug Discovery in the Pharmaceutical Industry

Excitement in the Solar System

(Fri 2:30pm–5:30pm)

Organized by Jay M. Pasachoff, Williams Coll

Speakers

Jay M. Pasachoff, Williams Coll
Spacecraft Exploring the Solar System: An Overview
Alan M. Title, Stanford–Lockheed Inst for Space Rsrch
TRACE: The Sun in Exquisite Detail
Daniel Britt, Univ of Ariz
Photos from the IMP: Imager for Mars Pathfinder
Mike Malin,* Malin Space Sci Systems
Mars Global Surveyor

Frontiers of the Physical Sciences

(Sat 9:00am–12:00noon; 2:30pm–5:30pm)

Organized by Joost A. Businger, Univ of Washington; Dennis L. Hartmann, Univ of Washington

AM Speakers

Jack J. Lissauer, NASA, Ames Rsrch Ctr
Formation and Detection of Planetary Systems
Michael Bevis, Univ of Hawaii
Crustal Motion Geodesy

Edward S. Sarachik, Univ of Washington
Decadal Variability of the Climate System: Mechanisms and Impacts

PM Speakers

Hans Frauenfelder, Los Alamos Natl Lab
Proteins as Paradigms of Complex Systems
Fraser Stoddart, UCLA
Molecular Machines
De Witt L. Sumners, FSU
The Topology of DNA

Mount Wilson Observatory: New Realms in the Cosmos

(Sat 2:30pm–5:30pm)

Organized by Sallie Baliunas, Harvard-Smiths Ctr for Astrophys; Willie Soon, Harvard-Smiths Ctr for Astrophys

Speakers

Laird Thompson,* Univ of Ill–Urbana-Champaign
On Cosmology
Roger Ulrich, UCLA
Observed Patterns in Solar Magnetic and Velocity Fields
Harold A. McAlister, Georgia St Univ
Interferometry on Mount Wilson
Paul Butler, Anglo-Australian Observ, Australia
Stars and Planets

Discussant

Robert Jastrow, Mt Wilson Inst
New Developments at Mount Wilson

Quantum Mechanics Today

(Sun 9:00am–12:00noon)

Organized by Rolf M. Sinclair, Chevy Chase, MD

Speakers

James B. Hartle, U.C.–Santa Barbara
Quantum Mechanics and Cosmology
Wojciech H. Zurek, Los Alamos Natl Lab
Decoherence, Chaos, and the Second Law
Raymond Y. Chiao, U.C.–Berkeley
Realism or Locality: Which Should We Abandon?
H. Jeffrey Kimble, Caltech
Quantum Information and Computation

Before the Beginning

(Sun 2:30pm–5:30pm)

Organized by Owen Gingerich,
Harvard-Smiths Ctr for Astrophys;
Joel R. Primack, U.C.–Santa Cruz

Speakers

Virginia Trimble, U.C.–Irvine and
Univ of Maryland

*Triumphs of the Standard Hot
Big Bang*

Martin J. Rees, Cambridge Univ,
United Kingdom

*Before the Beginning: Our Universe
and Others*

Helge Kragh, Aarhus Univ, Denmark
*Religious Dimensions of the Steady-
State Controversy*

Joel R. Primack, U.C.–Santa Cruz
Cosmology and Culture

Robert John Russell, U.C.–Berkeley
Cosmology and Theology

**Keys to the Cosmos: The
Unification of Particle
Physics and Cosmology—
History and Prophecy**

(Mon 9:30am–12:30pm)

Organized by Silvan S. Schweber,
Brandeis Univ; Virginia Trimble,
U.C.–Irvine and Univ of Maryland

Speakers

Karl Hufbauer, U.C.–Irvine

*The History of Cosmology during
the 20th Century*

Virginia Trimble, U.C.–Irvine and
Univ of Maryland

Gaps in Standard Cosmology:

Moth Holes or Fundamental Flaws?

Andrei Linde, Stanford Univ

Inflationary Cosmology

Michael S. Turner, Univ of Chicago
and Fermi Natl Accel Lab

Inner Space from Outer Space

Discussant

David I. Kaiser, Harvard Univ
Inflationary Models

**Astrobiology: Understanding
Life in the Universe**

(Mon 3:00pm–6:00pm)

Organized by David Morrison,
NASA, Ames Rsrch Ctr; James S.
Clegg, U.C.–Davis

Speakers

David DesMarais,* NASA, Ames
Rsrch Ctr

The Co-Evolution of Life on Earth

Jonathan Trent,* Argonne Natl Lab
*Adaptation of Life to Extreme
Environments*

Jack Farmer,* Ariz State Univ
*Life on Mars: Searching for Life in
the Solar System*

Emily Holton,* NASA, Ames Rsrch
Ctr

*Expansion of Terrestrial Life Beyond
the Earth*

The Fate of the Universe

(Mon 3:00pm–6:00pm)

Organized by Wendy L. Freedman,
Observatories of the Carnegie Inst
of Washington

Speakers

Wendy L. Freedman, Observatories
of the Carnegie Inst of Washington
*Measurement of Cosmological
Parameters*

Saul Perlmutter, LBNL

*The Cosmological Parameters
from Supernova*

Andrew E. Lange, Caltech

*Cosmological Parameters from the
Cosmic Microwave Background*

Bernard Sadoulet, U.C.–Berkeley
*Deciphering the Nature of Dark
Matter*

**MEDICINE AND
PUBLIC HEALTH**

**Forever Young: Biologic
Bases of Postponement of
Aging and Death**

(Fri 9:00am–12:00noon)

Organized by Haragopal Thadepalli,
Charles R. Drew Univ of Med and
Sci, UCLA; Sudhir Gupta, U.C.–
Irvine

Speakers

Steven N. Austad, Univ of Idaho
*Cellular Aging, Telomerase, and the
Future of Human Longevity*

Ratinder S. Sohal, Southern
Methodist Univ

*Oxidative Stress and Causation
of Senescence*

Sudhir Gupta, U.C.–Irvine

Apoptosis of Lymphocytes in Aging

James F. Nelson, Univ of Texas
Health Sci Ctr–San Antonio
*Hormones, Aging, and the Potential
for Therapeutic Intervention*

Roy L. Walford, UCLA

*Calorie Restriction in Humans:
Biosphere 2 and Internet Group
Studies*

**Human Health Risks in the
Ocean**

(Fri 9:00am–12:00noon)

Organized by D. Jay Grimes,
Univ of Southern Miss; Rita R.
Colwell, NSF

Speakers

Joan B. Rose, Univ of South Florida
*Human Pathogens in Coastal Waters
Associated with Wastewater Inputs*

Robin Overstreet, Univ of Southern
Miss

*Risks Associated with Marine
Parasites*

JoAnn M. Burkholder, NCSU

*Toward a New Focus on Chronic,
Sublethal Impacts of Harmful Algal
Blooms on Human Health*

Rita R. Colwell, NSF

Cholera and Global Climate Change

D. Jay Grimes, Univ of Southern
Miss

*Towards a New Focus on Measuring
Human Health Risks in the Ocean*

**The Link between Systemic
Conditions and Disease to
Oral Disease**

(Fri 2:30pm–5:30pm)

Organized by Brian H. Clarkson,
Univ of Mich

Speakers

James D. Beck, Univ of North
Carolina

*Coronary Heart Disease: Stroke
and Oral Health*

George W. Taylor, Univ of Mich
Diabetes and Oral Health

Steven Offenbacher, Univ of North
Carolina

*Low Birth Weight Infants and
Oral Health*

Walter J. Loesche, Univ of Mich
*Dental Health Affects Medical
Health: Mechanisms and Remedies*

**The Mathematics of
Epidemics and Disease**

(Sat 9:00am–12:00noon)

Organized by Kenneth L. Cooke,
Pomona Coll

Speakers

Sally Blower, UCSF

*The Problem of Antibiotic and
Antiviral Resistance: Prediction
and Control*

Carlos Castillo-Chavez, Cornell Univ
On the Evolution of Tuberculosis

Stephen P. Ellner, NCSU

*Noise and Nonlinearity in
Epidemics: Combining Statistical
and Mechanistic Modeling*

Ramit Mehr, Princeton Univ
*Meta-Dynamics of Immune Cell
Repertoire Selection, Learning,
and Memory*

**All Creatures Weird and
Wonderful: Revolutionary
Approaches to Medical
Discovery**

(Sat 2:30pm–5:30pm)

Organized by Kerry L. Taylor,
NIH; Deborah C. Runkle, AAAS

Speakers

Deborah C. Runkle, AAAS

*Animal Models and the Animal
Rights Movement*

Craig W. Stevens, Oklahoma State
Univ

*An Amphibian Whole-Animal
Alternative for the Study of Pain*
Joram Piatigorsky, Natl Eye Inst,
NIH

*Multifunctional Proteins for Refrac-
tion in Vertebrate and Invertebrate
Eyes*

Richard Winn, Univ of Georgia
*Transgenic Fish as Models for
Mutation Analyses*

Harald Sontheimer, Univ of Ala–
Birmingham

*Scorpion Toxin as a Diagnostic
and Therapeutic Tool for Primary
Brain Tumors*

**Conversions of Health
Organizations from Nonprofits
to For-Profits: Should Anyone
Care?**

(Sun 9:00am–12:00noon)

Organized by Burton A. Weisbrod,
Northwestern Univ

Speakers

Burton A. Weisbrod, Northwestern
Univ

*Conversions of Nonprofits to For-
Profits: A Theoretic Perspective and
the Road Ahead*

David Blumenthal, Mass General
Hosp and Partners Healthcare
System, Inc.

*Conversions of Academic Health
Centers to For-Profits: Three
Case Studies*

Frank A. Sloan, Duke Univ
*Hospital Ownership Conversions:
What Is the Appropriate Role for
Government?*

Bradford H. Gray, NY Acad of Med
The Conversion Option: The Responsibilities of Trustees and Regulators

Health Care Coverage of Complementary and Alternative Medicine Therapies

(Sun 2:30pm–5:30pm)

Organized by Rebecca Klemm, Klemm Analysis Group

Speakers

James Kaple, Univ of Ariz
Issues Impacting Coverage Decisions of Alternative Medicine Therapies
Wade Aubry,* Blue Cross Blue Shield Assoc
Methods to Determine Coverage of Alternative Medicine Therapies
David Macallan, HealthBridge Res
Integration of Alternative Medicine Therapies into "Western" Patient Care
Rebecca Klemm, Klemm Analysis Group
Complementary and Alternative Medicine Therapies in the Veterans Health Administration

Mixed Environmental Hazards and Cancer: Scientific Advances

(Sun 2:30pm–5:30pm)

Organized by Elizabeth J. Kirk, AAAS; Elaine K. Gallin, SUNY

Speakers

Sandra Steingraber, Women's Comm Cancer Proj
Looking at Multiple Carcinogens from a Citizen's and Scientists Point of View
Joellen Lewtas, U.S. EPA
Biomarkers and Exposure Doses: The Case of the Czech Republic
Troyce D. Jones, ORNL
Modelling Multiple Causes of Carcinogenesis
Harri Vainio, Karolinska Inst
Interaction Effects: Causes and Prevention
Christopher Schonwalder, NIEHS, NIH
Toxicology and Epidemiology: Critical Linkages for the Future
Devra Lee Davis,* World Res Inst
Environmental and Health Policy Planning Issues

Developing Prescriptions with a Personal Touch: The Human Genome and Medications

(Mon 9:30am–12:30pm)

Organized by William E. Evans, St. Jude Children's Rsrch Hosp

Speakers

William E. Evans, St. Jude Children's Rsrch Hosp
Pharmacogenetics: Selecting Drugs and Dosages Based on Drug Metabolism Genotype
Dan M. Roden, Vanderbilt Univ Schl of Med
Individualizing Treatment Based on Genetic Subtypes of Diseases
Richard Lalonde, Parke-Davis Pharmaceutical Rsrch
Pharmacogenetics and Drug Development: Optimizing Clinical Trials
Maureen T. Cronin, Protogene Labs, Inc.
Automated Systems for Molecular Diagnosis of Pharmacogenetic Traits

NEUROBIOLOGY, BRAIN, AND BEHAVIOR

Grammar: What's Innate?

(Fri 9:00am–12:00noon)

Organized by David Pesetsky, MIT

Speakers

David Pesetsky, MIT
The Threads of Language: English is Bulgarian, Bulgarian is Okinawan
Mark C. Baker, Rutgers Univ
The Universality of Universal Grammar: Mohawk and English Evidence
Guglielmo Cinque, Univ di Venezia, Italy
The Structure of Natural Language Sentences
Joseph Aoun, USC
Binding Agreements in Human Language

Partible Paternity: Matings with Multiple Men Leading to Multiple Fathers Per Child

(Fri 2:30pm–5:30pm)

Organized by Stephen Beckerman, Penn State Univ; Paul Valentine, Univ of East London, UK

Speakers

Stephen Beckerman, Penn State Univ
The Concept of Partible Paternity among Native South Americans
Sarah Blaffer Hrdy, U.C.–Davis
The Optimal Number of "Fathers": Why Mate with Multiple Partners?
R. Robin Baker, Univ of Manchester, UK
Sperm Wars: A Study of Multiple Mating in Britain
William H. Crocker, NMNH, Smithsonian Inst
The Canela's Many "Other Fathers"
Paul Valentine, Univ of East London, UK
Exclusion of the Role of Shared Father among the Curripaco
Kristen Hawkes, Univ of Utah
Reproductive Strategies and the Evolution of the Human Family

The Nature and Etiology of Specific Language Impairment in Children

(Sat 9:00am–12:00noon)

Organized by Richard G. Schwartz, CUNY Graduate Schl; Sharon E. Moss, Amer Spch-Lang-Hearing Assoc

Speakers

Richard G. Schwartz, CUNY Graduate Schl
Perception-Production Relationships in Specific Language Impairment
Laurence B. Leonard, Purdue Univ
Specific Language Impairment from a Crosslinguistic Perspective
Mabel L. Rice, Univ of Kans
Grammatical Tense As a Marker of Specific Language Impairment
J. Bruce Tomblin, Univ of Iowa
Epidemiology and Familial Transmission of Specific Language Impairment

Cognitive, Linguistic, and Social Consequences of Early Experience: Perspectives from the NICHD Study of Early Child Care

(Sat 2:30pm–5:30pm)

Organized by Bert S. Moore, Univ of Texas–Dallas; Thomas J. Tighe, Univ of South Florida

Speakers

Cathryn L. Booth, Univ of Washington
Studying the Contexts of Early Experience in the 1990s
Margaret Tresch Owen, Univ of Texas–Dallas
Child Care and the Mother-Child Relationship
Alison Clarke-Stewart, U.C.–Irvine
How Child Care Relates to Social, Cognitive, and Language Development
Deborah Lowe Vandell, Univ of Wisc–Madison
Child-Care Policy: When Child Care Meets Recommended Standards

Discussant

Doris R. Entwisle, Johns Hopkins Univ

Perception, Illusion, and Brain

(Sun 9:00am–12:00noon)

Organized by V. S. Ramachandran, U.C.–San Diego

Speakers

V. S. Ramachandran, U.C.–San Diego
Imagery, Art, and Brain
Patrick Cavanagh, Harvard Univ
Attention: Exporting Vision to the Mind
Diana Deutsch, U.C.–San Diego
Auditory Illusions and the Brain
Tim P. Pons, Wake Forest Univ Schl of Med
Neural Plasticity in the Adult Primate Brain

Neurology of Consciousness and Self

(Sun 2:30pm–5:30pm)

Organized by V. S. Ramachandran, U.C.–San Diego

Speakers

Joseph E. Bogen, USC
An Approach to the Physiology of Consciousness
Antonio R. Damasio, Univ of Iowa
The Somatic Marker Theory
V. S. Ramachandran, U.C.–San Diego
What Neurology Tells Us About Human Nature and Body Image
Michael I. Posner, Univ of Oregon
Development of Attentional Networks for Regulating Thought, Feeling, and Behavior

Psychoanalytic and Neuroscientific Perspectives on Dreaming

(Mon 9:30am–12:30pm)

Organized by Beatrice W. Smirnow,
Amer Psychoanalytic Assoc

Speakers

Owen Renik, Amer Psychoanalytic
Assoc

*The Validity and Utility of Freud's
Conception of Dreams*

Allen R. Braun, NIDOC, NIH

*The Human Brain During Wakeful-
ness and Sleep Studied with PET*

Ramon Greenberg, Harvard Med
Schl

*On Understanding Dreaming:
An Integration of Sleep Laboratory
Studies*

Mark L. Solms, St. Bartholomew's
and Royal London Hosp, England
*Dreaming and REM Sleep Are
Controlled by Different Brain
Mechanisms*

Morton F. Reiser, Yale Univ Schl of
Med

*The Function and Meaning of
Dreams: What Dream Imagery
Reveals*

Discussant

Sheila Hafter Gray, Amer
Psychoanalytic Assoc

*The Dream: A Biopsychosocial
Phenomenon*

The Biomedical Enhancement of Cognition: Ethical, Legal, and Religious Perspectives

(Mon 3:00pm–6:00pm)

Organized by Eric T. Juengst, Case
Western Reserve Univ Schl of Med;
Peter Whitehouse, Case Western
Reserve Univ Schl of Med

Speakers TBA

SCIENCE AND SOCIETY Successful Children in Risky Environments

(Fri 9:00am–12:00noon)

Organized by Thomas J. Tighe,
Univ of South Florida; Louise S.
Tighe, Univ of South Florida

Speakers

Doris R. Entwistle, Johns Hopkins
Univ

*The Beginning of the Work
Transition: Urban Youth*

L. Alan Sroufe, Univ of Minn

*Changing the Odds: The
Development of Resilience*

Ann S. Masten, Univ of Minn
Risk, Resources, and Resilience:

*Growing Up Competent in
Hazardous Environments*

Arnold Sameroff, Univ of Mich

*Can Personal Resourcefulness
Overcome Environmental
Adversity?*

California 150 Years After the Gold Rush

(Fri 2:30pm–5:30pm)

Organized by Albert H. Teich,
AAAS; Michael M. Sokal,
Worcester Polytech

Speakers

Gray A. Brechin,* U.C.–Berkeley

*Environmental Impacts of Gold
Mining in Northern California*

Frank W. Crossman, Palo Alto, CA

*Uses of Gold in Electronics and
Other Contemporary Technology*

Roger P. Ashley, USGS

*The California Gold Rush: Its
Continuing Impact*

J. S. Holliday,* Calif Hist Soc

*Prodigal Plunder: Reverberations
on the California Gold Rush,
1850–1890's*

JoAnn Levy,* Sutter Creek, CA

Women in the Gold Rush

The Time Squeeze: Work/ Family Strategies in the Next Century

(Fri 2:30pm–5:30pm)

Organized by Phyllis Moen, Cornell
Univ

Speakers

Robert Drago, Univ of Wisc–
Milwaukee

Work and Family Time for Teachers

Susan C. Eaton, MIT

*Stretching the Boundaries: Work
and Family in Biotechnology*

Marin Clarkberg, Cornell Univ

Time in Working Couples:

Squeezes, Strategies, and Solutions

Shelley M. MacDermid, Purdue
Univ

*Workplace Policies for the Next
Century*

Discussants

John P. Robinson, Univ of Maryland

Changes in Work and Family Time

Ellen Galinsky, Families and Work
Inst

The Metropolis in the Millennium: Integrated Science and Urban Ecosystems

(Sat 2:30pm–5:30pm)

Organized by Mary C. Barber, Ecol
Soc of Amer; Mark R. Walbridge,
George Mason Univ

Speakers

Mark R. Walbridge, George Mason
Univ

*Natural Ecosystems in Urbanizing
Landscapes*

Steward T. A. Pickett, Inst of

Ecosystem Studies

Integrated Urban Ecosystem Research

William E. Rees, Univ of British
Columbia

*Are Humans Really an Urban
Species?*

Carol Carmichael, Georgia Tech

CURE for Sustainable Development

Timothy D. Hogan, Ariz State Univ

*Social Sciences Perspectives of
Urban Ecosystems*

Genetic Discoveries, the Media, and Public Anxiety

(Sun 9:00am–12:00noon;
2:30pm–5:30pm)

Organized by Audrey R. Chapman,
AAAS

AM Speakers

Charles J. Epstein, UCSF

*Human Genetics and Media
Coverage*

Theodore Friedmann, U.C.–

San Diego

*Science, the Media, and Scientific
Institutions: Bumps on the Road to
Gene Therapy*

Ted Peters, Ctr for Theol and the

Nat Sci

Cloning, Crime, and Genes

Drummond Rennie, UCSF and

JAMA

*It's Confusing, It's Scary, It's Science,
So Deal with It*

Jon Palfreman, Palfreman Film

Group

Bad News Can Make You Sick:

Communicating Uncertainty in

Genetics

PM Speakers

Douglas Levy, USA Today

The Pressure to Publicize, The

Pressure to Report

Patrick D. Hopkins, Ripon Coll

Bad Copies: How Popular Media

Represent Cloning

Margaret Wertheim, Los Angeles,
CA

Genetics, God, and the Media

John Rudolph, Portsmouth, NH

Genetics and Public Radio:

Recombining DNA and NPR

The New Strategic Philanthropist: Is Science Riding the Wave?

(Sun 9:00am–12:00noon)

Organized by Jaleh Daie, WiSTA
and Univ of Wisc–Madison;
Florence P. Haseltine, Ctr for Pop
Rsrch, NIH

Moderator

Jaleh Daie, WiSTA and Univ of
Wisc–Madison

A New Kind of Philanthropy?

Speakers

Sara Lee Schupf, Weizmann Inst

*The New Strategic Philanthropist:
Is Science Riding the Wave?*

Florence P. Haseltine, Ctr for Pop

Rsrch, NIH

*Funding: Public and Private
Differences*

Teresa Heinz,* Heinz Family

Philanthropies

SCIENCE, ENGINEERING, AND PUBLIC POLICY

UNESCO and Global Science

(Fri 9:00am–12:00noon)

Organized by Roger Dittmann,
Calif State Univ–Fullerton

Speakers

André A. Jaeglé, World Fed of Sci
Workers

Peaceful Globalization of Science

Susanna Hornig Priest, Tex A&M

Univ

Biotechnology and the Global

Marketplace: Practicing Socially

Responsible Science

Rodney W. Nichols, NY Acad of Sci

What Are the Incentives to

Maintain the Global Research

Commons?

Shreesh Juyal, Univ of Regina

The United Nations' Role in

Establishing the New World

Scientific Order

The Precautionary Principle: A Revolution in Environmental Policy-Making?

(Fri 2:30pm–5:30pm)

Organized by Steve Breyman,
Rensselaer Polytech; Edward J.
Woodhouse, Rensselaer Polytech

Speakers

Jeff Howard, Tex A&M Univ
*Extending the Wingspread Consensus
Statement on Precautionary Principle*
Steve Breyman, Rensselaer
Polytech

*The Political Economy of the
Precautionary Principle*

Ken Geiser, Univ of Mass–Lowell
*Precautionary Strategies for
Production*

Lynn R. Goldman,* U.S. EPA
*The Regulatory Impact of the
Precautionary Principle*

Joel A. Tickner, Univ of Mass–
Lowell

*Applying the Precautionary Principle
to Production Systems and Products*

How Will New Accountability Requirements Affect the Environment for Research?

(Sat 9:00am–12:00noon)

Organized by Gretchen B. Jordan,
Sandia Natl Labs

Speakers

Steve Montague, Perform Mgmt
Network Inc., Canada

*Science and Technology Measure-
ment, Management, and Reporting:
Lessons from Canada*

Patricia M. Dehmer, U.S. DOE
*Measuring Research and Research
Management: Balancing the Merits
and Perils*

Bernard R. McDonald, NSF
*The Government Performance
and Results Act: The Mathematical
Sciences' Perspective*

Mildred S. Dresselhaus, MIT
*Research and the GPRA: An
Interim Committee on Science,
Engineering, and Public Policy
Study Report*

Susan E. Cozzens, Georgia Tech
*What Works? Methods and Metrics
for Research Assessment*

Trouble at State: Discarding Science and Technology in Foreign Affairs

(Sat 9:00am–12:00noon)

Organized by Irving A. Lerch,
Amer Phys Soc; Robert L. Stern,
Washington, D.C.; Richard W.
Getzinger, AAAS

Speakers

William T. Golden, Amer Museum
of Nat Hist

*The Quest for an International
Science and Technology Policy:
Historical Overview*

Kerri-Ann Jones, OSTP
*Science & Technology & Foreign
Affairs: How Do They Fit Together?*
Mary L. Good, Univ of Ark–Little
Rock and Venture Capital Investors
L.L.C.

State of the Industrial Sector
Roland W. Schmitt, Rensselaer
Polytech

*Science Savvy in Diplomacy: Do We
Have What We Need?*

Robert A. Frosch,* Harvard Univ
*Science and Technology in Foreign
Policy: The Next Millennium*

Science Policy in the Next Millennium: Emerging Issues in Congress

(Sat 2:30pm–5:30pm)

Organized by Stephen D. Nelson,
AAAS; Joanne P. Carney, AAAS

Speakers

John E. Porter,* U.S. House of Reps
*A Congressional Perspective on
Science and Technology*

Neal Lane,* OSTP
*An Administration View on Science
and Technology in Congress*

M. R. C. Greenwood,* U.C.–Santa
Cruz

*An Academic View of Science and
Technology in Congress*

John A. Young,* Hewlett Packard
Co

*A Private Sector View of Science
and Technology in Congress*

Morton M. Kondracke,* Roll Call
*A Congress-Watcher's Perspective on
Science and Technology in Congress*

Investing in Research: Distributed Science or Elite Science?

(Sun 9:00am–12:00noon)

Organized by J. Scott Hauger,
AAAS; T. H. Lee Williams,
Oklahoma EPSCoR

Speakers

Joseph G. Danek, EPSCoR Fnd
*Investing in America's S&T Future
in the Post-Cold War World*

Horace Freeland Judson, George
Washington Univ
*A Radical Defense of a New Model
of Elitism*

Betty Ward Fletcher, Jackson
State Univ

*Research and Historically Black
Colleges and Universities*

Irwin Feller, Penn State Univ
*Distributed or Elite: Evidence from
the Growth of Research Universities*

Democratizing the Use of Science in Policy: Recent Advances

(Sun 2:30pm–5:30pm)

Organized by Eugene A. Rosa,
Washington State Univ; Thomas
Dietz, George Mason Univ

Speakers

Carlo C. Jaeger, Darmstadt Univ,
Germany and Swiss Federal Inst for
Envir Sci and Tech, Zurich

*A Tested Procedure for Public
Participation on Complex Problems*

Paul R. Kleindorfer, Univ of Penn
and **Howard Kunreuther**, Univ of
Penn

*Mitigating Disaster Losses through
Public Private Partnership Programs*

Ortwin Renn, Ctr of Tech
Assessment, Germany

*The Challenge of Interpreting
Deliberation and Expertise*

Margaret A. Shannon, SUNY–
Buffalo

*Are Bioregional Assessments
Creating Deliberative Frameworks
for Collaboration?*

Discussants

Paul C. Stern, NRC, NAS

Stephen H. Schneider, Stanford
Univ

*How Separate Are the Roles of
Citizens and Scientists?*

Integration and Synthesis As Scientific Method: Environmental Science and Philosophy

(Sun 2:30pm–5:30pm)

Organized by Laura Westra, Univ
of Windsor; Ori L. Loucks,
Miami Univ

Speakers

O. J. Reichman, Natl Ctr for Ecol
Anal and Synth

*The Role of Synthesis in Ecological
Sciences*

Orie L. Loucks, Miami Univ and
Jianguo Wu, Ariz State Univ West
*Hierarchical Losses of Ecosystem
Services Due to Pollutants in Forests*

David Pimentel, Cornell Univ

*The Impact of Non-Indigenous
Species: An Illustration of
Integrative Sciences*

Mark Sagoff, Univ of Maryland

*Theory in Ecology: A Skeptical
Perspective*

Laura Westra, Univ of Windsor
*Synthesis and Integration in Law
and Morality*

Discussant

Ernest Partridge, U.C.–Riverside

Use and Abuse of Scientific Predictions in Environmental Policy Making

(Mon 9:30am–12:30pm)

Organized by Daniel Sarewitz,
Columbia Univ; Roger Pielke, Jr.,
NCAR

Speakers

Charles Herrick, Princeton Econ
Rsrch Inc

*Predictive Modeling in a Multi-
Disciplinary Context: Acid Rain*

Daniel Metlay, U.S. Nuc Waste
Tech Rev Brd

From Tin Roof to Torn Wet Blanket

Joanne M. Nigg, Univ of Delaware

*The Issuance of Earthquake
Predictions: Scientific and Public
Policy Approaches*

Orrin H. Pilkey, Duke Univ

*Politics, Mathematical Models, and
the Erosion of Beaches*

Steve Rayner, PNNL
*Predictive Modeling and the Human
Dimensions of Global Change*

Land Use Change and Forestry in the Kyoto Protocol

(Mon 3:00pm–6:00pm)

Organized by Marina Ratchford, AAAS; Tia Nelson, The Nat Conserv

Moderator

Eileen Claussen,* Pew Ctr on Global Climate Change

Speakers

Ernst-Detlef Schulze,* Lehrstuhl Pflanzenoekologie, Germany
Global Carbon Cycle Issues Relevant to the Clean Development Mechanism

Jorge L. Sarmiento,* Princeton Univ
Key Challenges to Quantifying Carbon Stocks and Flows

Eveline Trines,* SGS United Kingdom Ltd.
Technical Challenges for Viable Land Use Change and Forestry Activities

Michael Oppenheimer,* Envir Defense Fnd
LUCF Activities' Contribution to Slowing Global Greenhouse Gas Emissions

Discussants

Joy Grant,* Prog for Belize
Dale Heydlauff,* Amer Electric Power

Melinda L. Kimble, U.S. Dept of State

Daniel Lashoff,* NRDC

SCIENCE INNOVATION

Imaging Development: From Single Cells to Complex Organisms

(Fri 9:00am–12:00noon)

Organized by Scott Fraser, Caltech

Speakers

Sean B. Carroll, Univ of Wisc and HHMI

The Art and Evolution of Animal Design

Daniel Kiehart, Duke Univ Med Ctr
Imaging Motors and Markers of Cell Shape Change for Morphogenesis

Roger Y. Tsien, U.C.–San Diego and HHMI

Imaging Protein Sociology Inside Living Cells

Scott Fraser, Caltech

Watching the Cellular Dynamics that Build Embryos

Medicine in the 21st Century: Meeting the Genomic Challenge

(Fri 9:00am–12:00noon; 2:30pm–5:30pm)

Organized by Samuel C. Silverstein, Columbia Univ; Allen W. Cowley Jr., Med Coll of Wisconsin

AM Speakers

C. Thomas Caskey, Merck & Co, Inc.
Are U.S. Medical Schools and Research Hospitals Prepared for Genetic Research?

David Mack, EOS Biotech Inc.
Impact of Chip Technology on Research and Clinical Applications of Genetics

Paul D. Clayton, Columbia Univ and NY Hosp Presbyt Med Ctr
The Electronic Medical Record: Prospects and Problems

Allen W. Cowley Jr., Med Coll of Wisconsin
Preparedness of Academic Centers for Translational Research

PM Speakers

Jerome E. Groopman, Harvard Med Schl

What Roles Should Physicians Play in Genetic Counseling?

Jordan J. Cohen, Assoc of Amer Med Colls

Cost Effective Management of Academic Medicine's Multiple Missions

Bartha Maria Knoppers, Univ of Montreal

Research and Confidentiality of Access to Medical Records

Richard P. Lifton, Yale Univ Schl of Med, HHMI

Are Physicians Prepared for the Impact of Genomics and Informatics on Medical Practice?

Barbara J. Culliton, Journal of Investigative Med
Is It Too Late to Prepare the Public for the Impact of Genomics and Informatics on Medical Practice?

Navigation: How Cells and Organisms Find Their Way

(Fri 2:30pm–5:30pm)

Organized by Melvin I. Simon, Caltech

Speakers

Melvin I. Simon, Caltech
How Bacteria Navigate in Time

Marianne Bronner-Fraser, Caltech
Riding the Crest: On the Guidance of Neural Crest Migration
Corey S. Goodman, U.C.–Berkeley
How Neurons Find Their Targets
Masakazu Konishi, Caltech
How the Owl Tracks Its Prey

Confronting the Transplantation Crisis: Tissue Engineering of Vital Organs

(Sat 9:00am–12:00noon)

Organized by Robert M. Nerem, Georgia Tech; Buddy Ratner, Univ of Washington

Speakers

Joseph Vacanti,* Children's Hosp and Harvard Med Schl

The Crisis in Transplantation
Linda Griffith,* MIT

Translating Control of Cell Behavior into Materials Design

Robert M. Nerem, Georgia Tech
Core Technologies for Tissue Engineering

Barry A. Solomon,* Circe Biomedical Inc.
Development of the HepatAssist® Extracorporeal Liver Support System

Michael V. Sefton, Univ of Toronto
The LIFE Initiative: A Multi-Center Collaboration to Address the Vital Organ Shortage

Michael V. Sefton, Univ of Toronto
The LIFE Initiative: A Multi-Center Collaboration to Address the Vital Organ Shortage

Ultracold Atoms

(Sat 2:30pm–5:30pm)

Organized by Michael D. Crisp, U.S. DOE

Speakers

Steven Rolston, NIST
An Overview of Laser Cooling

David E. Pritchard, MIT
Atom Interferometry

David S. Hall, Univ of Colo
Bose Einstein Condensation

Daniel J. Heinzen, Univ of Texas–Austin

How Atomic Collisions Affect a Bose-Einstein Condensate

John J. Bollinger, NIST
Coulomb Crystals of Laser-Cooled Ions in a Penning Trap

Windows on the Mind

(Sun 9:00am–12:00noon)

Organized by John W. Bellow, Mass General Hosp

Speakers

Steven A. Hillyard, U.C.–San Diego
Neuroimaging Studies of Selective Attention Mechanisms

Marcus E. Raichle, Washington Univ Schl of Med
Human Language: Seeing How We Speak

John C. Mazziotta, UCLA Schl of Med

21st Century Medicine: Neuroimaging Tools for Non-Invasive Diagnosis

John W. Bellow, Mass General Hosp
Movies of the Mind

Brain-Immune Connections: From Popular Myth to Hard Science

(Sun 2:30pm–5:30pm)

Organized by Esther M. Sternberg, NIMH, NIH

Speakers

Esther M. Sternberg, NIMH, NIH
Brain-Immune Interactions in Health and Disease

Julio Licinio, NIMH, NIH
Molecular Pathways for Cytokine-Brain Communications

Paul E. Sawchenko, Salk Inst for Bio Studies

Neuronal Pathways for Cytokine-Brain Communication

Iain L. Campbell, Scripps Rsrch Inst

Chronic Brain Cytokine Expression: Transgenic Models, Neurodegenerative Diseases, and Behavior

Michal Schwartz, The Weizmann Inst of Sci, Israel

Inflammation Is Beneficial for Neuronal Regrowth Following Nerve Injury: Mechanisms and Clinical Implications

Michal Schwartz, The Weizmann Inst of Sci, Israel

Inflammation Is Beneficial for Neuronal Regrowth Following Nerve Injury: Mechanisms and Clinical Implications

Chemistry on the Edge: Interfaces with Biology, Materials, and Chips

(Mon 9:30am–12:30pm)

Organized by Michael E. Garst, Allergan, Inc.; Kenneth J. Shea, U.C.–Irvine

Speakers

Michael E. Garst, Allergan, Inc.
Drug Discovery in the Genome Age: Promises of Medicinal Chemistry

Murray Goodman, U.C.–San Diego
An Interdisciplinary Approach to Discover Peptide and Peptidometric Bioactive Molecules

Kenneth J. Shea, U.C.–Irvine
Polyethylene the Hard Way: One Carbon at a Time
James P. O'Connell, Nanogen Inc.
Integrating Molecular Biology and Microelectronics: Microelectronic Chips for DNA Analysis

Diet, Estrogens, Pregnancy, and Breast Cancer: A Complex Controversy
(Mon 9:30am–12:30pm)

Organized by Claude Hughes,
Cedars Sinai Med Ctr

Speakers

John F. Couse, NIEHS, NIH
Use of the Estrogen-Receptor Knock-out Mouse in Carcinogenesis Studies
Barbara E. Richardson, Texas A&M Hlth Sci Ctr
Alpha-Fetoprotein in Pregnancy and Breast Cancer Risk

J. Mark Cline, Wake Forest Univ Schl of Med
Diet and Estrogens: Phytochemicals and Breast Cancer Risk
Emily DeVoto, Univ of North Carolina
Diet and Estrogens: Organochlorines and Breast Cancer Risk
Claude Hughes, Cedars Sinai Med Ctr
What Do We Know?: A Complex Challenge

Neural Transplantation in Development and Disease
(Mon 3:00pm–6:00pm)

Organized by Thomas J. Tighe,
Univ of South Florida; Paul R. Sanberg, Univ of South Florida

Speakers

Paul R. Sanberg, Univ of South Florida
Novel Cell Types from Biotechnology for Transplantation and Reconstruction in Brain

Evan Y. Snyder, Harvard Med Schl and Children's Hosp, Boston
Neural Stem Cells: Developmental Insights Suggest Novel CNS Therapeutic Strategies
Mark H. Tuszynski, U.C.–San Diego
Growth Factor Gene Therapy for Nervous System Disease
Oleg V. Kopyov, Good Samaritan Hosp
Functional MRI Proves That Transplanted Brain Tissue Controls Hand Movements in Parkinson's Patients

Special 1999 Meeting Events

...just a sampling of the many special events planned. Watch our web site for more details...

January 21

- Public Science Day (by invitation) *Funded by Unisys*
- San Andreas Fault Field Trip
- Student Science Displays featuring local school science projects and posters by high school students representing the American Junior Academy of Science (AJAS)

January 22

- NPR's *Talk of the Nation—Science Friday* broadcast
- AJAS oral presentations
- Exhibit Hall Grand Opening Reception
- Annals of Improbable Research presentation

January 23

- AAAS Fellows Forum
- AAAS Awards Ceremony
- 1999 General Poster Sessions
- 1999 Student Poster Award Competition
- AAAS President's Reception

January 24

- Evening Concert: *Presenting New Musical Instruments*

January 25

- Forum for School Science Poster Session and Reception

Plus...

- Visit Disneyland while at the meeting!
Discounted half-day, full-day, or multi-day passes will be available for purchase at the meeting.

(These discount passes only valid for admission January 20–22 & 24–27. Not valid January 23.)

Earthquakes and the San Andreas Fault

FIELD TRIP

Thursday, January 21, 1999
7:30am–5:30pm

This day-long field trip will visit sites along the San Andreas fault including current research sites to see how movement of the fault has deformed the local geology over its 10 million years of activity. The trip will conclude with a tour of the Caltech Seismological Laboratory. Led by geologists and seismologists from the Southern California Earthquake Center and the U.S. Geological Survey. Transportation and lunch are included.

\$30 members/\$40 nonmembers.

For details and registration see the AAAS Meeting web site
www.aaas.org/meetings/scope
or call 202-326-6450.

Sponsored by the IRIS Consortium, the Southern California Earthquake Center, and the U.S. Geological Survey.

Space is limited!
Register for this trip early!

1. Registrant Information (Please type or print clearly)

First Name _____ Last Name _____

Institution _____

Address _____

City _____ State _____ Zip _____ Country _____

Daytime Phone (_____) _____ Fax (_____) _____ E-mail Address _____

☐ Check here if you have special needs due to a disability; AAAS will contact you.

SCI

2. Demographic Information

A. What is your PRIMARY discipline? (check only one):

- | | | |
|--|--------------------------------------|---|
| <input type="checkbox"/> Life Sciences | <input type="checkbox"/> Engineering | <input type="checkbox"/> Mathematics |
| <input type="checkbox"/> Chemistry | <input type="checkbox"/> Medical | <input type="checkbox"/> Physics/Astronomy |
| <input type="checkbox"/> Earth Sciences | <input type="checkbox"/> Statistics | <input type="checkbox"/> Social/Behavioral Sciences |
| <input type="checkbox"/> Computer Sciences | <input type="checkbox"/> Other _____ | |

B. In which sector do you work? (check only one):

- | | |
|--|--|
| <input type="checkbox"/> Industry/Business | <input type="checkbox"/> Industry Consulting |
| <input type="checkbox"/> University/College | <input type="checkbox"/> Health Care |
| <input type="checkbox"/> Government | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Non-Profit Organization | |

C. Are you involved in purchasing decisions at work? ☐ Yes ☐ No

3. Advance Registration Fees (Please check only one)

A. Passport: Unlimited access to all symposia, seminars, Science Innovation, career workshops, and exhibition.

	AAAS Member ¹	Non-Member
Regular	<input type="checkbox"/> \$245	<input type="checkbox"/> \$295
Student ¹	<input type="checkbox"/> \$120	<input type="checkbox"/> \$140
Postdoc ¹	<input type="checkbox"/> \$190	<input type="checkbox"/> \$220
K-12 Teacher ¹	<input type="checkbox"/> \$190	<input type="checkbox"/> \$220
Retired ¹	<input type="checkbox"/> \$190	<input type="checkbox"/> \$220

Please indicate any seminar(s) you plan to attend:

- ☐ Genome Seminar ☐ Forum for School Science

B. General Meeting: Access to all symposia, career workshops and exhibition. (Does not include seminars or Science Innovation.)

Regular	<input type="checkbox"/> \$210	<input type="checkbox"/> \$258
Student ¹	<input type="checkbox"/> \$ 38	<input type="checkbox"/> \$ 60
Postdoc ¹	<input type="checkbox"/> \$137	<input type="checkbox"/> \$170
K-12 Teacher ¹	<input type="checkbox"/> \$137	<input type="checkbox"/> \$170
Retired ¹	<input type="checkbox"/> \$137	<input type="checkbox"/> \$170

C. Seminar Only: Access to the specified seminar, plus career workshops and exhibition.

Genome Seminar	<input type="checkbox"/> \$150	<input type="checkbox"/> \$200
Forum for School Science	<input type="checkbox"/> \$150	<input type="checkbox"/> \$200

D. One Day Only: Unlimited access for one day only.

(Note: Mon/Tue counts as one day.)

All Registrants	<input type="checkbox"/> \$118	<input type="checkbox"/> \$158
-----------------	--------------------------------	--------------------------------

Please specify day:

- ☐ Fri ☐ Sat ☐ Sun ☐ Mon/Tue

E. Career Development Program Only:

Access to career workshops and exhibition.

All Registrants	<input type="checkbox"/> \$10	<input type="checkbox"/> \$25
-----------------	-------------------------------	-------------------------------

F. Exhibition Only:

All Registrants	<input type="checkbox"/> \$0	<input type="checkbox"/> \$25
-----------------	------------------------------	-------------------------------

4. Member/Special Rate Verification¹

To qualify for AAAS Member rate, indicate: AAAS Member Number (8-digits on your membership card or *Science* label) _____

To qualify for student rate, indicate: Expected year of graduation _____
Institution _____

To qualify for postdoc or K-12 teacher rate, indicate:

Institution _____

Chair or Principal's name _____

To qualify for retired rate, indicate: Retirement Year _____ Birth year _____

5. AAAS Membership Dues² (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. You will also get a year's subscription (51 issues) to the journal *Science* at the 1998 rate.

Category	USA	Canada	International
Regular	<input type="checkbox"/> \$108	<input type="checkbox"/> \$174.41	<input type="checkbox"/> \$198
Student	<input type="checkbox"/> \$ 60	<input type="checkbox"/> \$123.05	<input type="checkbox"/> \$150
Postdoc	<input type="checkbox"/> \$ 85	<input type="checkbox"/> \$149.80	<input type="checkbox"/> \$175
K-12 Teacher	<input type="checkbox"/> \$ 85	<input type="checkbox"/> \$149.80	<input type="checkbox"/> \$175
Retired	<input type="checkbox"/> \$ 70	<input type="checkbox"/> \$133.75	<input type="checkbox"/> \$160

6. Payment Total³

Please add the amounts from the box(es) you checked in sections 3 and 5 and write in the total amount due below:

TOTAL AMOUNT ENCLOSED \$ _____

☐ Check Enclosed^{4,5} ☐ Original Purchase Order Enclosed

Credit Card: ☐ VISA ☐ MasterCard ☐ American Express

(No other cards accepted)

Credit Card Number _____

Expiration Date _____ Signature _____

7. How to Register

Do NOT mail hard copy if you register via fax or phone

Fax: (credit card payment only) Fax this form to 202-289-4021

Phone: (credit card payment only) Call 202-326-6450

Mail: Send this form to: AAAS
Meetings Department
PO Box 630285
Baltimore, MD 21263

Web: Use the online registration form at www.aaas.org/meetings/scope

Important Notes:

- (1) Members, students, postdocs, K-12 teachers, and retirees must complete the verification information in section 4 to qualify for the special registration rates.
- (2) Membership dues indicated herein are the 1998 rates, which are guaranteed through January 26, 1999 for those registering for the annual meeting. \$60 of dues plus international postage are allocated to *Science*. Please allow up to four weeks for receipt of your first issue. Canadian rates include GST #125488122.
- (3) Cancellations must be received in writing by December 21, 1998. No refunds will be made for cancellations received after this date. Refunds are subject to a \$25 processing fee and will be issued after the meeting.
- (4) Checks must be in United States currency and be payable on a United States bank.
- (5) Make checks payable to "AAAS."



AMERICAN ASSOCIATION FOR THE
ADVANCEMENT OF SCIENCE

**1999 AAAS Annual Meeting
and Science Innovation Exposition**
January 21–26, 1999 • Anaheim, California

Hotel Reservation Form

Deadline: November 20, 1998

Instructions: To receive the discounted hotel rates, you must submit your reservation request to the Anaheim Housing Bureau via this form or online at www.aaas.org/meetings/scope. Within two weeks of receipt, the Bureau will mail you an acknowledgment of your assigned hotel. That hotel will then send you a confirmation of the requested room type. Your reservation must be received by November 20, 1998. After this date, hotel rooms and discounted rates may not be available. Please complete all sections below. If not legible, this form will not be processed.

1. Registrant Information (Please use a separate sheet for each room requested. You may copy this form.)

First Name _____ Middle Initial _____ Last Name _____
Institution _____
Address _____
City _____ State _____ Zip _____ Country _____
Daytime Phone (_____) _____ Fax (_____) _____ E-mail Address _____

2. Arrival/Departure

Arrival Date: _____ Arrival Time: _____ Departure Date: _____ Departure Time: _____

3. Room Accommodations

- ☐ Single (1 person, 1 bed) ☐ Triple (3 persons, 2 beds)
☐ Double (2 persons, 1 bed) ☐ Quad (4 persons, 2 beds)
☐ Double (2 persons, 2 beds)

Special Request:

- ☐ Wheelchair accessible room
☐ Non-smoking room
☐ Other (please specify) _____

4. Hotel Preference

(Hilton and Marriott are co-headquarters for the 1999 AAAS meeting. Please write the numbers 1 through 4 in the spaces below, where 1 is your first choice, 2 is your second choice, etc.)

Anaheim Hilton and Towers

- _____ Standard (\$139 single; \$169 double; \$30 each additional person)
_____ Lanai* (\$149 single; \$179 double; \$30 each additional person)
_____ Towers** (\$169 single; \$199 double; \$30 each additional person)

Anaheim Marriott Hotel

- _____ Standard (\$136 single; \$156 double; \$20 each additional person)
Room rates are per night and subject to a 15% sales and room tax.

* Lanai rooms feature a sliding glass door for direct access to the pool and gardens.

** Tower rooms feature daily continental breakfast and evening hors d'oeuvres, in-room fax machine, bathrobes, and bottled water.

List full name of each additional room occupant:

- 1 _____
2 _____
3 _____

5. Method of Payment

A deposit equal to one night's room rate plus tax is required for each reservation. Deposit can be made by credit card or check. If paying your deposit by credit card, complete the information below. Your credit card will be billed immediately. If paying deposit by check, make check payable to the *Anaheim Housing Bureau*.

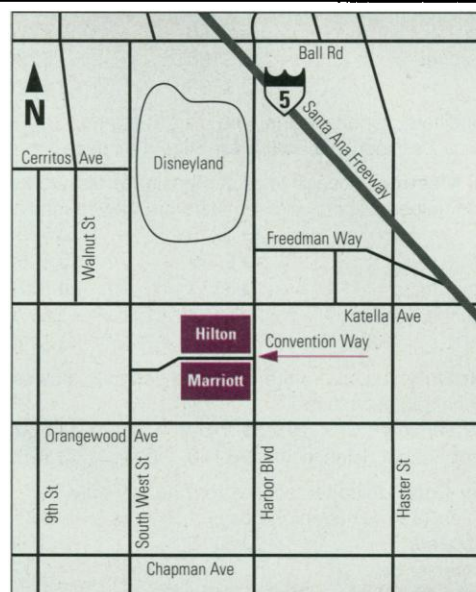
- ☐ Visa ☐ MasterCard ☐ American Express ☐ Discover
☐ Diners Club ☐ Check Enclosed

Credit card number _____

Expiration date _____

Clearly print name of card holder _____

Signature of card holder _____



6. Mailing Instructions

Complete and submit this reservation form to the Anaheim Housing Bureau by fax or mail. Do **NOT** mail this form to the hotel or to AAAS. The Anaheim Housing Bureau does not accept telephone reservations. For information only, call 714-765-8868.

FAX: 714-776-2688 (credit card deposits only)

MAIL: AAAS Housing
c/o Anaheim Housing Bureau
PO Box 4270
Anaheim, CA 92803

Reservations must be received by November 20, 1998.

If submitting by mail, please postmark by November 13, 1998.



AMERICAN ASSOCIATION FOR THE
ADVANCEMENT OF SCIENCE

Prior to December 29th, any changes or cancellations must be made through the Anaheim Housing Bureau. After December 29th, you must contact your hotel directly. Cancellations must be received by your hotel no later than 7 days prior to arrival to ensure refund. Fees may be imposed for early departures.

Exhibitors

For more information, see page S2
www.aaas.org/meetings/scope

Bold indicates sponsorship.

EXHIBITORS AT-A-GLANCE

Academia Book Exhibits

Academic Press

American Chemical Society,
Office of Public Outreach

American Speech-Language-
Hearing Association

Association of American
University Presses

Brock Optical Inc.

Cricket Magazine Group

Department of Defense
SBIR/STTR Programs

Design Science, Inc.

Dorling Kindersley Family
Learning

Ecumenical Roundtable

Foundation for Genetic
Medicine, Inc.

France Edition

The Free Press/Simon and
Schuster

W.H. Freeman and Company

Harbor Branch Oceanographic
Institution

Harvard University Press

Howard Hughes Medical
Institute

Hubble Space Telescope Project

Institute for Scientific
Information (ISI)

International Space Station

Island Press

Mount Wilson Observatory

National Collegiate Inventors
and Innovators Alliance
(NCIIA)

National Institute of Dental
Research

National Library of Medicine

**National Science & Technology
Medals Foundation**

National Science Foundation

Nature America, Inc.

National Oceanic and
Atmospheric Administration
(NOAA)

Office of Naval Research

Optronics Engineering

Subaru of America, Inc.

Opportunities Available!

Does your organization have a Marketing, Education, or Outreach Department that wants to reach science and engineering professionals of all disciplines?

Let them know the **1999 AAAS Annual Meeting and Science Innovation Exposition** is a great place to do just that!

There are several ways to get a message or image in front of those who attend the meeting.

- ◆ Exhibit Hall Booths
- ◆ Meeting Sponsorships
- ◆ Exhibitor Workshops
- ◆ Advertising in the 1999 Program/Abstract Book

Many opportunities still remain! For more information and a prospectus contact:

Ryan Strowger, AAAS Exhibit Sales Manager

Phone: 202-326-6736

E-Mail: rstrowge@aaas.org

For details about these opportunities visit
www.aaas.org/meetings/scope



DISCOUNT CAR RENTALS

AAAS has negotiated special discounts on car rentals for attendees of the AAAS Annual Meeting. Dollar Rent A Car is pleased to provide the following rates available from January 14–February 2, 1999 at Los Angeles International Airport, John Wayne/Orange County Airport, and the Anaheim Hilton and Towers:

- *Economy Car*
\$26/day \$143/wk
- *Compact Car*
\$28/day \$154/wk
- *Intermediate Car*
\$30/day \$165/wk
- *Standard Car*
\$34/day \$187/wk

- *Premium Car*
\$39.99/day \$219.95/wk
- *Luxury Car*
\$49.99/day \$274.95/wk
- *Minivan*
\$39.99/day \$279.95/wk

These rates include unlimited mileage and 24-hour emergency roadside assistance. There is no extra fee for an additional driver or for renters 21–24 years of age. Rates do not include taxes, surcharges, fuel, or optional coverages.

DOLLAR MAKES SENSE® for AAAS members. Call your professional travel agent or Dollar at 800-800-4000 or visit their website at www.dollar.com. You must mention CD#AA1115 when making reservations.

General Information

1999 AAAS MEETING LOCATION

Anaheim Hilton and Towers

777 Convention Way
Anaheim, California 92802
Site of: Concurrent Sessions,
Topical Lectures, Science
Innovation, Genome Seminar,
1999 Exhibition, Meeting
Registration, and Resource Room
for Disabled Registrants.

Anaheim Marriott Hotel

700-West Convention Way
Anaheim, California 92802
Site of: Concurrent Sessions,
Topical Lectures, Forum for School
Science, Poster Sessions, Career
Fair, and Career Development
Workshops.

*The Anaheim Hilton and the
Anaheim Marriott are co-
headquarters for the 1999 meeting.
The hotels are located directly across
the street from one another.*

ON-SITE REGISTRATION

Registration for the 1999 AAAS
Meeting will be located on the
Ballroom level of the Hilton.

Hours are as follows:

Thursday, January 21
2:00pm–7:00pm
Friday, January 22
7:00am–7:00pm
Saturday–Monday, January 23–25
7:30am–5:00pm
Tuesday, January 26
7:30am–12:00noon

EXHIBITION

The 1999 AAAS Meeting
Exhibition will be located in the
Hilton's California Pavillion.

Hours are as follows:

Friday, January 22
4:00pm–6:30pm
Saturday–Sunday, January 23–24
10:00am–3:00pm
Monday, January 25
9:00am–2:00pm

INTERNET ACCESS CENTER

The Internet Access Center,
located in the AAAS Exhibit Hall,
will be open during exhibition
hours. Multiple stations will be
available where attendees can check
e-mail or surf the web.

LOCAL TRANSPORTATION

Airport Taxi: Taxi fare is
approximately \$65 from Los
Angeles International Airport
(LAX) and \$29 from John
Wayne/Orange County Airport.

SuperShuttle: SuperShuttle of
Orange County operates a shuttle
service to each of the official 1999
AAAS Meeting hotels. One-way
rate is \$13 per person to/from
the Los Angeles International
Airport (LAX), and \$10 per person
to/from John Wayne/Orange
County Airport. Advance
reservations are recommended;
for more information contact
SuperShuttle at 714-517-6600.

The Airport Bus: The Airport Bus
operates a shuttle service to each of
the official 1999 AAAS Meeting
hotels. One-way rate is \$14 per
person to/from Los Angeles
International Airport (LAX), and
\$10 per person to/from John
Wayne/Orange County Airport.
Reservations are not required; for
more information contact The
Airport Bus at 1-800-772-5299.

Parking: Both the Hilton and the
Marriott have on-site parking.
Parking rates for hotel guests range
from \$6 to \$9 per day.

Register Now!
See Pages
21–22

Rental Cars: See page 23 for
special discount car rental
information.

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 conference facilities as
needed. In addition, a resource
room for people with disabilities will
be available in the La Jolla Room at
the Anaheim Hilton. *Please make
sure to check the special needs box on
the meeting registration form.*

DISCOUNT AIR TRAVEL

**Save up to 15% on airfares to Anaheim. The following official
airlines are offering special discounts on travel to and from the
AAAS Annual Meeting in Anaheim:**

American Airlines

Save with special domestic zone fares (2-night stay minimum, no
Saturday night requirement), or save 5% off the lowest applicable
domestic coach fares, or save 10% off unrestricted (Y26) coach fares.
Buy your ticket at least 60 days in advance, and the savings increase to 5%
off the already-low domestic zone fares, 10% off the lowest applicable
domestic coach fares, or 15% off unrestricted (Y26) coach fares.

Discounts are good for travel to and from Los Angeles-area airports
(including Los Angeles International, John Wayne/Orange County,
Long Beach, Burbank, and Ontario) during January 16 to 31, 1999.
Seats are limited and some restrictions may apply.

For details and to make reservations, you or your travel agent should
call 1-800-433-1790 and give the agent the following Starfile
number: 9019UD.

Delta Air Lines

Save with special zone fares for travel from the continental U.S.,
Hawaii, Alaska, Canada, and Mexico (2-night stay minimum, no
Saturday night requirement, 7 days advance ticketing), or save 5%
off the lowest published domestic coach fares, or save 10% off
unrestricted coach fares.

Buy your ticket at least 60 days in advance and the savings increase
to 10% off the lowest published domestic coach fares or 15% off
unrestricted coach fares.

Discounts are good for travel to and from Los Angeles International
Airport, John Wayne/Orange County Airport, or Ontario Airport
during January 18 to 29, 1999. Seats are limited and some
restrictions may apply.

**For details and to make reservations call 1-800-241-6760 and
refer to File Number 117317A.**

Audiotapes of recent AAAS Meetings still available!

Couldn't make it to all the sessions you wanted to attend at the last AAAS meeting? Get the audiotape!

Tapes of almost all symposia, seminars, and plenary and topical lectures are available for the

1996 Baltimore meeting
1997 Seattle meeting
1998 Philadelphia meeting

Hear from speakers such as

- Jane Lubchenco
- Bill Gates
- Harold Varmus
- Rita Colwell
- Robert Gallo
- Alvin Toffler
- Plus more than 2,400 speakers in over 400 sessions!

To order:

AVEN

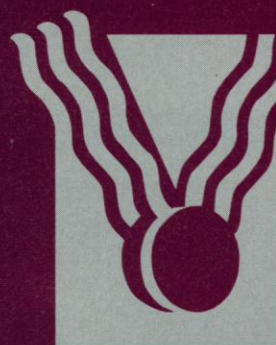
10532 Greenwood Avenue North
Seattle, WA 98133

Phone: 1-800-810-TAPE or 206-440-7989

Fax: 206-440-7990

Web: www.aven.com

AAAS is pleased to recognize the National Science and Technology Medals Foundation as a Sponsor of the 1999 AAAS Annual Meeting and Science Innovation Exposition



The
**NATIONAL
SCIENCE &
TECHNOLOGY
MEDALS
FOUNDATION**

*Serving the science & technology communities
so they can provide a better tomorrow.*

Science Career Fair

Tuesday, January 26 • 11:00am–4:00pm
Anaheim Marriott Hotel

The AAAS *Science* Career Fair is **FREE** to all candidates!

Plan to be there!

Employers will be on-site in Anaheim to talk with you about job opportunities in the biotechnology and pharmaceutical industries

Bring multiple copies of your resume and visit as many employers as you wish

On-site Career Development Workshops conducted by top science career development professionals (workshops are \$10, AAAS Member /\$25, Non-Member)

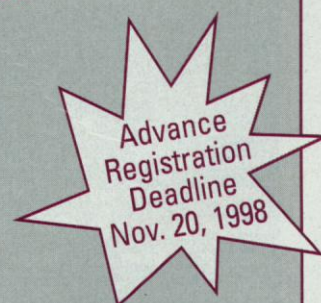
Employers: For information about recruiting at the AAAS *Science* Career Fair call 202-326-6534.

Sponsored by AAAS and *Science* Magazine

Join AAAS!

***Become a member of
AAAS and SAVE!***

- By joining AAAS now you may take advantage of special Advance Registration rates which **save** you over **\$50**.



***Deadline: Nov. 20, 1998
for Advance Registration rates***

ORIGIN

Data Analysis and Technical Graphics

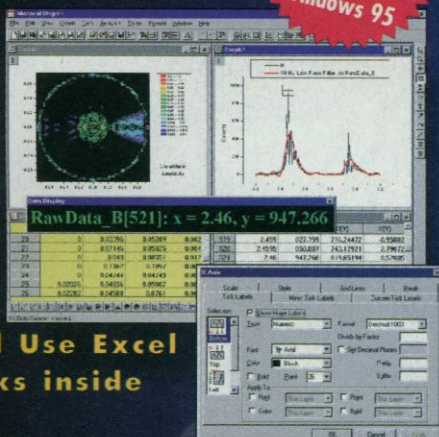
NEW!
32-bit version
Windows NT 4.0
Windows 95

● **Easy To Use!**

● **High-Performance!**

● **Unparalleled Speed!**

● **Flexible and Reliable!**



Open and Use Excel Workbooks inside Origin

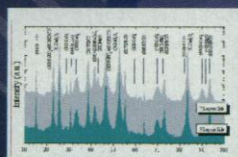
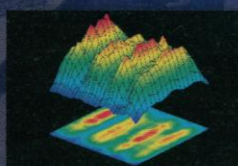
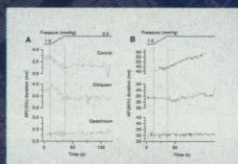
Use Origin's data analysis capabilities to perform analysis directly on your Excel data, and Origin's graphing power to create graphs right from your Excel worksheets. You can even drag and drop data from Excel to instantly create an Origin graph. Excel workbooks can be saved as part of the Origin project or as a link.

Origin Works With Your Data

Import a broad range of file types, from ASCII data to Mathematica® matrices. Import data from LabTech™, LabView™, TestPoint™, and other acquisition software. Customize your own routine for any ASCII or binary file.

An Analysis Tool for Every Task

Origin includes a rich set of the essential data analysis tools you need - all intuitively designed for your ease of use. Select from linear or nonlinear curve fitting, FFT, frequency-domain digital filtering, baseline and peak analysis, summary statistics, ANOVA, algebraic transformations, calculus, smoothing, or other tools to analyze your data.



"...Origin's stronger mathematical underpinnings and powerful scripting language will make it the preferred choice for many technical users."

Dr. Barry Simon, Ph. D.
PC Magazine,
January 20, 1998

Microcal

Download our demo at www.microcal.com
or Call 1-800-969-7720 for a FREE demo CD!

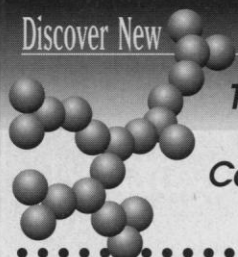


Microcal Software, Inc. One Roundhouse Plaza Northampton, MA 01060 USA
TEL: 413-586-2013 FAX: 413-586-0126 EMAIL: info@microcal.com

Origin is a trademark of Microcal. All other brand and product names are trademarks of their respective owners. NSTL makes no recommendation or endorsement of any product.

Circle No. 37 on Readers' Service Card

Discover New Effective Drugs For Human Cancer



**The Most Direct Route
to the Clinic for your
Candidate Cancer Drug
is via MetaMouse®**

- Small molecule, protein & gene drug evaluation/development.
- The *only* clinically relevant mouse model of cancer.
- Same-organ human tumor transplantation to nudes or SCIDs.
- Evaluate *real* human tumors for response.
- Metastasis/Angiogenesis/Apoptosis/Growth/Invasion.
- Contract drug evaluation on all tumor models available or ship.

Examples of MetaMouse drug-discovery/development "HITS"

An, Z. et al. Clinical and Experimental Metastasis, 15, 184-195, 1997.

An, Z. et al. Anticancer Research, 16, 2546-2552, 1996.

Wang, X. et al. Cancer Research, 54, 4726-28, 1994.

Holzman, D. Journal of the National Cancer Institute 88, 396-397, 1996.

Hoffman, R., J. Cellular biochem, 56, 1-4, 1994.

META MOUSE®

"The gold standard" in cancer drug discovery/development

US Patent 5,491,284 and 5,569,612

Tel-(800) 511-2555 • Tel-(619) 654-2555 • Fax-(619) 268-4175 • E-Mail: alla@anticancer.com
USA/Canada <http://www.anticancer.com>

7917 Ostrow Street **ANTICANCER INCORPORATED** San Diego, CA 92111, USA

Circle No. 15 on Readers' Service Card

NEW!

pronto

like greased lightning

lickity-split

There's only one way to say it...

Now order FREE product literature instantly on the Internet with Science's Literature Library. If you're looking for the latest catalogs, product brochures, or technical application sheets, you'll find them all here. Best of all, you can request information directly from the world's leading life science suppliers with the Literature Library's e-mail order form.



**Science's
Literature Library**
www.scienceonline.org

Click on E-Marketplace.

YOUR RESEARCH

Get Power and Sensitivity Without PCR

Now you can detect low- or single-copy targets using in situ hybridization, without the need for in situ PCR. With NEN's powerful TSA™ technology, you'll get spectacular sensitivity, excellent resolution and low background. It's simple to use with your choice of chromogenic or fluorescent detection systems. Even multi-analyte detection is easy using several of the available TSA fluorophores.

TSA — flexible, simple and sensitive.

Add power to Your Research. To learn more about TSA for ISH or immunohistochemistry, call now or visit our website at www.nenlifesci.com



World Headquarters:
NEN™ Life Science Products, Inc.
Boston, MA 02118-2512 USA
800-551-2121

European Headquarters:
NEN Life Science Products
B-1930 Zaventem
+32 2 717 7924

© 1998 NEN™ Life Science Products, Inc.

TSA is protected by U.S. patents 5,731,158; 5,583,001; and 5,196,306 and foreign equivalents.

PCR is covered by patents owned by Roche Molecular Systems, Inc. and F. Hoffman-LaRoche, Ltd.

Circle No. 54 on Readers' Service Card

TSA™ for ISH

*Detection of integrated
HPV in SiHa cells
(low copy/cell)
with TSA-Direct,
Cyanine 3 Tyramide.*



VERSATILITY AT EVERY TURN.

Get 3 centrifuges in 1 with the SORVALL® SUPER T 21 Benchtop Superspeed.

Only the SORVALL® SUPER T 21 offers three centrifuges in a single system to meet all your personal centrifugation needs. It's a benchtop superspeed with the capacity, g-force and performance of a floor model; it's a refrigerated microcentrifuge; and it's a high-capacity lowspeed tabletop.

The SUPER T 21 accommodates an array of high-performance rotors that allow you to spin a wide variety of tubes, bottles and even microwell plates. Spin from low speeds up to 21,000 rpm and in capacities up to 3 Liters.

And not only is the SUPER T 21 simple to operate, it has a compact, durable design. It will fit easily on a benchtop right in your lab. These features, combined with its overall versatility and a capacity you'll never outgrow, make the SUPER T 21 the perfect personal centrifuge for both research and clinical applications.

For more information about the SUPER T 21, call 1-800-522-SPIN. In Europe, call 44 (1438) 34 29 00 or Fax to 44 (1438) 34 29 25. Or call your local SORVALL® representative.



SORVALL®
CENTRIFUGES

The best centrifuges going around.

Visit our web site at <http://www.sorvall.com>

Circle No. 36 on Readers' Service Card

NEW PRODUCTS

CRYOSECTIONING DIAMOND KNIVES

The Diatome Cryo Family includes a diamond trimming tool, low temperature diamond knife, and anti-static device that, used together, can achieve excellent ribbons of cryosections. The trimming tool allows the user to precisely trim a specimen to an exacting symmetry. The ionizer eliminates electrostatic charging in the cryo chamber and prevents the sections from sticking to the knife edge, curling, bunching up on each other, or flying away. The diamond knife cuts ultra-thin sections without compression, chatter, or knife marks.

Diatome

For more information call 215-646-1478 or **circle 141** on the Reader Service Card

ACCESSORY FOR MULTIPLE MICROSCOPE VIEWING

A variety of accessories for two or more people to view the same microscope image simultaneously are available for the Leica DM LS and DM LB laboratory microscopes. Dual-view bridges are available for either face-to-face or side-by-side orientations. Both configurations are equipped with an orange or green pointer. A modular multiple viewing system allows for growth to up to 10 viewing stations with many configurations.

Leica

For more information call 800-248-0123 or **circle 142** on the Reader Service Card

NUCLEIC ACID PURIFICATION KITS

The new MasterPure Complete DNA/RNA Purification Kit, the MasterPure DNA Purification Kit, and the MasterPure RNA Purification Kit improve the purification of DNA or RNA through the use of a novel, patent-pending technology that provides efficient purification of intact, high molecular weight DNA or RNA from a wide range of clinical and research samples, including bacteria, tissue culture cells, blood, serum, frozen and fresh mammalian tissue, plant tissue, yeast, paraffin-embedded tissue, and mouse tail snips. All manipulations are performed in 1.5-ml microcentrifuge tubes and do not require

Epicentre Technologies

For more information call 800-284-8474 or **circle 143** on the Reader Service Card

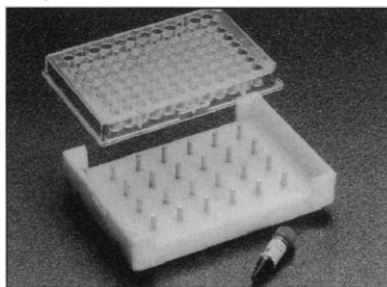
special resins or spin columns. The recovered nucleic acids are highly pure and have an $A_{260/280}$ ratio of 1.8 to 2.0.

MAGNETIC AGAROSE BEADS

New Ni-NTA Magnetic Agarose Beads offer flexibility in capture-assay design. The beads allow immobilization of structurally and functionally active 6xHis-tagged proteins for improved reproducibility and sensitivity. Applications include assay of biomolecular interactions between proteins, peptides, and nucleic acids as well as high-throughput microscale protein purification.

Qiagen

For more information call 805-295-7204 or **circle 144** on the Reader Service Card



ISOTHERMAL TITRATION CALORIMETRY SYSTEM

Isothermal titration calorimetry (ITC) can provide an accurate determination of not only the binding constant and stoichiometry of an interaction, but estimates of the heat and entropy of binding as well. The VP-ITC is a third generation instrument that incorporates innovations in electronic circuitry, software, and thermal core design. The highly automated system requires no further operator attention once the sample cell and the injection syringe are filled with the macromolecule and the ligand solutions, respectively. On-board thermoelectric cooling results in minimal downtime between experiments carried out at different temperatures. Data analysis and graphical presentations are carried out with Origin software, through the use of stored mathematical routines activated by clicks of the mouse. Because heat changes occur in every chemical reaction, the VP-ITC can be used to study virtually any interaction and is particularly suited for biomolecu-

MicroCal

For more information call 800-633-3115 or **circle 145** on the Reader Service Card

Reach Your Goal

Select the right lead compound

Your objective is to generate metabolically stable, orally bioavailable pharmaceuticals that aren't significantly metabolized by polymorphic cytochrome P450s or cause drug-drug interactions by P450 inhibition. GENTEST Corporation's *in vitro* testing services support your efforts from discovery through registration. Of course after 15 years, GENTEST continues to be your best source for innovative products for the study of human *in vitro* drug metabolism in your own lab: cryo-preserved hepatocytes, microsomes, heterologously-expressed enzymes, antibodies, substrates, inhibitors and metabolite standards. Call us or visit our website to learn more about our comprehensive line of products and services.

Corporation
GENTEST

United States and Other Countries
GENTEST Corporation
6 Henshaw Street • Woburn, MA 01801
Telephone: (781) 935-5115
Toll Free: (800) 334-5229
FAX: (781) 938-8644
Email: info@gentest.com
Visit us on the Internet: www.gentest.com

CONTINUED ON PAGE 330

TRI REAGENT® Solution For TOTAL RNA ISOLATION

- total RNA with unparalleled yield and quality.
- costs less than \$1 per sample (100 mg tissue or 10^7 cells; 0.1 – 0.8 mg of total RNA)

TRI Reagent®

- for cells and tissues

TRI Reagent®BD

- for whole blood and plasma

TRI Reagent®LS

- for liquid samples



The classic single-step method has been significantly improved to provide higher yields, a shorter protocol, and higher quality RNA from difficult sources!

In addition, TRI Reagent has made it possible to isolate simultaneously RNA, DNA and proteins.

(P.Chomczynski and K. Mackey Anal.Biochem. 225: 163, 1995. Biotechniques. 19:942, 1995.)

Isolated RNA is ready for Northern blotting, RT-PCR, and other applications.

MRC

MOLECULAR RESEARCH CENTER, INC

5645 Montgomery Rd.

Cincinnati, OH 45212

Phone: 513-841-0900 / 888-841-0900

Fax: 513-841-0080

E-mail: info@mrcgene.com

Visit our website at:

http://www.mrcgene.com

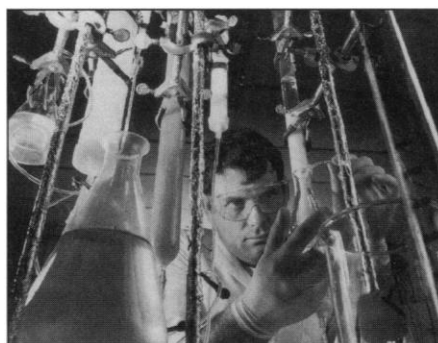
International distributors available in the following countries: Australia, Austria, Benelux, Canada, China, France, Germany, Greece, Hong Kong, India, Indonesia, Israel, Italy, Japan, South Korea, Malaysia, Philippines, Poland, Singapore, Spain, Switzerland, Taiwan, Turkey, United Kingdom, Vietnam. See our website for information. Unlisted countries, contact MRC at the US phone: (513) 841-0900.

CONTINUED FROM PAGE 329

lar interactions such as protein-ligand, protein-protein, drug-DNA, DNA-protein, antigen-antibody, and receptor-ligand.

AFFINITY CHROMATOGRAPHY MEDIA

A comprehensive selection of chromatography media features more than 500 affinity resins suitable for almost any isolation or purification application and includes many combinations of matrices, ligands, and methods of attachment. Product categories include activated matrices, amino acid resins, avidin/biotin resins, carbohydrate resins, dye resins, glu-



tathione resins, hydrophobic resins, immunochemical resins, lectin resins, nucleic acid resins, nucleotide/coenzyme resins, and specialty resins. The specialty group includes protein A/protein G matrices and resins with applications in protein analysis, characterization, and capture.

CUSTOM ENVIRONMENTAL CHAMBERS

Three microprocessor-based environmental chambers provide optimum growth conditions throughout the chamber. These custom-made units are suitable for drug stability studies, moisture vapor transmission tests, accelerated shelf-life tests, and a variety of biotechnology research applications. The 29-cubic-foot Model 3941 features an adjustable temperature range from -10°C to $+70^{\circ}\text{C}$ that can be digitally set in 0.1°C increments. A programmable controller can accommodate four profiles with up to six steps each. Relative humidity can be adjusted from above ambient to 95% and can be digitally set in 0.1% increments. The 29-cubic-

foot Model 3920 features a temperature range from 0°C to $+60^{\circ}\text{C}$. The 11-cubic-foot Model 3911 provides a temperature range from 0°C to $+60^{\circ}\text{C}$.

AFFINITY PURIFICATION SYSTEM

The Linx Affinity Purification System is based on an innovative new technology that allows rapid, simple generation of affinity purification resins. With this system, preparation of an affinity column and subsequent purification of proteins or antibodies can be performed in less than 2 hours.

LITERATURE

Sample Preparation: Solid Phase Extraction and Membrane Filtration is an 84-page catalog on these products, including a set of columns available in 23 different solid phases in sizes from 1 to 15 ml, columns with female luer fittings for direct connection to a syringe, and membrane filters for sample clarification.

Advanced Kinetic Analysis Using a Lambda Series Spectrometer and the UV Kinlab Software Module is an in-depth application note on the use of ultraviolet/visible (UV/VIS) spectroscopy to study enzyme-catalyzed reactions important to biochemical processes in living organisms.

CORRECTIONS AND CLARIFICATIONS

"Normal Human Bone Marrow Cells" in the 28 August New Products section contained an error. The item referred to CD34⁺ and AC133⁺ rather than CD34⁺ and AC133⁺ progenitor cells. These products, from the bone marrow of healthy human donors, are available from Poietic Technologies, 301-926-9211.

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 of any products or materials mentioned is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Reader Service Card and placing it in a mailbox. U.S. postage is free.

Sigma

For more information call 800-282-1298 or circle 146 on the Reader Service Card

Invitrogen

For more information call 800-955-6288 or circle 148 on the Reader Service Card

DyChrom

For more information call 408-988-7611 or circle 149 on the Reader Service Card

Perkin-Elmer

For more information call 800-762-4000 or circle 150 on the Reader Service Card

Forma Scientific

For more information call 800-848-3080 or circle 147 on the Reader Service Card

DISPLAY CLASSIFIED ADVERTISEMENTS

Call for rate and deadline information on display classified advertisements.

E-mail: science_displayads@aaas.org

Bren Peters

Recruitment Display Advertising

Telephone: (202) 326-6541

FAX: (202) 289-6742

E-mail: science_displayads@aaas.org

Gabrielle Boguslawski

Recruitment Advertising Sales Manager

Telephone: (718) 491-1607

FAX: (202) 289-6742

Debbie Cummings

European Recruitment Advertising

Telephone: +44 (0) 1223 302067

FAX: +44 (0) 1223 576208

E-mail: european_ads@science-int.co.uk

LINE CLASSIFIED ADVERTISEMENTS

How to Submit a Line Classified Ad:

Send your ad text to: e-mail: science_classifieds@aaas.org; fax: (202) 289-6742. You must include your telephone number, billing address, and purchase order number in your e-mail or fax. Do not bold, italicize, or abbreviate any words. *Science* will edit and typeset ads according to *Science* style. **Science cannot provide proofs of typeset line ads.** Available categories: Positions Open, Meetings, Announcements, and Courses and Training. Line advertisements are not commissionable.

Estimates: *Science* will provide a cost estimate for line ads. **This is an approximate cost only.** Purchase orders must allow for variation between estimated lines and actual typeset lines and resulting final cost.

For line advertising deadlines, call Troy Benitez, Telephone: (202) 326-6740; or Kristin Westapher, Telephone: (202) 326-6555; FAX: (202) 289-6742. E-mail: science_classifieds@aaas.org

Credit Cards: *Science* accepts American Express, MasterCard and VISA. Discount does not apply to credit cards.

Cancellations: Deadline for cancellation is Tuesday, 10 days prior to issue date.

Discounts: 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 Debbie Cummings. Telephone: +44(0) 1223 302067; FAX: +44(0) 1223 576208.

Science Professional Network: Unless otherwise instructed, all classified advertisements submitted for publication in *Science* are automatically posted on *Science's* online classified advertising service, *Science Professional Network*, at no additional charge.
www.scienceonline.org

Mail, FAX or E-mail materials to:

Science Classified Advertising

1200 New York Avenue, N.W., Room 911

Washington, DC 20005

FAX: 202-289-6742

E-mail: science_classifieds@aaas.org (please include your telephone number in e-mail)

Science reserves the right, at its discretion, to edit or decline to publish advertisements submitted to it.

POSITIONS OPEN

FACULTY POSITION DEPARTMENT OF NEUROBIOLOGY UCLA SCHOOL OF MEDICINE

The Department of Neurobiology of the UCLA School of Medicine invites applications for a tenure-track or tenured faculty position at the **ASSISTANT, ASSOCIATE, or FULL PROFESSOR** level. The Department has a strong commitment to excellence in research, scholarship, and teaching of graduate and professional students. We seek an outstanding individual who will address fundamental questions regarding the structure and function of the vertebrate nervous system to complement our established and emerging strengths in molecular, cellular, and systems neurobiology. The successful candidate must be capable of maintaining a vigorous, creative, and independent research program.

Applicants should have a Ph.D., M.D., or equivalent, and postdoctoral training experience in neuroscience. The position includes a competitive start-up package including new or recently renovated laboratories, and a salary that will be commensurate with rank and experience. The appointment may start as early as July 1, 1999.

To apply, please send a curriculum vitae and a brief statement of current and future research plans and have at least three letters of recommendation sent to:

Nicholas C. Brecha, Ph.D.
Chair, Search Committee
Department of Neurobiology
UCLA School of Medicine
Box 951763
Los Angeles, CA 90095-1763

Application deadline: January 1, 1999.

UCLA is an Equal Opportunity/Affirmative Action Employer.

University of California at San Diego. The Department of Electrical and Computer Engineering announces a search for two **SENIOR FACULTY MEMBERS** to lead a new research thrust in micro- and nano-fabrication of electronic, photonic, and MEMS devices and systems with applications to biotechnology. This activity will be supported by a very strong existing research effort in electronic and photonic devices and materials. Recruiting and facilities development will be coordinated with the Departments of Biology, Bioengineering, Chemistry/Biochemistry, Mechanical Engineering, and Physics. One of these positions will be joint with the Bioengineering Department. Candidates for the joint appointment must have experience in molecular biology and biotechnology as well as the relevant areas of electrical engineering. Candidates for the other appointment must have experience in advanced fabrication of electronic, photonic, and/or MEMS structures and a strong interest in biological systems. We are seeking candidates with international reputations and the ability to work well with a strong existing group. Salary and rank are based on UC pay scales and will be commensurate with experience and qualifications. Review of applications will begin immediately and continue until the positions are filled. Applicants should send a current résumé and the names of at least five references to: Professor William A. Coles, c/o Bertha Schub, Department of Electrical and Computer Engineering, University of California, 9500 Gilman Drive, La Jolla, CA 92093-0407. *Immigration status of noncitizens should be stated in the résumé. UCSD is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN BIOLOGY

Biology. The University of Alaska Southeast (UAS) invites applications for a nine-month tenure-track position at the **ASSISTANT PROFESSOR** level available August 1999. This position requires a Ph.D. in a biological science with strengths in the area of cell and animal physiology. Undergraduate teaching experience is required. Applications may be obtained from: University of Alaska Southeast, 11120 Glacier Highway, Juneau, AK 99801. Or by calling: The Personnel Department, Telephone: 907-465-6263. Applications will be accepted until December 1, 1998. For complete details on the position see the UAS website: www.uas.alaska.edu. *The University is an Affirmative Action/Equal Opportunity Employer and Educational Institution.*

POSITIONS OPEN



Physiology/ecology of marine phytoplankton. The Department of Biological Sciences/Center for Marine Science Research (CMSR) at the University of North Carolina at Wilmington (website: <http://www.uncwil.edu>) invites applicants for a **TENURE-TRACK FACULTY POSITION** in the physiological ecology of marine phytoplankton, particularly harmful species. Applicants should have demonstrable skills in isolation and cultivation of a wide selection of toxic species for development into large experimental cultures for physiological and toxicological studies. A strong background in taxonomy and systematics as well as experience with essential microscopic and molecular techniques for precise identification of toxic species is required. Experience in nutrient physiology is desired, as is field experience in research cruises as well as inshore sampling. The applicant is expected to work as part of a team focusing on the harmful algal species, their toxins, and their influence on other organisms in the environment. The demonstrated ability to work within a multidisciplinary program is essential. Applicants must have a Ph.D. or equivalent degree in biological/marine science, research experience with harmful algae, and experience or strong interest in undergraduate and graduate teaching. The candidate will be expected to teach an undergraduate course in plant physiology or planktonology and a graduate course in their specialty. Experience in supervision and management of research personnel is desirable. Salary and rank will be commensurate with education and experience. Provide curriculum vitae, names of three references, and copies of three relevant publications to: Director, Center for Marine Science Research, Office of the Provost, University of North Carolina at Wilmington, 601 South College Road, Wilmington, NC 28403-3927. Review of applications will begin December 1, 1998, and continue until the position is filled. *The University of North Carolina at Wilmington is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

SENIOR FACULTY POSITION CARNEGIE MELLON UNIVERSITY MACROMOLECULAR PHYSICAL CHEMISTRY

The Department of Chemistry invites applications for a senior faculty position in any area of the experimental physical chemistry of macromolecules. Research in fields of polymer characterization interfacing with materials, surface, or interfacial science will be of special interest. Emphasis will be placed on the likelihood that the candidate will interact effectively with colleagues in allied areas in the University, as well as establishing a productive individual research program, and participating in the teaching activities of the department. The allied areas include the synthesis of novel polymers in chemistry, and interfacial behavior in chemistry, physics, materials science and engineering, and chemical engineering departments. More information on the department and the polymer science program is available at the department's website: www.chem.cmu.edu. Interested parties should provide a letter of intent, along with a résumé including a full description of research interests, publication records, and, if applicable, records of teaching and external funding. Letters of recommendation will be sought on the basis of mutual agreement. The letter of interest and documentation should be sent to: Professor Guy C. Berry or Professor Krzysztof Matyjaszewski, 4400 Fifth Avenue, Pittsburgh, PA 15213. *Carnegie Mellon University is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION IN MICROBIOLOGY

The University of Mississippi Medical Center invites applications for a tenure-track faculty position at the rank of **ASSISTANT or ASSOCIATE PROFESSOR**. It is anticipated that the position will be filled by an individual with a research interest in molecular virology or viral immunology.

Interested individuals should send a curriculum vitae, a statement of research interest, and the names and addresses of three references to: Dr. L. W. Clem, Department of Microbiology, University of Mississippi Medical Center, Jackson, MS 39216.

An Equal Opportunity Employer. Minorities/Females/Disabled/Veterans.

NEUROBIOLOGY & IMMUNOLOGY

The University of California at Berkeley

The Department of Molecular and Cell Biology is seeking applications for faculty positions in the areas of **Immunology** and **Neurobiology**. The appointees are expected to join the faculty beginning July 1, 1999, or thereafter. Ph.D. and/or M.D. scientists should have demonstrated excellence, originality, and productivity in research, as well as an interest in undergraduate and graduate education. Applications should include a curriculum vitae, bibliography, a brief description of research accomplishments, a two-page statement of research objectives and teaching interest, and reprints of the three most significant publications. Arrange to have three letters of reference sent to the appropriate address below. Applications must be received by **December 15, 1998**. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

NEUROBIOLOGY

Research emphasis is one of several broad areas of neurobiology, including synaptic plasticity and memory mechanisms; neural development; cell-cell signaling and communication; and dynamic properties of neural circuits, networks, and systems. The appointment is to be made at the level of Assistant (tenure-track) Professor.

Department of Molecular & Cell Biology
Chair, Neurobiology Search
University of California
142 LSA #3200
Berkeley, CA 94720-3200

IMMUNOLOGY

Research emphasis in molecular or cellular immunology including but not limited to signal transduction, infectious disease immunology, inflammation and innate immunity, immunoregulation, cytokine biology, apoptosis, gene regulation, lymphocyte development, receptor biology, MHC biology, and antigen processing. The appointment is to be made at the level of Assistant (tenure-track) Professor.

Department of Molecular & Cell Biology
Chair, Immunology Search
University of California
142 LSA #3200
Berkeley, CA 94720-3200

Albany Medical College Professor and Director

In association with an expansion in biomedical research and graduate research training in selected interdisciplinary thematic areas of research, Albany Medical College announces the availability of a senior, tenured position as Professor with administrative responsibilities to provide leadership to a new Interdisciplinary Research Group in Molecular Basis of Disease. Scientists with a Ph.D., M.D., or M.D.-Ph.D. currently at either the Associate Professor or Professor level are invited to apply. Applicants must have a track record of research excellence, NIH grant funding, and experience in mentoring graduate students or postdoctoral fellows. Ideal candidates should have expertise in either viral or bacterial pathogenesis, immunology, molecular genetics, microbial metabolism, immunopathology, or cancer biology.

Expansion of the College's research and scientific training programs coincides with funding of the Medical Center's new Institutional Strategic Research Plan designed to expand the size of the research faculty; develop core research support facilities; increase our basic and clinical research programs; and restructure the Ph.D. training programs in selected interdisciplinary areas. Other interdisciplinary thematic areas of emphasis include Vascular Biology; Neuropharmacology and Neuroscience; as well as Cell and Molecular Biology. Each Thematic Research Group is coordinated by 2 Directors. Thematic areas of research will provide the foundation for interdisciplinary predoctoral and postdoctoral training programs. Excellent opportunities exist for joint collaborative research efforts with the Wadsworth Center at the New York State Health Department.

The research interests of the current faculty in the Interdisciplinary Research Group include microbial metabolism, viral and bacterial infection, molecular aspects of pathogenesis, DNA damage and repair, oxidative stress, antigen presentation, nucleic acid structure and gene expression, cell cycle control, antibacterial drug resistance, as well as liver and breast cancer. The candidate selected will have an opportunity to coordinate the graduate training program and recruit additional tenure-track faculty to the research group.

Applicants should submit curriculum vitae to: **Thomas M. Saba, Ph.D., Senior V.P. for Research, Box A-134, Albany Medical College, Albany, NY 12208.**

An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

WILLIAM R. AND LENORE MOTE EMINENT SCHOLAR CHAIR IN FISHERIES ECOLOGY AND ENHANCEMENT (ESTABLISHED 1994)

The Department of Biological Science at Florida State University seeks nominations for the position of William R. and Lenore Mote Eminent Scholar in Fisheries Ecology. This position is designed to bring an eminent fisheries scientist to Florida State University for a short-term, visiting appointment to enrich the academic program of the institution. The duties of the Mote Eminent Scholar include presentation of graduate-level lectures in fisheries science, focused on the scholar's areas of expertise and active interactions with graduate students and faculty members. The Mote Eminent Scholar may take advantage of the opportunities for collaborations with faculty at Florida State University as well as collaboration with scientists at Mote Marine Laboratory and the National Marine Fisheries Service Laboratory in Panama City.

Candidates must hold the Ph.D. and the rank of Full Professor or its equivalent. Letters of nomination (including self) will be accepted until 1 November 1998 or until the position is filled, and should include a copy of the nominee's curriculum vitae, and a summary of their research program. Send to:

**Dr. Thomas M. Roberts, Chairman
Department of Biological Science
Florida State University
Tallahassee, FL, 32306-1100**

Florida State University is an Affirmative Action/Equal Opportunity Employer. Copies of this announcement are available upon request in alternative formats for individuals with print-related disabilities.



PROGRAM DIRECTORS DIVISION OF CANCER BIOLOGY



National Cancer Institute, NIH

The Division of Cancer Biology (DCB), National Cancer Institute (NCI), National Institutes of Health seeks three scientists with experience in research and research program administration to assume Program Director positions in three DCB Branches. The DCB, NCI plans and manages a grant- and contract-supported program of extramural basic and applied research on cancer etiology, immunology, genetics, and biology. Program Directors are responsible for the scientific management and oversight of extramural cancer research programs in specific scientific areas, and for identifying and promoting opportunities for research that will produce significant new knowledge of potential importance for cancer prevention, diagnosis, and treatment.

Program Directors are sought for the following DCB Branches:

The Cancer Genetics Branch (CGB) promotes and supports discovery of the underlying genetic and epigenetic mechanisms of the origins and progression of cancer at the cellular and molecular levels and in vertebrate and invertebrate model systems. In addition, CGB staff work collaboratively with other NCI and NIH staff to encourage the development of technologies to facilitate basic genetics research and the transfer of research findings to other areas of application. CGB seeks an individual with a Ph.D. or M.D. degree or equivalent with experience in basic human or mammalian cancer genetics, genetics of model organisms, or molecular biology to manage an extramural research grant program and to assist in the management of the NCI Mouse Models of Human Cancers Consortium. For further information, contact **Cheryl Marks, Ph.D., Program Director, CGB, at 301-435-5226 or cm74v@nih.gov.**

The Radiation Effects Branch (REB) promotes and supports a broad research program in the biological and health consequences of exposure to ionizing and non-ionizing radiation, including fundamental studies in radiation mutagenesis and carcinogenesis, and molecular, cellular, and whole organism effects. In addition, the REB is working with colleagues in Belarus and Ukraine and their governments to carry out long-term radiation epidemiology studies to assess the risk of thyroid cancer and leukemia/lymphoma among populations exposed by the Chernobyl nuclear power plant accident. REB seeks an individual with a Ph.D. or M.D. degree or equivalent with experience in molecular radiobiology to develop and manage an extramural grant portfolio in radiation-induced carcinogenesis of specific organ systems and to participate in the coordination and management of multidisciplinary Chernobyl-related studies. For further information, contact **Bruce W. Wachholz, Ph.D., Chief, REB, at 301-496-9326 or bw36i@nih.gov.**

The Tumor Biology Branch (TBB) promotes and supports research in tumor biology, focusing on the interaction of cancer cells with tumor and/or host microenvironment to delineate the molecular mechanisms of tumor growth, invasion, progression, and metastasis. Included are examination of cell-cell and cell-matrix interactions in studies on the biology and progression of solid tumors and studies on the role of extracellular matrix during development and tissue morphogenesis. TBB seeks an individual with a Ph.D. or M.D. degree or equivalent with experience in molecular biology and molecular genetics to manage an extramural research grant program. For further information, contact **Suresh Mohla, Ph.D., Acting Chief, TBB, at 301-496-7028 or sm82e@nih.gov.**

The salary range for these positions is \$55,969–85,978 at the GS-13/14 levels. Send letter of interest and C.V. by November 6, 1998, to the appropriate contact person named above at:

**Division of Cancer Biology
National Cancer Institute, NIH
6130 Executive Boulevard, Room 500
Rockville, MD 20892**

Visit the DCB Website at <http://www.nci.nih.gov/dcb/dcbhom.htm>.

PROGRAM OFFICER, SHIP LO TECHNOLOGY

The Office of Naval Research (ONR) is seeking a qualified individual to be responsible for integrating Ship Low Observable (LO) technology for the next generation of ships and craft for the U.S. Navy. This is a Federal Civil Service position at the GS-13/14/15 level (\$52,176-\$94,287 plus a 7.27% locality adjustment), depending on individual qualifications.

The incumbent will be the principal technical advisor to the Deputy Director, Ship Programs, for LO technology utilization and improved ship survivability and will also lead the LO technology integration effort for future ship programs such as DD-21/SC-21/CVX, a family of new designs that require unprecedented levels of signature control and topside technology integration. The incumbent is required to hold and maintain a Top Secret clearance based on a current Special Background Investigation.

The successful candidate should have a degree (Ph.D. or equivalent highly desirable) in engineering and one year of specialized experience. To qualify, this experience must have been at a level of difficulty and responsibility equivalent to that of the next lower grade level in the Federal Service. In addition, the applicant MUST have knowledge and experience in the fundamental theories, concepts, and current state-of-the-art scientific research and/or technology development in a field related to Ship Low Observables (LO) with emphasis on naval ships, weapons, and sensor systems design. This experience is evidenced by relevant recent open literature publications, presented papers, patents, invited talks, and technical leadership roles in workshops and reviews. **APPLICANTS NOT MEETING THIS FACTOR WILL NOT BE RATED ELIGIBLE AND WILL NOT BE CONSIDERED FURTHER.**

Interested persons should submit their application and a list of publications to: Office of Naval Research, Human Resources Office, Attn: Announcement #98-36 (SCI), 800 North Quincey Street, Arlington VA 22217-5660.

All applications must be postmarked by **3 November 1998**. We request that applicants complete the appropriate supplemental forms. Applicants may download a copy of the vacancy announcement from ONR's web site (<http://www.onr.navy.mil/hr>). Those applicants who do not have access to the Internet may request a copy of the vacancy announcement from ONR's Vacancy Hotline (703) 696-0972. For further information concerning this vacancy, applicants may contact Jill Blackwell on (703) 696-4653. Hearing-impaired applicants may use our TDD number on (703) 696-6357. For technical information concerning this position, applicants may contact Capt. A.J. Cetel on (703) 413-2263. **U.S. CITIZENSHIP REQUIRED** **AN EQUAL OPPORTUNITY EMPLOYER**



UCLA FACULTY POSITION

UCLA-DOE LABORATORY
OF STRUCTURAL BIOLOGY
AND MOLECULAR MEDICINE

The Division of Structural Biology and Genetics of the UCLA-DOE Laboratory of Structural Biology and Molecular Medicine will appoint a faculty member at the level of Assistant Professor or Assistant Professor in Residence, jointly with departments in the College of Letters and Science or the School of Medicine. The Departments include Chemistry and Biochemistry, Human Genetics, and Molecular, Cellular, and Developmental Biology. **We seek a scientist with an interest in genome or proteome analysis, computational or experimental or both.** Set-up and research funds will come from the UCLA-DOE Lab. Candidates must have significant research accomplishments, the ability to establish a vigorous research program, and a commitment to excellence in education. *UCLA is an Equal Opportunity Employer.* Applicants should provide a curriculum vitae, a summary of proposed research, copies of key publications or preprints, and three letters of recommendation by **November 15, 1998**. Applications should be sent to:

Dr. David Eisenberg
Chair of Search Committee
UCLA-DOE Lab
UCLA, Box 951570
611 Circle Drive East
Los Angeles, CA 90095-1570
FAX: (310) 206-3914



MAYO CLINIC

Research on zinc finger transcriptional repressors, epithelial cell growth, and cancer. Postdoctoral position immediately available for a highly motivated individual to study the role of novel zinc finger proteins in transcriptional repression and in the regulation of normal and neoplastic pancreatic epithelial cell growth*. The successful candidate will be part of a multidisciplinary team using state-of-the-art molecular and cell biological techniques. Applicant should have previous experience in protein chemistry and/or molecular biology. Send curriculum vitae and three references to:

Raul Urrutia, M.D.
GI Research Unit
Mayo Clinic, Alfred 2-435
200 First Street SW
Rochester, MN 55905
Fax: 507/255-6318,
e-mail: urrutia.raul@mayo.edu

Mayo Foundation is an Affirmative Action and Equal Opportunity Employer and Educator.

*J. Clin. Invest. 99(10):2365, 1997; J. Biol. Chem. 273(40):25973, 1998.

Postdoctoral Research at McGill University

Postdoctoral positions are available immediately to work on the identification and molecular characterization of genes regulating growth and life span in the nematode *Caenorhabditis elegans* and in vertebrates. Refer to the following papers: Wong et al., 1995, **Genetics** 139:1247; Lakowski and Hekimi, 1996, **Science** 272:1010; Ewbank et al., 1997, **Science** 275:980; and Hekimi et al., 1998, **Trends Genet.** 14:14. Candidates must possess demonstrated skills in molecular biology.

Apply by e-mail to Dr. Siegfried Hekimi at hekimi@notung.biol.mcgill.ca or by fax at 514-398-1674. Written applications can be sent to: **Anne Wong, Department of Biology, 1205 Dr. Penfield Avenue, Montreal, Quebec H3A 1B1 Canada.** Applications should include a CV and names of 3 referees.

THE NEUROSCIENCES INSTITUTE SAN DIEGO, CALIFORNIA W. M. KECK MACHINE PSYCHOLOGY LABORATORY

The Neurosciences Institute invites applications for **POSTDOCTORAL FELLOWSHIPS** to study biologically based models of behaving real-world devices (robots) as part of the newly established W. M. Keck Machine Psychology Laboratory. Continuing previous research conducted at the Institute, this Laboratory will focus on the construction of autonomous devices, on the design of simulated large-scale neuronal networks capable of guiding behavior in the real world, and on developing methods for the simultaneous analysis of neural and behavioral states. Applicants should have a background in computational neuroscience, robotics, computer science, behavioral science, or cognitive science.

Fellows will receive stipends appropriate to their qualifications and experience. Submit a curriculum vitae, statement of research interests, and names of three references to: **Dr. Olaf Sporns, The Neurosciences Institute, 10640 John Jay Hopkins Drive, San Diego, CA 92121. Fax: 619-626-2099; E-mail: sporns@nsi.edu; URL: <http://www.nsi.edu>.**

FACULTY OF CHEMISTRY

The Faculty of Chemistry provides a broad education in chemistry for a wide range of students. Scientific research in the Netherlands is organised in institutes at the University level and research schools at the national level. In the near future, all of the Faculty's 460 staff, including postgraduate

assistants, will move to the scientific centre in the Watergraafsmeer area of Amsterdam, where the Faculty will be incorporated into a new science faculty. Within the group Process Analysis and Chemometrics at the Department of Chemical Engineering of the University of Amsterdam there is a vacancy for an

ASSISTANT PROFESSOR F/M

for 38 hours per week 17025/S



The group Process Analysis and Chemometrics has two research topics. The first topic deals with development and quality assessment of on-line spectroscopic measuring methods. The second topic deals with the development of methods to obtain information from large amounts of process data.

TASKS: • to perform independent research • to initiate and supervise research of undergraduate and graduate students • to teach within the area of process analysis and chemometrics • to publish and present research results on an international level • to participate in the management of the Department • to establish and maintain contacts with the industry.

REQUIREMENTS: • Ph.D. in analytical chemistry or chemical engineering • broad research experience, preferably obtained in industry and/or from visits abroad • expertise in the area of process analysis and chemometrics as evidenced by publications in international journals • broad teaching experience • ability

to stimulate and coordinate • effective communication skills.

Selected candidates will be invited to present a guest lecture. The successful applicant will be expected to learn the Dutch language within two years.

After a probation of two years, the position can become permanent. The gross salary depends on age and experience and ranges from NLG 3,970.- to NLG 8,387.- per month.

INFORMATION: prof.dr Age K. Smilde, telephone: +31-20-5255062, fax: +31-20-5255604, e-mail: asmilde@its.chem.uva.nl

APPLICATIONS: Applications, quoting job reference number and marked "confidential" should include a curriculum vitae and a list of publications. Applications should be sent within three weeks to the head of the Department of Personnel and Organisation of the Faculty of Chemistry, mr D. Hezemans, Nieuwe Achtergracht 166, 1018 WV Amsterdam, The Netherlands.



HOLLAND LABORATORY

POSTDOCTORAL FELLOWS HEMATOPOIESIS RESEARCH PROGRAM HOLLAND LABORATORY, AMERICAN RED CROSS

Three postdoctoral fellow positions are available beginning January 1999 in the new Hematopoiesis Department being formed at the Jerome H. Holland Laboratory, the Biomedical Research and Development division of the American Red Cross. Candidates should have a Ph.D. and less than three years postdoctoral experience. Projects are focused on molecular mechanisms in hematopoiesis and developing improved vector systems for gene delivery to hematopoietic stem cells (PNAS 93:10297, 1996; Gene Ther. 4:1013, 1997; Genomics 50:44, 1998; Blood 92:877, 1998).

Interested individuals should send their curriculum vitae and names of three references to:

Robert G. Hawley, Ph.D.
Head, Hematopoiesis Department
Holland Laboratory
American Red Cross
15601 Crabbs Branch Way
Rockville, MD 20855
EOE, M/F/D/V.



American
Red Cross



HOLLAND LABORATORY

SCIENTISTS I/II HEMATOPOIESIS RESEARCH PROGRAM HOLLAND LABORATORY, AMERICAN RED CROSS

Applications are invited for principal investigator positions at the Scientist I/II level (assistant/associate professor equivalent) in the new Hematopoiesis Department being formed at the Jerome H. Holland Laboratory of the American Red Cross. Positions are available beginning January 1999 and also after July 1999. We are seeking highly motivated individuals with a Ph.D. and a strong record of first-authored peer-reviewed publications. Applicants should also possess excellent interpersonal and communication skills, the ability to establish a vigorous independent research program and an interest in developing collaborative projects with other scientists in the department. Successful candidates are eligible for appointment to the faculty of the George Washington University School of Medicine and Health Sciences.

The Holland Laboratory, which is the Biomedical Research and Development division of the American Red Cross, is located ten miles north of the NIH in Rockville, MD (Washington, DC metropolitan area) and offers an excellent start-up and benefits package.

Interested individuals should send their curriculum vitae, a career statement and three reference letters to:

Robert G. Hawley, Ph.D.
Head, Hematopoiesis Department
Holland Laboratory
American Red Cross
15601 Crabbs Branch Way
Rockville, MD 20855. EOE, M/F/D/V.



American
Red Cross

Medical College of Ohio



Healing Begins with Knowledge

Postdoctoral Positions For Newly Expanded Program in Cellular Immunology

Three (3) NIH-funded Postdoctoral positions are available immediately for studies in Cellular Immunology at the Medical College of Ohio. The projects involve 1) exploiting cytokines to enhance the protective properties of mucosal, viral, and T-independent vaccines and 2) manipulating Th1/Th2 cell expression for accommodation of xenotransplants. Applicants should have a Ph.D. in Immunology, Microbiology, Cell Biology, or a related field, and have no more than five years of relevant postdoctoral experience. The positions include competitive salaries and full benefits. To apply, please send a curriculum vitae, a brief letter outlining research experience, and the names and addresses of three references to:

Dennis W. Metzger, Ph.D.
Professor
Department of Microbiology and Immunology
Medical College of Ohio
3055 Arlington Avenue
Toledo, OH 43614-5806
<http://www.mco.edu/micro>

U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS) MICROBIOLOGIST

Food Animal Protection Research Laboratory

USDA Agricultural Research Service is seeking a microbiologist to join a pre-harvest food safety research unit studying mechanisms for reduction of human food-borne pathogens in food animals. The individual should have a strong foundation in the molecular biology of microbes and in the microbiology of human food-borne enteric pathogens. The selected individual will be expected to develop a strong, independent research effort complementary to existing programs and to establish interactive links with producer groups and government agencies focused on control of enteric pathogens. Areas of interest include antibiotic resistance, gastrointestinal microbiology/ecology, mechanisms of pathogenesis of enteric pathogens, and development of useful intervention strategies. A strong background in molecular biology and microbiology of the gastrointestinal tract, as well as a demonstrated track record of publications and program development are required. A Ph.D. is desirable and research qualifications are determinant in the salary range of GS-12-13 \$46,254 to \$71,503. *Candidate must be a U.S. citizen.* For additional information on the position contact **Larry Stanker** at (409) 260-9484 or e-mail at stanker@usda.tamu.edu. For application procedures, contact **Edna Taylor**, 7607 Eastmark Drive, Suite 230, College Station, TX 77845, (409) 260-9443. Applications should be marked ARS-X85-8303 and mailed to **Dawn McCourt**, 5601 Sunnyside Avenue, Beltsville, MD 20705, by November 16, 1998.

*USDA-ARS is an Equal Opportunity Employer.
Women and minorities are encouraged to apply.*

CHATEAUBRIAND FELLOWSHIP PROGRAM 1999/2000

SCIENCE & TECHNOLOGY

If you are currently working towards your **Ph.D. in science or engineering**, including biomedical and agricultural sciences, or if you have completed it in the last three years, you may qualify for a fellowship from the French Government to conduct research in France. Some of the fellowships are co-sponsored by French companies.

The research would be performed in a French university, a school of engineering or in a public or private laboratory. Candidates must be accepted by a French laboratory in order to be eligible for this fellowship program.

You may use **existing contacts** between your laboratory and a French research institution. If you do not have such contacts, you may **register on the Web** (<http://www.chateaubriand.amb-wash.fr>). In this case, your file will be submitted to directors of various laboratories in France who will be able to contact you directly.

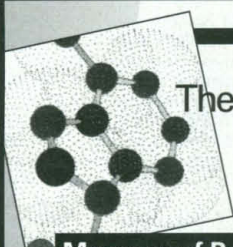
Starting in **September 1999**, fellowships are available for a **6 to 12 month period**, with a monthly stipend of **\$ 1800** for a **doctoral** fellow and **\$ 2200** for a **post-doctoral** fellow. Health insurance and a round trip ticket are also provided.

Only completed applications received before **December 1, 1998** will be accepted. Applicants must be US citizens and registered in a university in the US or in a US National Laboratory.

The Embassy of France
Office for Science and Technology
Chateaubriand Fellowship Program
4101 Reservoir Road, NW
Washington, DC 20007-2176
Fax : (202) 944 6244
<http://www.chateaubriand.amb-wash.fr>
Email : chateaubriand@amb-wash.fr



Ambassade de France aux États-Unis
Mission Scientifique et Technologique




The Adenosine Company.

Manager of Preclinical Studies

Medco Research, Inc., located in RTP, has a newly created opportunity for a Manager of Preclinical Studies. This senior scientist will design, execute and manage preclinical studies. Responsibilities include identifying, selecting and evaluating chemical entities as potential drug therapies, as well as initiating appropriate pharmacology studies and toxicity tests in support of IND and NDA submissions. Additionally, this scientist will contribute advice and insights on proposals and licensing opportunities.

Requires a Master's degree in Pharmacology, Chemistry or equivalent (Ph.D. preferred) with a minimum of 3 years of pharmaceutical industry experience. Candidate must possess advanced working knowledge of preclinical development and IND and NDA non-clinical approval requirements. Expertise in the pharmacology and chemistry of purine nucleosides and xanthines preferred. Position may require extensive travel.

Medco Research offers you visibility, growth and challenge. Our employees enjoy a complete benefits package and attractive compensation including incentive opportunities and stock options. Please send your resume in confidence to: **Human Resources, Medco Research, Inc., P.O. Box 13886, Research Triangle Park, NC 27709.** Principals only. EOE. For other employment opportunities at Medco Research, visit our Web site at: www.medcores.com

**MEDCO
RESEARCH, INC.**

Tenure-Track Faculty Positions Plant & Insect Molecular Biology & Genetics University of Maryland Biotechnology Institute



The Center for Agricultural Biotechnology (CAB; <http://www.umbi.umd.edu/~index.html>) invites applications for two tenure-track faculty positions. The rank is open. CAB is one of four research centers of the University of Maryland Biotechnology Institute and is located on the campus of the University of Maryland, College Park, in a newly constructed and equipped research building. CAB's research emphasizes plant defense mechanisms, insect molecular genetics and evolution, poultry viruses and vaccines, and biochemical engineering. Positions will be available by fall 1999.

Within plant molecular biology and genetics, the area of basic research should address problems in biotechnology. Preferred research areas include i) the study of plant responses to pathogens and/or pests, ii) the effects of abiotic environmental stresses on plant health, or iii) other research areas that relate to improving plant productivity.

Within insect molecular biology and genetics, the area of basic research should address problems related to agriculture or human health. Examples of areas that would be considered include i) molecular genetics of disease vectors, ii) insect pathology, including virology, and iii) molecular genetics of fundamental physiological processes.

The applicant's research program must be sustainable in a competitive funding environment. The investigator is expected to build a dynamic research group within the setting of an interdisciplinary research institute. For full consideration, submit current curriculum vitae, selected reprints, summary of research interests, and letters from three recommenders by December 1, 1998, to:

Faculty Search Committee
Center for Agricultural Biotechnology
University of Maryland Biotechnology Institute
Plant Sciences Building, Room 5115
College Park, MD 20742

UMBI is an Affirmative Action, Equal Opportunity Employer.

POSITIONS OPEN

FACULTY POSITIONS IN BIOLOGICAL EDUCATION AND HUMAN BIOLOGY

The Department of Biological Sciences, University of Northern Colorado is seeking three faculty positions available August 1999. Applicants are sought for two tenure-track positions in biological education, one at the **ASSISTANT PROFESSOR** rank and the other at the **ASSISTANT/ASSOCIATE PROFESSOR** rank. Responsibilities include directing Ph.D. students in research on biology education, M.A. students in biology research, undergraduate advising, and teaching in area(s) of expertise. The first position requires potential or evidence of scholarly activity and success in securing extramural funding. The second position requires evidence of scholarly activity and success in securing extramural funding. The second position requires evidence of scholarly activity supported by extramural funding. The third position, **LECTURER** in human biology, is annually renewable up to six years. Responsibilities include teaching introductory biology, human anatomy/physiology, and courses in areas of expertise (three to four courses per semester), and advising undergraduate students and service. Teaching may include responsibilities in off-campus state-funded programs and/or partner school activities. Positions are contingent upon funding. Applicants should submit a curriculum vitae, official transcripts, contact information for five to six references, and statements of teaching philosophy and research experience/interests to: **Chair, Search and Screen Committee, Department of Biological Sciences, University of Northern Colorado, 501 20th Street, Greeley, CO 80639.** Review of applications will begin November 9, 1998, and continue until positions are filled. For additional information contact: **Dr. Curt M. Peterson, Telephone: 970-351-2923; e-mail: cmpeter@bentley.unco.edu; web-sites: <http://www.unco.edu/biology/biology.html> or <http://asweb.unco.edu/a&s.htm>.** UNC is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION DEPARTMENT OF MOLECULAR BIOLOGY MASSACHUSETTS GENERAL HOSPITAL Department of Genetics Harvard Medical School

The Department of Molecular Biology at Massachusetts General Hospital and the Department of Genetics at Harvard Medical School invite applications at the level of **ASSISTANT/ASSOCIATE PROFESSOR** for a position to begin September 1999. We are seeking applicants working in any field of genetics, molecular biology, and/or biochemistry. The laboratory will be located in the Massachusetts General Hospital Department of Molecular Biology and the faculty appointment will be in the Harvard Medical School Department of Genetics.

Applications should include a curriculum vitae, reprints of publications, a statement of research plans, and three letters of recommendation. This material should be sent by December 1, 1998, to: **Howard M. Goodman, Chief, Department of Molecular Biology, Wellman 11, Massachusetts General Hospital, Boston, MA 02114.**

Harvard University and the Massachusetts General Hospital are Equal Opportunity/Affirmative Action Employers. We encourage applications from women and minority groups.

FACULTY POSITION IN BIOCHEMISTRY AND MOLECULAR BIOLOGY SUNY Health Science Center at Syracuse

We invite applicants for a tenure-track position at the **ASSISTANT PROFESSOR** level. Outstanding candidates in all areas of biochemistry and molecular biology are encouraged to apply. Applicants must have a Ph.D. or equivalent degree, postdoctoral experience, demonstrated research productivity, and a commitment to excellence in teaching medical and graduate students. Send letter of application, curriculum vitae, and descriptions of past research accomplishments and future research plans to: **Faculty Search Committee, Department of Biochemistry and Molecular Biology, State University of New York, Health Science Center at Syracuse, 750 East Adams Street, Syracuse, NY 13210.** Please have three letters of reference sent directly to the above address and include the names of the referees in your application letter. Review of applications will begin November 15, 1998, and continue until the position is filled. Further information is available at website: <http://www2.ec.hscsyr.edu/biochem/>.

An Affirmative Action/Equal Employment Opportunity/ADA Employer committed to excellence through diversity.

POSITIONS OPEN

FACULTY POSITIONS

The Department of Biochemistry at the University of Kentucky is recruiting a number of tenure-track or tenured faculty at the **ASSISTANT, ASSOCIATE, or FULL PROFESSOR** level. The successful candidates will be expected to develop a strong independent research program, obtain extramural funding, and participate in departmental teaching activities. Competitive start-up funds, state-funded salary commensurate with experience, and modern research facilities will be provided. Recruitment is being made for the following positions:

Full or Associate Professor in the area of structural biology with an established research program applying physical, chemical, or biochemical approaches such as protein engineering, X-ray crystallography, experimental protein chemistry, or NMR spectroscopy to the study of molecular mechanisms. This individual will serve as the leader of the Center for Structural Biology at the University of Kentucky. Search Committee Chair: **Dr. Thomas Vanaman.**

Assistant Professor in the area of structural biology similar to the senior-level position described above but at a tenure-track level. Search Committee Chair: **Dr. Thomas Vanaman.**

Assistant Professor in the area of molecular genetics/genomics including molecular epidemiology, studies of genetic markers of human disease, bioinformatics, and experimental models of genes. Search Committee Chair: **Dr. Daniel Noonan.**

Assistant Professor in the area of signal transduction studying mechanisms that regulate the cell cycle, development, stress responses, or intracellular communication. Search Committee Chair: **Dr. Robert Dickson.**

Applicants must have a Ph.D. and/or M.D. or equivalent degree and at least two years of postdoctoral experience. Interested individuals should send a curriculum vitae, a summary of past experience, future research plans, and arrange for three letters of recommendation to be sent to the appropriate Search Committee Chair at: **The Department of Biochemistry MS607, University of Kentucky College of Medicine, Lexington, KY 40536-0298.** The University of Kentucky is an Equal Opportunity Employer, and encourages applications from qualified women and minorities.

FACULTY POSITION IN VASCULAR BIOLOGY

The Department of Pharmacology, University of Illinois, College of Medicine, Chicago, invites applications for a tenure-track faculty position at the **ASSISTANT or ASSOCIATE PROFESSOR** level. Applicants should have demonstrated the ability to develop an independent research program and success in obtaining NIH support. The successful candidate is expected to have a solid publication record and an independent NIH-funded research program. The department wishes to add to its strengths in vascular biology. Areas of research include signaling in endothelial cells, transcriptional regulation of endothelial adhesion molecules, control of endothelial barrier function, angiogenesis, cadherin function, and transendothelial leukocyte trafficking. The position comes with an extensive start-up budget, renovated space, and competitive salary package. Please send a complete curriculum vitae, a brief statement of research interest, and names of three references to: **Dr. Richard Ye, Department of Pharmacology (M/C 868), University of Illinois at Chicago, 835 South Wolcott, Chicago, IL 60612.** For fullest consideration, please submit applications by December 15, 1998. UIC is an Affirmative Action/Equal Opportunity Employer.

GUILFORD COLLEGE

Biology. Full-time **TENURE-TRACK POSITION.** Major interest must be in teaching undergraduates, both majors and non-majors. Primary teaching responsibilities include general botany (majors and non-majors); field botany; additional upper-level biology courses; and courses that contribute to the environmental studies concentration. Must be committed to working closely with students, guiding their research and internships, and serving as an Academic Adviser. Ph.D. required. Guilford College is a private selective coeducational liberal arts college of 1,200 students founded by the Religious Society of Friends (Quakers). Please send letter of application, curriculum vitae, and three references to: **Dr. Lynn Moseley, Biology Department, Guilford College, Greensboro, NC 27410** by December 15, 1998. Guilford College is committed to hiring faculty of color, either U.S. nationals or non-nationals. Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

DEVELOPMENTAL BIOLOGIST

As part of an ongoing expansion, the Department of Cell Biology and Molecular Genetics at the University of Maryland at College Park invites applications for a **TENURE-TRACK FACULTY POSITION** in the area of developmental biology. The rank for this appointment is open. Senior candidates will be expected to have attained national and international stature. The successful applicant will be expected to direct a competitively funded research program that is focused on important, fundamental problems in development using a model system. There are multiple opportunities for research interaction and collaboration with faculty in the Department in the areas of signal transduction, pathogenesis, developmental genetics, and cell and molecular biology, using animal, fungal, microbial, and plant systems. Collaborations are also possible with faculty in other Departments across campus. College Park is the flagship campus of the University of Maryland System, and is located in the Baltimore-Washington, D.C. corridor. Its location provides easy access to a large number of educational and governmental institutions. All faculty members of the Department participate in the instructional programs at both the undergraduate and graduate levels. Applicants must have an earned doctorate in an appropriate area of biology, evidence of significant research accomplishments, and a commitment to excellence in teaching. Salary is competitive and commensurate with experience. Applications should be received by December 1, 1998, to receive full consideration, but the search will continue until the position is filled. Materials, including a letter of application, curriculum vitae, statements of research and teaching interests, and the names and addresses of four references should be directed to:

**Dr. Stephen M. Wolniak, Chair
Developmental Biologist Search Committee
Department of Cell Biology and Molecular Genetics
H. J. Patterson Hall
University of Maryland
College Park, MD 20742**

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

FACULTY POSITION KANSAS STATE UNIVERSITY

The Department of Anatomy and Physiology in the College of Veterinary Medicine invites applications from individuals who are using contemporary approaches to study regulatory mechanism involved in cardiovascular physiology. The position is a tenure-track faculty position at the **ASSISTANT/ASSOCIATE PROFESSOR** level (70 percent research, 30 percent teaching). The successful candidate will have an extramurally funded research program (Associate Professor) or have an established research program with considerable potential for securing funding (Assistant Professor). The appointee will be expected to contribute to a team-taught comparative microanatomy course for veterinary students and to develop a graduate-level course related to their research interests. The position is available August 1, 1999. D.V.M. and/or Ph.D. required.

Applications should include a curriculum vitae, a statement of research and teaching interest, names and addresses of three references, and reprints of three representative publications. Applications will be received until December 1, 1998. Send applications to: **Dr. Jon D. Dunn, Professor and Department Head, Department of Anatomy and Physiology, VMS 228, Kansas State University, 1600 Denison Avenue, Manhattan, KS 66506-5602.** KSU is an Equal Opportunity Employer/Affirmative Action.

ASSISTANT SPECIALIST. Full-time position available in molecular and cell biology, Division of Biochemistry and Molecular Biology. Qualifications: at least four years of experience working with protein purification, analysis of protein/DNA interactions, and DNA replication in higher eukaryotes and a working knowledge of how such processes are monitored. Knowledge and technical skill in biochemistry, molecular biology, and cell biology as well as genetics of *Drosophila* are required. Approximate starting date: December 1, 1998. Salary range \$33,204.00 to \$38,952.00, with full benefits. Qualified candidates should send a letter of application, curriculum vitae, and names of three references to: **Michael Botchan, Department of Molecular and Cell Biology, 401 Barker Hall, University of California, Berkeley, CA 94720-3204.** Deadline of receipt of applications is November 9, 1998. UC Berkeley is an Equal Opportunity/Affirmative Action Employer.

HHMI

HOWARD HUGHES MEDICAL INSTITUTE

The Trustees invite nominations and applications for President of the Howard Hughes Medical Institute. The President serves as chief executive officer of the Institute. It is anticipated that the President will be a nationally recognized scientist with demonstrated administrative ability, intellectual breadth, and the capacity for strong and imaginative leadership.

HHMI's core program is basic biomedical research. The Institute has 72 research laboratories and 330 scientific investigators working in five broad program areas: cell biology and regulation, genetics, immunology, neuroscience, and structural biology. The Institute's scientific research staff numbers about 2800.

The Institute also has a grants program that is focused broadly on science education and the training of scientists at all levels, from elementary and secondary schools to undergraduate, graduate, and post-doctoral students. The Institute currently expends more than \$90 million in its grants program. Its total budget for FY 1999 is \$556 million.

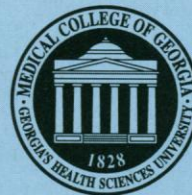
The Institute's headquarters are located in Chevy Chase, Maryland, housing an administrative and program staff of approximately 200.

Responses should include the nominee's present position, a brief summary of his or her scientific interests and accomplishments, and a description of the person's administrative experience.

Please address nominations and expressions of interest to:

**Hanna H. Gray, Chairman, Board of Trustees,
Howard Hughes Medical Institute,
4000 Jones Bridge Road,
Chevy Chase, Maryland 20815.**

HHMI is an equal opportunity employer.



DIRECTOR

**Institute of Molecular Medicine and Genetics
Medical College of Georgia
*A Unit of the University System of Georgia***

The Medical College of Georgia seeks a creative and productive scientist to be the Director of the Institute of Molecular Medicine and Genetics. The successful candidate should have an internationally recognized research program and a track record of peer-reviewed funding. The Director will assume the major intellectual leadership position in the Institute. The Director will be expected to maintain an active research program and recruit additional junior faculty. Substantial resources are available to support this initiative. This position of Director is at the rank of Professor and is supported by a fully endowed chair for a Georgia Research Alliance Eminent Scholar. Priority will be given to an applicant who can relate basic research to clinical problems. An M.D. or M.D.-Ph.D. degree(s) would be an asset, but not a requirement.

The Institute of Molecular Medicine and Genetics of the Medical College of Georgia, presently entering its sixth year of development, has a faculty of 40 investigators and a total personnel of 181, including 23 graduate or M.D.-Ph.D. students and 45 postdoctoral fellows. It sponsors a Ph.D. program in Molecular Medicine and an M.D.-Ph.D. program. The present budget is \$11,000,000, over half from extramural funds. The Institute has developed a nationally recognized integrated research program organized around four program areas: cell signaling, molecular immunology, gene regulation, and developmental biology. Research emphasizes initiatives to understand and treat human disease. The Institute occupies 80,000 square feet of newly constructed and fully equipped research space. Institute resources include transgenic/knockout mouse and zebrafish facilities, a molecular biology core, and an imaging core housing both confocal and electron microscopes.

Augusta is the second largest metropolitan area in Georgia. Augusta offers a blend of big-city and small-town life styles, with access to a variety of cultural and recreational opportunities, including classic old homes, the Augusta canal heritage area, the Augusta Arts Council, and the Masters golf tournament.

Reply by December 15, 1998, with curriculum vitae to **James R. Goldenring, M.D., Ph.D., Chair, Search Committee, Institute of Molecular Medicine and Genetics, Medical College of Georgia, Augusta, GA 30912-2697.**

The Medical College of Georgia is an Equal Opportunity Employer. We invite applications from women, racial minorities, and the disabled.

POSITIONS OPEN

FACULTY POSITION IN PHYSIOLOGICAL ECOLOGY OR CONSERVATION BIOLOGY

The Department of Biological Sciences, University of Cincinnati announces a tenure-track position to be filled at the **ASSOCIATE** or **ADVANCED ASSISTANT** rank by September 1999. We seek an individual using quantitative and/or molecular approaches to integrate various biological subdisciplines with ecology and evolution, such as physiological ecology (e.g., endocrine disruptors, physiological impact of environmental change, reproductive biology of endangered species, etc.), conservation biology, or conservation genetics (e.g., genetic structure of small and/or fragmented populations, inbreeding depression, etc.). The individual is expected to develop a rigorous, externally funded research program, and to participate in directing graduate student (M.S. and Ph.D.) research. Teaching duties will include participation in undergraduate/graduate courses in the area of ecology/evolutionary biology, data analysis, and the candidate's specialty. Applicants must have a Ph.D. or equivalent degree; postdoctoral experience will be advantageous. Applicants should submit a curriculum vitae, statement of research and teaching interests, and three letters of recommendation by November 1, 1998, to: **Search Committee, Department of Biological Sciences, University of Cincinnati, Cincinnati, OH 45221-0006.** *The University of Cincinnati is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and persons with disability are encouraged to apply.*

FACULTY POSITION IMMUNOLOGY

The Department of Microbiology and Immunology at Tulane University School of Medicine invites applications for a tenure-track faculty position in immunology at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. Applicants must have a Ph.D. or M.D. degree, evidence of independent research experience, and competitive research support. We welcome applications from candidates with research interests in cellular immunology, including particularly the areas of cancer immunology, host resistance to viral infection, or the function of accessory cells in the immune response. The successful candidate will be expected to develop an externally funded research program and to participate in medical and graduate student teaching. The Department and School of Medicine encompass a broad set of research interests, and excellent opportunities exist for collaboration. For further information about the Department and Tulane Medical School visit our website: <http://www.mcl.tulane.edu/departments/microbiology>. Applicants should submit a curriculum vitae, brief description of research program and career objectives, and the names of three qualified references to: **Faculty Search Committee, Department of Microbiology and Immunology, 1430 Tulane Avenue SL-38, New Orleans, LA 70112.** The search will remain open until a successful candidate is named. *Tulane University is an Equal Opportunity/Affirmative Action Employer.*

DEVELOPMENTAL BIOLOGIST

The Department of Biology at New Mexico State University (NMSU) invites applications for a tenure-track **ASSISTANT PROFESSORSHIP** in animal development. We are especially interested in candidates working at the cell and organ level. The successful candidate will be expected to develop a strong research program and to teach at the undergraduate and graduate levels, including courses in cell biology. All Department of Biology faculty participate in the teaching of introductory courses. Candidates should have a Ph.D., postdoctoral training, and a commitment to excellence in teaching and research. NMSU is a Carnegie I research institution and the Department of Biology offers the Ph.D. The university has modern electron and confocal microscope laboratories and Department of Biology faculty may participate in the Graduate Program in Molecular Biology and the NIH MBRS and MARC programs. Please send curriculum vitae, one-page statements of research and teaching interests, and three letters of reference to: **Search Committee, Department of Biology, New Mexico State University, Las Cruces, NM 88003-8001.** Review of completed applications will begin November 20, 1998, and continue until the position is filled. Position is contingent upon the availability of funding. *New Mexico State University is an Equal Employment Opportunity/Affirmative Action Employer. Offer of employment contingent upon verification of individual's eligibility for employment in the United States.*

POSITIONS OPEN

THREE TENURE-TRACK ASSISTANT PROFESSOR FACULTY POSITIONS

General description: All positions are tenure-track, nine-month appointments. Teaching loads average 12 credits per semester (24 per year), including an introductory biology course, and an advanced course described below. Additional responsibilities: a research program involving undergraduates, student advising, and other departmental service. Ph.D. preferred; required before tenure decision. **INSTRUCTOR** rank if Ph.D. not completed. Evidence of teaching excellence and an active research program required. A successful grant history, undergraduate teaching experience, and mentoring of undergraduate research are desirable. Salary commensurate with qualifications. The University of Wisconsin-Stevens Point Biology Department, part of a four-year comprehensive university, was the recipient of the University of Wisconsin Regents' award for excellence in teaching and emphasis on undergraduate research. On-line course descriptions available at website: <http://www.uwsp.edu/news/uwspcatalog/cbiology.htm>.

MAMMALOLOGIST

Specific requirements: broad training in zoology and mammalian systematics; dissertation and/or publications in mammalogy. Specialty responsibilities: upper-level mammalogy course to biology and wildlife majors; Curatorship of departments' mammal and bird collections.

MOLECULAR BIOLOGIST

Specific requirements: coursework, training, and research in molecular biology. Breadth of background and research will be considered. Specialty responsibilities: development of an upper-level lecture course in molecular biology, with a laboratory component to follow.

PLANT MORPHOLOGIST

Specific requirements: broadly trained Botanist with research interests in plant morphology, preferably of the bryophytes and/or lower vascular plants. Preference given to those with botany teaching experience. Specialty responsibilities: advanced undergraduate course in plant morphology. Curatorship of 50,000 bryophyte and lichen collection possible.

Complete application must include (1) curriculum vitae, (2) one-page statement of teaching goals and philosophy, (3) three letters submitted by individuals familiar with your qualifications, and (4) copies of complete official undergraduate and graduate transcripts. Deadline for receipt of all materials is November 20, 1998.

All applications, supporting materials, and correspondence should be addressed to: (position title), **Attn: Dr. Robert Bell, Chair, Department of Biology, CNR Building, University of Wisconsin-Stevens Point, Stevens Point, WI 54481-3897. Telephone: 715-346-2074; FAX: 715-346-3624; e-mail: rbell@uwsp.edu.**

Colby College is seeking an **ANIMAL BEHAVIORIST** to fill a tenure-track position as **ASSISTANT PROFESSOR** of biology to begin September 1999. A strong background in terrestrial vertebrate physiology is expected. Candidates should have a Ph.D. and a strong commitment to undergraduate education. Teaching normally involves three courses with laboratory per year. The successful candidate will teach animal behavior and mammalian anatomy and physiology each year, and a third course, which in some years will be the team-taught introductory course. An active research program, including the supervision of undergraduate research, will be expected. An attractive start-up package is available. Familiarity with liberal arts colleges, teaching experience, or postdoctoral experience are desirable.

Women candidates will be considered for a Clare Booth Luce Assistant Professorship, which provides dedicated annual research funds and stipends for undergraduate Research Assistants.

Please submit a letter of application, statement of teaching and research interests, curriculum vitae, reprints of three selected publications, undergraduate and graduate transcripts, and three letters of recommendation to: **Professor W. Herbert Wilson, Jr., Associate Chair, Department of Biology, Colby College, 5739 Mayflower Hill Drive, Waterville, ME 04901. Telephone: 207-872-3432; e-mail: whwilson@colby.edu.** For more information about the College, please see the Colby website: <http://www.colby.edu>. Application review will begin November 16, 1998, and will continue until the position is filled. *Colby College is an Affirmative Action/Equal Opportunity Employer, and encourages applications from minorities and women.*

POSITIONS OPEN

Faculty positions. Molecular pathogenesis of bacterial, viral, and other microbial infections. The Department of Microbiology at the University of Colorado Health Sciences Center in Denver, Colorado invites applications for two tenure-track positions at the level of **ASSISTANT** or **ASSOCIATE PROFESSOR**. Academic environment, research facilities, and start-up support are excellent. All candidates are expected to develop independent, externally funded research programs on molecular mechanisms of pathogenesis of bacterial, viral, or other microbial infections. Candidates for Associate Professor must also demonstrate established research productivity and funding in microbial pathogenesis. Departmental faculty teach medical microbiology and participate in microbiology, molecular biology, and biomedical sciences Ph.D. programs as well as the M.D.-Ph.D. program. Faculty rank and salary are commensurate with training and experience. Requirements include a Doctoral degree (Ph.D., M.D., or equivalent) in microbiology or a related field and at least two years of postdoctoral experience. Submit curriculum vitae, description of proposed research, and names, mailing addresses, telephone numbers, and e-mail addresses of three professional references. Candidates for Associate Professor must also submit a summary of their active research grants and pending grant applications. Send correspondence to: **Faculty Search Committee Chair, Department of Microbiology, Campus Box B-175, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Denver, CO 80262.** Review of applications will begin immediately and continue until appointments are made or the search is terminated. *The University of Colorado Health Sciences Center is committed to Equal Employment Opportunity and Affirmative Action.*

FACULTY POSITIONS

The Department of Molecular Biology at Vanderbilt University seeks candidates to fill two tenure-track faculty positions at the level of **ASSISTANT PROFESSOR**. For one of these positions, we are seeking a Structural Biologist or Molecular Biophysicist. We encourage applications from candidates who use X-ray crystallography to study macromolecular structure and function. For the second position, we are seeking a Molecular Geneticist with preference for candidates working with microbial systems. Applicants in related areas of molecular biology that complement the interests of our current faculty might also be considered. (For information about Vanderbilt and the Department, visit our website: <http://www.molbio.vanderbilt.edu>.) The central criteria are excellence of record and the promise of future excellence in research and in teaching molecular biology at undergraduate and graduate levels. Applicants should send a letter of application indicating to which of the positions s/he is applying, together with a curriculum vitae and a statement of current and future research interests, and should arrange for three letters of recommendation to be sent to: **Professor James V. Staros, Chair, Department of Molecular Biology, Vanderbilt University, Box 1820 Station B, Nashville, TN 37235 USA.** Review of applications will begin October 15, 1998, and will continue until the position is filled. *Vanderbilt University is an Affirmative Action/Equal Opportunity Employer. Women and minority candidates are especially encouraged to apply.*

BIOCHEMISTRY FACULTY POSITION

The Department of Biochemistry at Virginia Polytechnic Institute and State University invites applications for a 12-month, tenure-track position at the rank of **ASSISTANT PROFESSOR**. Preference will be given to applicants with potential to develop an externally funded research program in the area of structure-function relationships or posttranslational processing of proteins. Enthusiasm for teaching at the graduate or undergraduate level is essential. The department currently is home to 18 full-time faculty, 25 Postdoctoral Associates and Technicians, 24 graduate students, and over 350 undergraduate majors. The adjacent Fralin Center for Biotechnology offers access to additional facilities and expertise. Locate website: <http://www.biochem.vt.edu> for further information. Review of applications will begin November 20, 1998, and continue until the position is filled. Applicants should send a curriculum vitae, a brief plan of research goals, and three letters of reference to: **Prof. Timothy J. Larson, Chair of Faculty Search Committee, Department of Biochemistry, Virginia Tech, Blacksburg, VA 24061.**

Virginia Tech has a strong commitment to the principle of diversity and, in that spirit, seeks a broad spectrum of candidates including women, minorities, and people with disability.

TOXICOLOGY

AT SCHERING-PLOUGH

The standout success of Schering-Plough for more than a decade comes from a basic commitment to research. Research and development expenditures are expected to increase from \$847 million in 1997 to more than \$1 billion in 1998. New compounds are moving into development from internal drug discovery programs at a rapid rate. You can be a part of this exciting growth environment if you meet the requirements of one of the following opportunities at Schering-Plough Research Institute's **Lafayette Campus**, located in rural **Northwestern New Jersey**.



PRINCIPAL SCIENTIST/STUDY DIRECTOR

Requires Doctoral level training in a scientific specialty related to toxicology and approximately 5 years of experience, preferably in the pharmaceutical industry. Immunology, immunopathology or biochemistry preferred. Will direct GLP internal studies in general toxicology and manage/monitor studies at outside contract laboratories. (Code: DD8141)

SENIOR SCIENTIST/STUDY DIRECTOR

Requires Doctoral level training in a scientific specialty related to toxicology. Immunology, immunopathology or biochemistry preferred. Pharmaceutical industry experience a plus. Will design and direct GLP toxicology studies for regulatory submissions. (Code: DD8139)

We offer an excellent compensation package that includes a competitive salary, comprehensive benefits, profit sharing, 401k and a cash incentive program. Comprehensive benefits include: group insurance and retirement programs, flexible work arrangements, company-sponsored child day-care facilities, educational assistance, health and wellness programs. For prompt, confidential consideration, we invite you to forward a resume which MUST include the **job code** to: **Recruiting Manager-DV, Schering-Plough Research Institute, 144 Route 94, P.O. Box 32, Lafayette, New Jersey 07848; e-mail sprijobs@ny.hodes.com** Please visit our web site at <http://www.sp-research.com> for additional information. We are an equal opportunity employer. We regret we are unable to respond to each resume. Only those selected for an interview will be contacted.



Schering-Plough
Research Institute

Using Science for Human Advantage

PROGRAM OF EXCELLENCE IN MOLECULAR BIOLOGY OF THE HEART AND LUNG Special Postdoctoral Positions

The University of Cincinnati Program of Excellence in Molecular Biology of the Heart and Lung, funded by the National Heart, Lung and Blood Institute of NIH, has as its goal the application of molecular genetic approaches to study heart and lung function. The Program is open to Ph.D's, M.D's, or M.D.-Ph.D's with training in molecular biology who wish to apply their skills to significant problems of heart or lung or to individuals with strong backgrounds in heart and lung who wish to develop molecular tools for continued study of these problems. *We are particularly interested in recruiting underrepresented individuals to the Program.* Stipends begin at \$31,000 per year with an excellent benefit package. The faculty and their interests are described below. *The Program is limited to U.S. citizens and permanent residents.*

Jerry B Lingrel: *Na,K-ATPase gene regulation, knockout, and replacement studies and structure-function studies. Role of transcription factors in lung and erythroid development.*

Jeffrey Whitsett: *Molecular biology of lung development, surfactant homeostasis, host defense, and lung-specific gene expression.*

Paul Rosevear: *Structure/function relationships in cardiac muscle using NMR and biochemical techniques.*

Gary Shull: *Role of ion-transport proteins in cardiac function and control of arterial blood pressure using gene targeting technology.*

Jeffrey Robbins: *Targeted modification of the cardiac contractile proteins and growth and developmental control of cardiac muscle.*

Steven Potter: *Manipulating genes important in heart and lung development by insertional mutagenesis and targeted modification in ES cells.*

Thomas Doetschman: *Role of growth and differentiation factors in the development and function of heart and lung using targeted gene modification in the mouse.*

Anil Menon: *The genetics of human cardiovascular disease.*

Stephen Liggett: *Molecular biology, pharmacology, and structure/function of cardiopulmonary adrenergic receptors.*

Applicants should submit a curriculum vitae and the names of three references to **Jerry B. Lingrel, Ph.D. Director, Program of Excellence in Molecular Biology, Department of Molecular Genetics, Biochemistry and Microbiology, University of Cincinnati, College of Medicine, 231 Bethesda Avenue, Cincinnati, OH 45267-0524.** For more information, <http://www.molgen.uc.edu/poe.htm>.

Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

ASSOCIATE PROFESSOR MOLECULAR BIOLOGY

The Department of Biological Sciences at the University of Nevada, Las Vegas (UNLV) seeks an established scientist at an Associate Professor level. Candidates for this position will have demonstrated productivity and expertise in the use of state-of-the-art molecular approaches to address fundamental questions in biology. Possible research areas include, but are not limited to, cellular metabolism, signal transduction, cell determination and differentiation, gene regulation, and molecular genetics. The successful applicant will be expected to be well established in her/his scientific community and to take a leadership role within a developing cellular and molecular biology group. Current members of this group have research interests including eukaryotic cell migration, developmental genetics, neurogenetics, bacterial pathogenesis, and microbial ecology. Opportunities also exist for collaboration with departmental members involved in research areas including biological responses to global climate change, and ecology and evolution in arid systems. The successful candidate will be expected to teach both graduate and undergraduate students, and maintain an externally funded research program that includes mentoring of M.S. and Ph.D.-level graduate students. A competitive start-up package and modern laboratory space will be provided. Applicants should provide a curriculum vitae, names and addresses of three references, concise description of current and future research interests, and a statement of teaching philosophy. Applicants should send these items and arrange for letters of recommendation to be sent to: **Dr. Dawn Neuman, Chair, Department of Biological Sciences, University of Nevada, Las Vegas, 4505 Maryland Parkway, Las Vegas, NV 89154-4004.** Website: <http://www.unlv.edu/Colleges/Sciences/Biology/>. Position is contingent upon funding. Salary is commensurate with qualifications and experience. The University has an excellent fringe benefits package. Review of applications will begin November 5, 1998, and continue until the position is filled. *Affirmative Action/Equal Opportunity Employer. Minorities, women, veterans, and the disabled are encouraged to apply.*

ASSISTANT OR ASSOCIATE PROFESSOR THE PENNSYLVANIA STATE UNIVERSITY COLLEGE OF MEDICINE

The Department of Cellular and Molecular Physiology invites applications from highly motivated individuals for faculty positions. Applicants are expected to establish/maintain a dynamic, extramurally supported research program, to teach and mentor graduate and medical students, and to actively contribute to departmental and college-wide research and educational activities. We seek individuals who are utilizing state-of-the-art technologies and approaches to address questions relevant to physiology. For additional information about the department and the research interests of its faculty, please see website: <http://www.hmc.psu.edu/physio/program.htm>. Please submit a curriculum vitae, a statement of research interests, and three letters of recommendation to: **Faculty Search Committee, Department of Cellular and Molecular Physiology, The Pennsylvania State University College of Medicine, 500 University Drive, H166, Hershey, PA 17033.** Penn State is committed to Affirmative Action/Equal Opportunity and the diversity of its work force.

DEVELOPMENTAL BIOLOGIST

Clarke College, a growing, Catholic, coeducational, liberal arts college in Dubuque, Iowa seeks qualified candidates for a Developmental Biologist/Comparative Anatomist for a nine-month, teaching, **TENURE-TRACK POSITION** in its Biology Department. Position begins in the fall of 1999. Candidates with a completed Ph.D. are preferred; advanced A.B.D.'s will be considered. Individuals should have a documented, strong record of successful teaching and be supportive of the liberal arts. Candidate will teach undergraduate courses in developmental biology, vertebrate structure, and accompanying laboratories. Other responsibilities will include teaching introductory biology, supervising undergraduate research projects, and advising students. Applicants should send a current curriculum vitae, a letter of application indicating teaching philosophy and research interests, copies of transcripts, and three letters of recommendation with telephone numbers to: **Dr. Mary Coan, Interim Chair, Biology Department, Clarke College, 1550 Clarke Drive, Dubuque, IA 52001-3198.** Visit our website: www.clarke.edu.

POSITIONS OPEN



Marine bioorganic chemistry. The University of North Carolina at Wilmington seeks a **SENIOR-LEVEL** scientist to augment existing research and teaching leadership in the Department of Chemistry and in the Center for Marine Science Research (CMSR) (website: <http://www.uncwil.edu>). Applicants must have a Ph.D. in organic chemistry, an international reputation in marine toxins and marine natural products, and a record of scholarship, teaching, and service appropriate for appointment at the rank of **PROFESSOR**. An aptitude for working within a broad, multidisciplinary work environment, experience in stable isotope biosynthetic labeling techniques and pathways, and experience in industrial technology transfer are all important assets. For an appropriately qualified scientist meeting these criteria, an **ENDOWED CHAIRED PROFESSORSHIP** is available. Applicants should submit a complete curriculum vitae, names of three references, and copies of three relevant publications to: **Director, Center for Marine Science Research, Office of the Provost, University of North Carolina at Wilmington, 601 South College Road, Wilmington, NC 28403-3297.** Review of applications will begin December 1, 1998, and continue until the position is filled. *The University of North Carolina at Wilmington is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

JUNIOR FACULTY POSITION CARNEGIE MELLON UNIVERSITY BIOINORGANIC CHEMISTRY

The Department of Chemistry at Carnegie Mellon University invites applications for a position at the **ASSISTANT PROFESSOR** level in the area of bioinorganic chemistry. It is expected that candidates show the potential to become leading researchers and educators. Candidates should provide a letter of intent, along with a résumé that includes a full description of research interests in the form of research proposals, a list of publications, three letters of recommendation, and, if applicable, records of teaching. Applications should be sent to: **Professor Eckard Münck, Department of Chemistry, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213.** Selection process will begin on December 1, 1998. Information about the Chemistry Department is available on its website: www.chem.cmu.edu. *Carnegie Mellon University is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITIONS IN CELLULAR AND MOLECULAR IMMUNOLOGY AT COLUMBIA UNIVERSITY College of Physicians and Surgeons

The Departments of Biochemistry, Medicine, Microbiology, and Pathology at Columbia University College of Physicians and Surgeons invite applications from outstanding individuals in the fields of cellular or molecular immunology. Several faculty positions are available, and appointments can be either tenure-track or tenured, and at **ANY RANK**, depending on the qualifications and experience of the applicant. Please send a letter of interest, statement of research interests, current curriculum vitae, and names of three references to: **Dr. Kathryn Calame, Chair, Immunology Search Committee, Department of Microbiology, Columbia University, 701 West 168th Street, New York, NY 10032.** Applications are requested by January 1, 1999.

Columbia University is an Affirmative Action/Equal Opportunity Employer.

The Department of Chemistry of The University of Chicago invites applications from outstanding individuals for the position of **ASSISTANT PROFESSOR** of chemistry. This search is in the areas broadly defined as inorganic and organic chemistry. Postdoctoral experience is preferred. Applicants should submit a curriculum vitae, a list of publications, and a succinct outline of their research plans. Candidates should arrange for three letters of recommendation to be sent directly to: **James R. Norris, Jr., Chairman, Department of Chemistry, The University of Chicago, 5735 South Ellis Avenue, Chicago, IL 60637.** Deadline for application materials is October 31, 1998. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA, BERKELEY DEPARTMENT OF BIOENGINEERING

The University of California, Berkeley invites applications for tenure-track positions in bioengineering beginning in fall semester 1999. Applications for appointments at the **ASSISTANT PROFESSOR**, **ASSOCIATE PROFESSOR**, and **FULL PROFESSOR** levels will be considered. The faculty positions are tenure-track in the Department of Bioengineering, a joint program at University of California, Berkeley and University of California, San Francisco.

Applicants should have received (or be about to receive) a Doctoral degree in a field of engineering or science related to bioengineering. The academic and research programs seeking faculty are tissue engineering, bioMEMS, and related bioengineering themes at the interface of engineering, biology, medicine, physics, and chemistry. A principal requirement is demonstrated excellence in research. In addition, potential for excellence in teaching and leadership are important requirements. Successful applicants will be expected to establish a quality research program and to teach both graduate and undergraduate courses in their general area of engineering specialty.

Interested persons should send a résumé, a selected group of publication reprints (five or less), a one- to two-page statement of their future research plans and interests, and the names of three references by January 31, 1999, to the address below. The applicant should request their references forward letters of reference directly to the same address. These letters will not be requested directly by the department. Applications received after the deadline will not be considered; earlier applications are encouraged.

**Bioengineering Faculty Search Committee Chair
c/o Marcia Steinfeld
College of Engineering Dean's Office
315 McLaughlin Hall #1700
Berkeley, CA 94720**

Applications postmarked after the deadline will not be considered.

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

ANIMAL PHYSIOLOGIST

The Department of Biology, University of Dayton, invites applications for a tenure-track **ASSISTANT PROFESSOR** position. We particularly seek candidates who use cellular, molecular, or developmental approaches in the study of tissue and organ physiology. The successful applicant will be expected to build a strong research program and successfully compete for outside funding to support his/her research. Teaching responsibilities include one formal lecture course and a laboratory course in animal physiology, advanced physiology, or introductory biology each semester. A Ph.D. and at least two years of postdoctoral experience is required. Please send updated résumé, including statement on research and teaching interests, along with three letters of recommendation to: **Dr. Panagiotis A. Tsonis, Chair, Physiology Search Committee, Department of Biology, University of Dayton, 300 College Park, Dayton, OH 45469-2320.** The deadline is November 9, 1998.

The University of Dayton is an Affirmative Action/Equal Opportunity Employer. Women and minorities are strongly encouraged to apply.

The University of California, San Diego Department of Chemistry and Biochemistry invites applications for a **TENURE-TRACK** or **TENURED FACULTY POSITION** in pharmacological chemistry. Candidates must have a Ph.D. and a demonstrated ability for creative research and teaching at the undergraduate and graduate levels. The committee is interested in receiving applications from individuals using chemical and biochemical approaches to solve problems in pharmacological science. Salary commensurate with qualifications and based on University of California pay scale. Position subject to availability of funds. Candidates should send a curriculum vitae, a list of publications, reprints of up to five representative papers, a summary of research plans, and names and addresses of three references to: **Chair, Pharmacological Chemistry Search Committee 3-530, University of California, San Diego, Department of Chemistry and Biochemistry—0332, La Jolla, CA 92093-0332.** The deadline for applications is November 13, 1998, but until positions are filled all applications received will be assured full consideration. *The University of California is an Equal Opportunity/Affirmative Action Employer.*



**St. Jude Children's
Research Hospital**

ALSAC • Danny Thomas, Founder

Postdoctoral position in Molecular Neurobiology

This laboratory is interested in identifying molecular events that play a defining role in the processes of neuronal degeneration. Presently the main focus of this work concerns the molecular events that underlie the human neurodegenerative syndrome of ataxia telangiectasia (for a description of recent work see; Science [1998] 280, 1089). This NIH-funded postdoctoral position would be suited to a recent Ph.D. and/or MD with a molecular biology or neurobiology background. This position will provide excellent training for someone interested in obtaining experience in current techniques in molecular neurobiology.

Support facilities at this institution are exceptional, and the research environment is highly interactive. This position is available immediately, and interested candidates should send a curriculum vitae and must arrange to have three letters of recommendation sent to: Peter McKinnon, Ph.D., Department of Genetics, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105-2794. EOE.

Evolutionary Genomics at the Marine Biological Laboratory Woods Hole, Massachusetts

The Bay Paul Center for Comparative Molecular Biology and Evolution at the Marine Biological Laboratory at Woods Hole invites applications and nominations for a position in **Molecular Evolution**. Appointments will be made at the level of **Assistant** or **Associate Scientist** (equivalent to rank of Assistant or Associate Professor). Candidates are expected to have an outstanding, innovative research program in **Comparative Molecular Biology and Evolution** that is capable of attracting external support. Start-up packages and salaries are competitive.

Applicants should submit a *curriculum vitae*, statement of research interests, and a list of five references to **Dr. Mitchell L. Sogin, Director, Center for Comparative Molecular Biology and Evolution, Marine Biological Laboratory, 7 MBL Street, Woods Hole, MA 02540**. Position is open until filled but initial applications must be received by **December 15th, 1998**.



*MBL is an Equal Opportunity/Affirmative Action/
Nonsmoking Institution.*

**National Cancer Institute
National Institutes of Health**

ASSISTANT DIRECTOR FOR INDUSTRIAL RELATIONS

CA-98-1986

Opening Date: September 28, 1998

Closing Date: November 6, 1998

The National Cancer Institute (NCI) seeks an Assistant Director for Industrial Relations in the Office of Technology and Industrial Relations within the Office of the Deputy Director for Extramural Science. The National Cancer Institute is the foundation of the nation's investment in cancer research, supporting research into the biology of cancer, factors in cancer risk, prevention strategies, new approaches to detection and diagnosis, novel therapeutics, and rehabilitation.

The Assistant Director will play a critical role in coordinating new approaches and enhancing opportunities for industry to interact with the extramural scientific programs of the NCI. The Assistant Director will acquire expertise related to areas of science and opportunities for industrial interactions that span the Institute's mission. In addition, the Assistant Director will target unmet information needs of industry with respect to cancer, cancer research and the NCI; create a "user friendly" interface for information related to opportunities for industry to interact with NCI extramural programs; and, work closely with existing NCI programs and the Technology Development and Commercialization Branch in establishing industrial relations that can forward NCI's missions. The Assistant Director will hold significant responsibility in representing scientific priorities for industrial relations and programs of the NCI to the industrial community. Activities are intended to enhance scientific interchange and collaboration between the NCI extramural programs and industry and are distinct, yet complementary, to the technology transfer activities of the Technology Development and Commercialization Branch of the NCI. This position requires outstanding communication and leadership skills, as well as creative ideas related to information exchange and scientific partnering.

SALARY RANGE AND BENEFITS: Salary ranges from \$77,798 - \$101,142 per annum. Benefits include health and life insurance, retirement, paid holidays, vacation and sick leave. Salary quoted includes locality pay.

APPLICATION PROCEDURES: The NCI recruitment bulletin for this position contains complete application procedures and lists all mandatory information which you must submit with your application. To obtain the recruiting bulletin, call **1-800-728-JOBS** (for local calls, 301-594-2953). When prompted, enter the "Fax ID Number" **1883**. You will be prompted for your fax machine number. If you have any questions on qualification requirements or application procedures, or if you wish to obtain a position description or other information, please call (301) 402-2812.

Please submit your resume, SF-171, Application for Federal Employment or OF-612, Optional Application Form by the closing date to:

**National Institutes of Health
National Cancer Institute
Human Resource and Consulting Branch
6120 Executive Boulevard, MSC 7211
Executive Plaza south, Suite 550
Rockville, Maryland 20852-7211**

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

POSITIONS OPEN

The Department of Biology, Georgia Southern University, invites applications for two tenure-track positions at the **ASSISTANT PROFESSOR** level. Proficiency in written and spoken English required. Postdoctoral experience preferred. Starting date for both positions is 1 August 1999. Salary is competitive and commensurate with experience and qualifications. Application postmark deadline is 1 December 1998. Ph.D. required at time of application. See website: <http://www.bio.gasou.edu/> for additional information about the department.

MICROBIOLOGIST. Applicants must have broad training in microbiology and a commitment to teaching and scholarship. The specific area of research is open. Teaching responsibilities include microbiology for health professional students and upper-level courses in the applicant's area of expertise. **Dr. Oscar Pung, Chair, Search Committee #37127.**

VERTEBRATE BIOLOGIST. Applicants must have broad training in vertebrate biology with a commitment to teaching and scholarship. The specific area of research is open, but preference will be given to persons whose research contributes to a departmental emphasis in the biology of the Southeastern Coastal Plain. Teaching responsibilities include general biology and advanced courses in the applicant's area of expertise. **Dr. James Claiborne, Chair, Search Committee #37128.**

Send a letter of application, curriculum vitae, brief statement of teaching and research interests, and have three letters of reference sent to: The Search Chair (as shown above), Department of Biology, P.O. Box 8042, Georgia Southern University, Statesboro, GA 30460-8042 USA. The names of applicants and nominees, résumés, and other general nonevaluative information are subject to public inspection under the Georgia Open Records Act. Georgia Southern is an Equal Opportunity/Affirmative Action Institution. Persons who need reasonable accommodations in order to participate in the application process should notify the Search Chair.

PROVIDENCE COLLEGE

ASSISTANT PROFESSOR of biology. Applications are invited for a tenure-track position in the Biology Department at Providence College beginning September 1999. Applicants are required to have a Ph.D., the ability to establish a research program involving undergraduates in their respective fields, and the ability to apply for extramural funding. The applicant should have a strong commitment to undergraduate education and be willing to foster a collaborative atmosphere among students and faculty in keeping with the Mission of the College.

The Department is seeking a **PHYSIOLOGIST** at the cell to organismal level. The successful applicant will teach physiology and the physiology component of the general biology course for majors. Other responsibilities include the development of new courses for majors and non-majors.

Providence College is a Roman Catholic, four-year, liberal arts college conducted under the auspices of the Dominican Friars. Applicants should submit curriculum vitae, transcripts, a statement of teaching philosophy and research interests, and three letters of recommendation by October 31, 1998, to: **Dr. Michael S. Zavada, Chairperson, Biology Department, Providence College, Providence, RI 02918-0001.** For additional information about the Biology Department and Providence College refer to website: <http://www.providence.edu>. Providence College is an Affirmative Action/Equal Opportunity Employer. Women and minorities are especially encouraged to apply.

CHAIR OF BIOLOGICAL SCIENCES

Sam Houston State University invites applications for Chair of the Department of Biological Sciences (and Environmental Science Program) to begin 1 June 1999. Candidates must have a quality record of graduate and undergraduate educational skills, scientific accomplishments, research funding, curriculum development and evaluation, and evidence of administrative and leadership ability. The successful candidate will lead a department whose strengths reside in basic and environmental biology, ecology, and fundamental cell/molecular biology. Send letter of application, curriculum vitae, statements of teaching philosophy and administrative expertise, and contact information for four references to: **Dr. J. Hudson, Department of Biological Sciences, Sam Houston State University, Huntsville, TX 77341-2116.** Applicant review will commence 1 November 1998 and continue until position is filled. Departmental website: http://www.shsu.edu/~bio_www. Sam Houston State University is an Equal Employment Opportunity/Affirmative Action Employer. A member of The Texas State University System.

POSITIONS OPEN



ASSOCIATE/FULL PROFESSOR UNIVERSITY OF NEBRASKA-LINCOLN Molecular Plant Science Initiative in Plant Signaling

The University of Nebraska-Lincoln is continuing its search for highly qualified faculty to enhance its Molecular Plant Science Initiative in Plant Signaling. This program will fund up to seven new tenure-track positions over four to five years. In addition to a **SENIOR-LEVEL** position, we are now also seeking to fill up to two positions at the level of **ASSOCIATE** or **FULL PROFESSOR**. Investigators interested in building a focused research team in concert with other applicants are encouraged to apply.

The Molecular Plant Science Program will be housed in the recently completed, state-of-the-art Beadle Center with an attached greenhouse/growth chamber complex. Research facilities are excellent and the program will include competitive salaries, start-up and recurring funds, postdoctoral and graduate programs, and symposia and seminar funds. Faculty research should involve the use of molecular biochemical and/or cellular approaches to solve fundamental problems in experimental plant biology related to signaling. Successful candidates will be expected to maintain vigorous, externally funded research programs and assume teaching responsibilities in graduate and/or undergraduate courses in the appropriate discipline. Tenure home will be in one of several participating departments.

Applicant screening will begin November 1, 1998, and will continue until positions are filled. Applicants should send statement of research interests, curriculum vitae, and request that three letters of recommendation be sent. Nominations and requests for program information should also be sent to:

Dr. Paul Staswick
Department of Agronomy
University of Nebraska-Lincoln
P.O. Box 830915
Lincoln, NE 68583-0915
E-mail: pstaswick@crecvm.unl.edu
Telephone: 402-472-5624

UNL is committed to a pluralistic campus community through Affirmative Action and Equal Opportunity; is responsive to the needs of dual-career couples; and assures reasonable accommodation under the Americans with Disabilities Act. Contact: **Dr. Staswick** for additional information.

BIOLOGIST

Hampden-Sydney College seeks to fill a tenure-track position at the **ASSISTANT PROFESSOR** level, to start August 1999. Applicants should enjoy teaching a wide range of undergraduate biology courses and will be expected to teach at least half of their hours at the introductory level, but must be able to teach a laboratory course in genetics, plus other advanced courses (such as molecular biology) according to the successful candidate's areas of expertise. Applicants must hold the Ph.D. in a biological science and must be able to maintain a research program appropriate to a four-year college and suitable for undergraduate involvement. Applicants should have a commitment to liberal arts education and, preferably, experience teaching in such an environment. Hampden-Sydney College, located in rural south central Virginia, is the nation's tenth oldest institution of higher education. It is a selective liberal arts college for men with an enrollment of 970. The Department of Biology has six faculty members and graduates about 20 majors each year. Applicants should send curriculum vitae and three letters of recommendation to: **Dr. Alexander J. Werth, Chair of the Search Committee, Department of Biology, Box 3, Hampden-Sydney College, Hampden-Sydney, VA 23943.** The application deadline is November 9, 1998. Hampden-Sydney is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

ENVIRONMENTAL ENGINEERING BIOTECHNOLOGY/MICROBIOLOGY

The Department of Chemical Engineering at Yale University invites applications for an **ASSISTANT/ASSOCIATE PROFESSOR** position in environmental engineering biotechnology/microbiology starting July 1, 1999. This position is part of the ongoing initiative at Yale University to develop an interdisciplinary environmental engineering program involving engineering and science departments as well as the School of Forestry and Environmental Studies. Applicants should have a Ph.D. degree in environmental or chemical engineering or a related field. Candidates are expected to have research interests and demonstrated expertise in biotechnological processes relevant to environmental engineering of aqueous systems. A focus on novel techniques for the biodegradation of organic contaminants in engineered and natural systems would be of particular interest. The successful candidate will be expected to teach undergraduate and graduate courses in environmental engineering and related engineering science, advise graduate students, and develop a creative and dynamic externally funded research program.

Nominations and applications with a detailed résumé, a description of research and teaching interests, and names and addresses of at least four references should be sent to:

**Chair, Environmental Engineering Search Committee
Department of Chemical Engineering
Yale University
P.O. Box 208286
New Haven, CT 06520-8286**

Applications received by December 31, 1998, will be treated preferentially.

Yale University is an Affirmative Action/Equal Opportunity Employer and welcomes applications from women and members of minorities.

TENURE-TRACK POSITIONS DEPARTMENT OF PHYSIOLOGY University of Tennessee, Memphis

The University of Tennessee, Memphis Department of Physiology is actively recruiting for two tenure-track faculty positions. Academic rank is dependent upon experience and qualifications. Candidates should have a Ph.D. or M.D. degree, a good track record in publications, and postdoctoral research experience with a background in cellular and/or molecular biology. The abilities to establish an independent research program in the areas of cardiovascular, gastrointestinal, developmental, endocrine, or epithelial physiology and to engage in teaching activities of the department are expected.

Applicants should send a curriculum vitae, copies of three representative publications, and the names of three references to: **Dr. Leonard R. Johnson, Chair, Department of Physiology, University of Tennessee, Memphis, 894 Union Avenue, Memphis, TN 38163.** The University of Tennessee is an Equal Employment Opportunity/Affirmative Action/Title VI/Title IX/Section 504/ADA/ADEA Employer. Minorities and females are encouraged to apply.

The Department of Biological Sciences at San Jose State University invites applications for a tenure-track position in microbiology at the **ASSISTANT PROFESSOR** level to begin August 1999. Applicants should possess a Ph.D. or equivalent degree and be a general Microbiologist familiar with all major microbial groups at the molecular, cellular, environmental, and evolutionary levels. The successful candidate will have demonstrated expertise in one of the following specialties: microbial physiology, industrial microbiology, microbial diversity/evolution, or bioprocessing. The candidate shall also have a proven record of excellence in teaching or a demonstrable potential for excellence in teaching, especially to a diverse and multicultural student body. Teaching duties will include microbiology lecture and laboratory courses for majors and non-majors, graduate seminars, and development of curricula in their area of expertise. Also, all faculty have the opportunity to teach in the general education program. Research activity involving undergraduate and Master's students is expected. For full consideration send a letter of application, curriculum vitae, university graduate transcripts, statement of teaching and research interests, and three letters of reference by January 1, 1999, to: **Microbiology Search Committee, Department of Biological Sciences, San Jose State University, One Washington Square, San Jose, CA 95192-0100. FAX: 408-924-4840; Telephone: 408-924-4900; e-mail: sally_veregge@biomail.sjsu.edu.** Please refer to PVIN: SCI 99-0003. SJSU is an Equal Opportunity/Affirmative Action Employer.

MICHIGAN STATE UNIVERSITY

FACULTY POSITIONS IN BIOCHEMISTRY AND MICROBIOLOGY

CHROMATIN STRUCTURE, FUNCTION AND REGULATION The Department of Biochemistry at Michigan State University invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level in the general area of chromosome or chromatin structure, function or regulation. Applicants must have a Ph. D. and postdoctoral research experience that demonstrates productivity and gives evidence of potential for independent research. We seek to recruit a colleague who will complement existing research programs on transcription, replication, mutagenesis and repair, and recombination. The successful applicant will participate in the Program on the Biochemistry of the Cell Nucleus, an area of emphasis in the Biochemistry Department. Other areas of strength in the department include plant biochemistry and protein structure, function and design. Substantial research space will be available in a well-equipped building. The Department has vigorous graduate and postdoctoral training programs, and cooperates extensively with graduate training programs in Genetics and Cell and Molecular Biology as well as with the Cancer Center at MSU. Applicants should submit a curriculum vitae and a description of research accomplishments and future interests, and have three letters of recommendation sent on their behalf to **Dr. William L. Smith, Chairperson, Department of Biochemistry, Box S, Michigan State University, East Lansing, MI 48824-1319**. To ensure consideration, applications should be received by December 1, 1998. Further information about the Department of Biochemistry is available at www.bch.msu.edu.

CARCINOGENESIS The Department of Microbiology and the Cancer Center at Michigan State University invite applications for a tenure-track position at the **ASSISTANT/ASSOCIATE PROFESSOR** level. Outstanding applicants are sought who have a Ph. D. degree or equivalent, postdoctoral research experience and a record of excellence in research. The successful applicant is expected to establish a strong, extramurally funded research program in an area related to cancer genetics, cellular and/or molecular mechanisms underlying neoplastic transformation and/or tumor progression, growth factor- or hormone-regulated growth control. S/he will interact and collaborate with other members of the Cancer Center faculty. A strong commitment to undergraduate and graduate education is essential. Michigan State University has made major commitments to its new Cancer Center, which currently has active research programs in carcinogenesis, breast cancer, and control of gene expression and DNA replication. This academic appointment will be in the Department of Microbiology; a joint appointment in a clinical department can be arranged. A competitive package of start up funds will be provided. Applicants should send a curriculum vitae, a complete list of publications and external research support, a description of research interests, relevant reprints and preprints, and have three reference letters sent by December 1, 1998 to: **Dr. Michele M. Fluck, Chair, Carcinogenesis Search Committee, Giltner Hall, Michigan State University, East Lansing, MI 48824-1101**. Further information on relevant programs can be found at www.msu.edu/unit/mic/www-mic.html and www.ns.msu.edu/cmb.

*Michigan State University is an affirmative action / equal opportunity employer.
Candidates from groups underrepresented in academic science are encouraged to apply.*

Department of Molecular Microbiology and Immunology Brown University



FACULTY POSITION IN IMMUNOLOGY

A full-time faculty position is open for an Assistant Professor (renewable tenure-track) with research interests in immunology, using mouse models, to study immune responses to microbial infections *in vivo* and/or *in vitro* lymphocyte development and function. Preference will be given to individuals with expertise complementing that of the existing faculty. There is particular interest in work on defense against bacteria and/or viruses. Final selection will be for a candidate of outstanding ability. Applicants should have doctoral degree and at least two years of postdoctoral experience using mouse models. They must show evidence of ability to establish and maintain a productive, independent, externally funded research program, and must demonstrate potential for excellence in teaching immunology and/or microbiology. Opportunities exist to interact with members of the Graduate and Postdoctoral Programs in Division of Biology and Medicine. Teaching responsibilities include participation in the basic science microbiology course for medical students, as well as an upper-level course in immunology and/or microbiology. Academic advising of undergraduate and graduate students and service to the Division of Biology and Medicine are responsibilities assumed by all faculty members of the Department. It is anticipated that the appointment will begin on July 1, 1999. Applications received by November 30, 1998, will receive full consideration. Applicants should submit a curriculum vitae including research and teaching experience, publications, and future research plans; enclose representative reprints; and have three letters of recommendation sent to **Dr. Christine A. Biron, Chairperson of the Faculty Search Committee, Department of Molecular Microbiology and Immunology, Box G-B6, Division of Biology and Medicine, Brown University, Providence, RI 02912**.

*We encourage qualified women and minority candidates.
Brown University is an Equal Opportunity/Affirmative Action Employer.*



Tenure-Track Scientists Neurogenetics Branch NINDS, NIH

The Division of Intramural Research of the National Institute of Neurological Disorders and Stroke invites nominations and applications to fill two tenure-track research positions in the newly created Neurogenetics Branch, headed by **Dr. Kenneth Fischbeck**. We are seeking exceptional candidates to establish independent and imaginative research programs related to hereditary neurological disease, with a particular emphasis on disease mechanisms at the cellular and molecular level. The applicant's research focus could be on hereditary neuromuscular or neurodegenerative disease. A Ph.D. or M. D. degree and at least two years of productive postdoctoral research experience are required. Research support (positions, laboratory budget, and space) will be provided by the NINDS. The salary and research resources will be commensurate with the qualifications and experience of the candidate.

Applicants should send curriculum vitae, bibliography, statement of research interests, and the names of three references to:

**Dr. Robert Nussbaum
c/o Glenn Hartzoge
Building 31, Rm. 8A23
NINDS, NIH
31 Center Drive, MSC 2540
Bethesda, MD 20892-2540**

Applications must be postmarked by December 15, 1998.

NIH is an Equal Opportunity Employer.

POSITIONS OPEN

MICROBIAL ECOLOGIST INVERTEBRATE BIOLOGIST EASTERN MICHIGAN UNIVERSITY

Eastern Michigan University's Department of Biology invites applications for two tenure-track **ASSISTANT PROFESSOR** positions available fall 1999; a Microbial Ecologist and an Invertebrate Biologist. For the Invertebrate Biologist position we are seeking an individual who is capable of teaching the taxonomy and ecology of invertebrates and parasitology and we are particularly interested in applicants whose research is in aquatic systems. Successful candidates will be expected to develop research programs capable of attracting external funding, participate in graduate programs and an emerging new undergraduate curriculum, and complement the expertise and diversity of the department. The position requires a Ph.D., teaching experience, and productive research. The Department has 22 faculty with graduate program concentrations in ecology and organismal biology, molecular and cellular biology, and general biology. Submit a letter of interest, curriculum vitae, statement of teaching interests and philosophy, description of research, relevant reprints, copies of transcripts (unofficial acceptable), and three letters of reference to: **Chair, Microbial Ecologist Search Committee (Position F9911) or Chair, Invertebrate Biologist Search Committee (Position F9912), 202 Bowen, Eastern Michigan University, Ypsilanti, MI 48197. Website: www.emich.edu/public/biology/bioweb.htm. Deadline for receipt of materials is November 9, 1998. For additional information, contact: **Douglas Shapiro, Biology Department Head, Telephone: 734-487-4242; FAX: 734-487-9235.** Women and members of minority groups are encouraged to apply. Affirmative Action/Equal Opportunity Employer.**

TWO ASSISTANT PROFESSOR POSITIONS ANIMAL CELL PHYSIOLOGY AND MICROBIAL ECOLOGY

The Department of Biological Sciences at the University of Arkansas has two openings for tenure-track Assistant Professors to begin August 16, 1999. We invite applications from candidates who have a Ph.D. (or equivalent), postdoctoral experience, and demonstrated abilities to establish innovative research programs using empirical approaches for the study of animal cell physiology and microbial ecology. Both appointees will be expected to teach courses at the undergraduate and graduate level and to develop a vigorous, externally funded research program. For more information on the University and Department see [website: <http://comp.uark.edu/~bioinfo/bisc.html>](http://comp.uark.edu/~bioinfo/bisc.html). Applications should include a curriculum vitae, a statement of teaching and research interests, reprints of published papers, and at least three letters of recommendation. They should be sent to: **Dr. William J. Etges, Chair, Physiology Search Committee or Dr. R. D. Evans, Chair, Ecology Search Committee, Department of Biological Sciences, SCEN 629, University of Arkansas, Fayetteville, AR 72701.** Review of applications will begin December 1, 1998, and continue until the position is filled. The University of Arkansas is an Equal Opportunity/Affirmative Action Employer. Applicants must have proof of legal authority to work in the United States at the time of hire. The Department is especially interested in applications from qualified candidates who would contribute to racial, ethnic, and gender diversity.

ASSISTANT PROFESSOR of immunology/virology. Southeastern Louisiana University has reopened its search for a tenure-track Assistant Professor of immunology/virology in the Department of Biological Sciences available, August 1999. Qualifications: Ph.D. and postdoctoral training. The successful candidate will maintain an active research program, direct undergraduate and graduate student (M.S. candidates), and participate in teaching at the undergraduate and graduate level in immunology, virology, genetics, and/or cell biology. Salary is commensurate with experience and qualifications. Review of applications will begin November 16, 1998, and will continue until the position is filled. Applicants should submit a letter of application, curriculum vitae, a copy of all transcripts (originals required upon employment), a summary of research interests and teaching philosophy, and three current letters of reference to: **William N. Norton, Department of Biological Sciences, Southeastern Louisiana University, SLU 10736, Hammond, LA 70402.** Refer to the Department of Biological Sciences Internet page for more information at [website: \[www.selu.edu/biology\]\(http://www.selu.edu/biology\)](http://www.selu.edu/biology). SLU is an Affirmative Action/ADA/Equal Employment Opportunity Employer.

POSITIONS OPEN

CEDAR CREST COLLEGE

Founded in 1867, Cedar Crest College is a four-year, independent liberal arts college for women. 1,700 students attend from 26 states and 20 countries and choose from over 35 majors and preprofessional programs. The beautiful 84-acre campus, a registered national arboretum, is located in the Lehigh Valley of Pennsylvania. The College is 90 miles from New York City and 60 miles from Philadelphia. Cedar Crest College emphasizes cross-disciplinary cooperation and excellence in undergraduate teaching.

ASSISTANT PROFESSOR NEUROSCIENCE

The Department of Biology at Cedar Crest College seeks a tenure-track faculty member at the Assistant Professor level with a background in biopsychology. Applicants must have a Ph.D. and be committed to excellence in undergraduate teaching and research. The successful candidate will participate in the newly initiated neuroscience program that includes faculty from the Biology and Psychology Departments. Teaching responsibilities include team-taught introductory neuroscience, psychopharmacology, and other courses required by the curriculum. In addition, maintaining an active research program with extensive undergraduate involvement is expected. Research projects confined to nonmammalian systems.

Please submit curriculum vitae, a detailed statement of teaching philosophy and research goals, including how this research would involve undergraduates, copies of recent publications, and have three letters of recommendation sent to: **Dr. Brian S. Misanko, Chair, Department of Biology, Cedar Crest College, 100 College Drive, Allentown, PA 18104.** Review of applications will begin November 1, 1998. Equal Opportunity Employer.

CELL BIOLOGY/SIGNAL TRANSDUCTION

The Department of Cell Biology, Neurobiology, and Anatomy at Loyola University Stritch School of Medicine is accepting applications for a full-time tenure-track position at the **ASSISTANT or ASSOCIATE PROFESSOR** level. While the primary area of research interest is signal transduction pathways in immunology or developmental cell biology, other closely related areas will be considered. The successful applicant must demonstrate proven abilities in establishing an extramurally funded research program. Applicants are also expected to have a strong commitment to graduate and medical education. Teaching experience in the biomedical sciences, especially human gross anatomy, is considered a plus. Review of applications will begin on November 16, 1998. A complete curriculum vitae, description of research plans, summary of teaching interests, and three letters of recommendation should be sent to:

**John Clancy Jr., Ph.D.
Department of Cell Biology, Neurobiology,
and Anatomy
Building 102, Room 5653
Loyola University Stritch School of Medicine
2160 South First Avenue
Maywood, IL 60153**

Loyola University of Chicago is an Affirmative Action/Equal Opportunity Employer and Educator.

ASSISTANT PROFESSOR IMMUNOLOGY

Applications are invited for a tenure-track faculty appointment as Assistant Professor in the Department of Microbiology and Immunology, School of Medicine, University of North Carolina at Chapel Hill, beginning summer 1999. We seek a candidate with clear capability to establish and maintain an independent research program in molecular immunology, and who will participate in the teaching of graduate and medical students. A Doctoral degree and relevant postdoctoral experience are required. Preference will be given to individuals who reply by December 1, 1998. Send curriculum vitae, statement of research interests and future plans, representative reprints, and arrange to have three letters of reference sent to: **Dr. Stephen H. Clarke, Search Committee, Department of Microbiology and Immunology, CB# 7290, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599.** Women and minorities are encouraged to identify themselves. The University of North Carolina at Chapel Hill is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

Colby College is seeking a **PLANT EVOLUTION-ARY BIOLOGIST** to fill a tenure-track position as **ASSISTANT PROFESSOR** of biology to begin September 1999. A strong background in plant systematics is expected. Candidates should have a Ph.D. and a strong commitment to undergraduate education. Teaching normally involves three courses with laboratory each year. The successful candidate will teach evolution and an upper-level plant course each year, and a third course, which in some years will be the team-taught introductory course. An active research program, including supervision of undergraduate research, will be expected. An attractive start-up package is available. Familiarity with liberal arts colleges, teaching experience, or postdoctoral experience are desirable.

Women candidates will be considered for a Clare Booth Luce Assistant Professorship, which provides dedicated annual research funds and stipends for undergraduate Research Assistants.

Please submit a letter of application, statement of teaching and research interests, curriculum vitae, reprints of three selected publications, undergraduate and graduate transcripts, and three letters of recommendation to: **Professor W. Herbert Wilson, Jr., Associate Chair, Department of Biology, Colby College, 5739 Mayflower Hill Drive, Waterville, ME 04901. Telephone: 207-872-3432; e-mail: whwilson@colby.edu.** Application review will begin November 16, 1998, and will continue until the position is filled. For more information about the College, please see the Colby website: <http://www.colby.edu>. Colby College is an Affirmative Action/Equal Opportunity Employer, and encourages applications from minorities and women.

TWO POSITIONS ECOLOGICAL GENETICS, EVOLUTION, ORNITHOLOGY, PHYSIOLOGY, OR CONSERVATION BIOLOGY

The Department of Biology at the University of Memphis invites applications for two tenure-track positions (**ASSISTANT/ASSOCIATE PROFESSOR**) in the general areas of ecological genetics, evolutionary biology, physiological ecology, ornithology, or conservation biology. Ecologists using molecular genetic techniques and/or quantitative methods are encouraged to apply. Applicants must have a Ph.D.; postdoctoral experience or an equivalent is desirable. Successful candidates will develop strong, extramurally funded research programs, direct M.S. and Ph.D. students, and teach effectively at both graduate and undergraduate levels in three of the following areas: population genetics, molecular techniques in ecology, physiological ecology, vertebrate physiology, ornithology, biostatistics, botany, or conservation biology. Applicants should submit a letter of application, curriculum vitae, a concise description of research and teaching interests, three reprints, and names, telephone numbers, and e-mail addresses of at least four references to: **Dr. Jerry O. Wolff, Department of Biology, The University of Memphis, Memphis, TN 38152-6081. Telephone: 901-678-2758; FAX: 901-678-4746; e-mail: jwolff@memphis.edu.** Evaluation of applications will begin November 24, 1998.

Women and minority candidates are encouraged to apply. The University of Memphis is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR OF BIOLOGY

Applications are invited from qualified Structural Cell Biologists to fill a tenure-track position beginning August 1999. Illinois Wesleyan University is an undergraduate university focused on the liberal arts, where excellence in teaching is emphasized. The successful applicant will have a Ph.D. and will teach courses in cell/molecular biology, an upper-level botany course, a portion of the team-taught general biology course, and possibly a non-majors course suitable for general education credit. Evidence of commitment to and experience with undergraduate teaching is important. The new faculty member is expected to develop a research program that involves students. Please send your curriculum vitae, undergraduate and graduate transcripts, statement of teaching philosophy, statement of research interests, and three letters of recommendation to: **Dr. Jonathan Dey, Acting Chair, Department of Biology, Illinois Wesleyan University, Bloomington, IL 61702-2900.** The review of candidates whose files are complete will begin 16 November 1998 and continue until the position is filled.

For further information, see our Jobs Web Page at [website: <http://www.iwu.edu/~iwujobs>](http://www.iwu.edu/~iwujobs). Illinois Wesleyan University is an Equal Opportunity Employer.

Analytical Biochemist/ Pharmacokineticist



IIT RESEARCH INSTITUTE

IIT Research Institute (IITRI), a nationally recognized contract R&D organization, has an immediate opening for an **Analytical Biochemist/Pharmacokineticist**.

This position requires a Ph.D. with 0 to 5 years of post-doctoral experience, and involves participation in efficacy and toxicology evaluations of cancer chemopreventive and chemotherapeutic drugs. Extensive experience in HPLC analysis of drugs in biological matrices is essential; experience with other analytical approaches and familiarity with pharmacokinetic analysis is desirable. Position is available in well-funded laboratory with long track record of NIH grant and contract support. Successful applicant will have the opportunity to develop independent research program in area of interest.

Send resume including salary history/requirements to: IIT Research Institute, Attn: Human Resources, Dept.SM109, 10 W. 35th Street, Chicago, IL 60616. E-mail: hr-chgo@iitri.org. Equal opportunity/affirmative action employer.



Science

DEPUTY MANAGING EDITOR

Science is soliciting applications for two senior editorial positions. These are management positions that will oversee the selection of manuscripts for publication in *Science*. The incumbents will be responsible for strategic planning, team-building, and quality assessment. Applicants should have a Ph.D. in either the physical or life sciences combined with postdoctoral research experience and five to ten years of editorial or other relevant experience. Broad interest in scientific research and responsibility for identification of high-quality research are essential; supervisory experience a plus.

PERSPECTIVES EDITOR

In addition, two positions are available for Perspectives Editor at *Science*, one for a physical scientist and one for a biological scientist. As a member of the editorial team for *Science's* Compass, the successful applicant will be responsible for identification of topics for Perspectives, solicitation, and editing the text for a general scientific audience. In addition the applicant will shepherd some submitted manuscripts within their area of expertise through the peer review process. Candidates should have a Ph.D. plus postdoctoral experience and a minimum of three years of editorial experience.

Applicants should send their curriculum vitae, a cover letter describing their qualifications and salary requirements, and contact information for three references to:

**Mr. Gregory Stokes
AAAS**

**1200 New York Avenue, NW
Washington, DC 20005**

EOE/Non-smoking work environment

TEAM LEADER, CEREAL BIOTECHNOLOGY

Agriculture and Agri-Food Canada (AAFC)
Cereal Research Centre (CRC)
Winnipeg, Manitoba

Salary*: \$37,036-\$84,878 (under revision)
*Salary on appointment will be negotiated.

As Head of the Central Biotechnology team at the Cereal Research Centre, Winnipeg, the incumbent will be expected to provide program direction in areas of cereal genomics, molecular genetics, gene cloning, marker-assisted selection, and genetic transformation. This individual will conduct cereal biotechnology research as part of the team effort to develop a sound molecular basis for cereal development programs at CRC and other Research Centres. The research will lead to improved cereal end-use quality, disease resistance, and agronomic performance.

You must have graduated from a recognized University with a Ph.D. in plant science or botany, majoring in molecular genetics, molecular biology, or a related field. You will have recent significant experience in conducting or leading independent plant biotechnology research and significant experience in leading a large research group. Proficiency in the use of the English language is essential.

The CRC has been designated as a Centre of Excellence in cereal biotechnology for AAFC. This position will be expected to fill a deficiency in the area of cereal genomics in conjunction with the existing expertise with DNA analysis and manipulation at the CRC.

Interested applicants should forward a detailed curriculum vitae along with the names and addresses of three references by November 30, 1998, to: Ms. **Bev Parent, Agriculture and Agri-Food Canada, Human Resources Branch, 401-303 Main Street, Winnipeg, Manitoba R3C 3G7. Fax: (204) 983-1681. E-mail: ParentB@em.agr.ca.**

We thank all those who apply and advise that only those selected for further consideration will be contacted. *Preference will be given to Canadian citizens. We are committed to Employment Equity. Vous pouvez obtenir ces renseignements en français.*



Join the USA QIAGEN team...

Take advantage of expanding business opportunities in the molecular biology research markets! QIAGEN, the worldwide leader in nucleic acid purification, is seeking highly motivated and talented individuals to join our team. QIAGEN is committed to providing high-quality, innovative purification products to the molecular biology and molecular diagnostic research communities.

Technical Support Scientist. Responsibilities include providing technical support for all products at QIAGEN, which include nucleic acid purification, protein expression and purification, amplification enzymes, and transfection products, as well as support for any related applications. Additional duties include providing technical and nontechnical training, writing and editing technical literature, giving seminars and workshops, and attending scientific meetings. Some travel may be required. M.S./Ph.D. degree in molecular biology or related discipline and at least 2 years of laboratory experience required. Broad molecular biology experience and outstanding verbal and written communication skills required. Experience in plant molecular biology, transfection, recombinant protein expression and purification is desirable. (Reference TSS-1098).

Send résumé to: **QIAGEN Inc., (Ref. TSS-1098) HR Dept., 28159 Avenue Stanford, Valencia, CA 91355. Fax to: (805) 295-7653. No calls, please.**

POSITIONS OPEN

PLANT GENETICIST

Tenure-track position at **ASSISTANT PROFESSOR** level to begin September 1999; Ph.D. and postdoctoral experience required. The Biology Department at Western Washington University invites applications from Plant Geneticists; experience in plant physiology is desired. Teaching responsibilities will include introductory biology, genetics, plant physiology, and advanced courses in the specific area of expertise. The successful applicant will be expected to maintain an active research program involving advanced undergraduate and graduate (M.S.) students, and to seek extramural funding. The department is committed to excellence in undergraduate teaching, with student research playing an important role in the educational process. Facilities to support this position are located in a new biology building, and include a greenhouse, tissue culture teaching laboratory, and herbarium. Applicants should submit a curriculum vitae, concise statements of interests and accomplishments in both teaching and research, a transcript or list of science coursework, and the names, addresses, telephone numbers, and e-mail addresses of four references to: **Carol Trent, Search Committee Chair, Department of Biology, MS-9160, Western Washington University, Bellingham, WA 98225. Telephone: 360-650-2869; WA ST TTY Relay: 1-800-833-6388; FAX: 360-650-3148; e-mail: trent@biol.wvu.edu.** Full position description and application requirements at website: <http://www.wvu.edu/~biology.html>. Review will begin 2 November 1998 and continue until the position is filled. *Affirmative Action/Equal Employment Opportunity.*

PLANT PHYSIOLOGIST

The Department of Botany, University of Florida, invites applications for a tenure-track **ASSISTANT PROFESSOR** in plant physiology to begin August 1999. Applicants should have postdoctoral experience, incorporate molecular genetic techniques in their physiology research, and be committed to teaching at the undergraduate and graduate levels. The University of Florida, a member of AAU, has an interactive campus-wide group of Plant Physiologists/Molecular Biologists and excellent research support facilities and is enhancing molecular biology programs. Applicants should submit a curriculum vitae, brief statements of research goals and teaching philosophy, reprints of published papers, and three letters of recommendation to: **Search Committee, Department of Botany, 220 Bartram Hall, University of Florida, Gainesville, FL 32611-8526** by November 16, 1998. More information is available from the website: <http://web.botany.ufl.edu/>. *The University of Florida is an Affirmative Action/Equal Opportunity Employer and actively seeks applications from minorities and women.*

Tenure-track **ASSISTANT PROFESSORSHIP** in neuroscience. The Department of Anatomy and Neurosciences and the Marine Biomedical Institute, University of Texas Medical Branch, Galveston, Texas invites applications for a tenure-track Assistant Professor-level faculty position, beginning as early as January 1, 1999. Qualifications include a Ph.D. or equivalent, at least two years of postdoctoral experience, and a proven record of excellence in neuroscience research. Candidates will be expected to have external funding and to maintain a strong, independent research program. Currently, faculty in the department have expertise in pain, neurotrauma, and cell biology. Please send curriculum vitae, summary of research plan, and names of three references to: **Susan M. Carlton, Ph.D., Chair, Search Committee, Marine Biomedical Institute, 301 University Boulevard, University of Texas Medical Branch, Galveston, TX 77555-1069 USA.** *Equal Opportunity/Affirmative Action Employer.*

BEHAVIORAL NEUROSCIENTISTS. Tenure-track **ASSISTANT PROFESSOR.** The psychology department at Bowling Green State University is a Ph.D.-granting department seeking an individual with a Ph.D. in a neuroscience-related field and a specialization in neurochemistry, neurophysiology, or neurobehavioral genetics. An active research program with potential for external funding and a commitment to teaching is expected. Send curriculum vitae, three letters of reference, statement of research interests and teaching philosophy, and transcript showing highest degree by November 15, 1998, to: **Behavioral Neuroscience Search Committee, Psychology Department, Bowling Green State University, Bowling Green, OH 43403.** *BGSU is an Affirmative Action/Equal Employment Opportunity Employer. Women, minorities, veterans, and persons with disability are encouraged to apply.*

POSITIONS OPEN

TENURE-TRACK ASSISTANT PROFESSORS IN THE BIOLOGICAL SCIENCES

The Department of Biological Sciences at the University of Nevada, Las Vegas is searching for three tenure-track Assistant Professors with responsibilities in both research and teaching. The successful applicants will contribute to development, coordination, and instruction of a two-semester sequence in introductory biology. These courses introduce students to basic biological principles and provide a survey of biological diversity. The successful candidates also will be expected to participate in upper-division and graduate education, as well as to establish nationally recognized research programs supported by extramural funds. Applicants must have a demonstrated commitment to undergraduate education. We are considering broadly trained individuals in the following areas:

CELL or MOLECULAR BIOLOGIST with research interests and a publication record in cell or molecular biology.

ORGANISMAL BIOLOGIST with research interests and a publication record in a discipline related to the anatomy, physiology, or behavior of whole organisms.

ECOLOGIST or EVOLUTIONARY BIOLOGIST with research interests and a publication record in the study of ecological or evolutionary processes.

The Department of Biological Sciences is a diverse faculty of 24 individuals actively engaged in research projects that span the breadth of the life sciences. The Department offers B.S., M.S., and Ph.D. degrees. The new positions include competitive salaries, start-up packages, and laboratory facilities. The University of Nevada, Las Vegas is a growing institution located in one of the most rapidly growing communities in the United States. Our location in the Mojave Desert provides unique opportunities for the study of desert organisms and arid environments. Candidates must specify the position for which they are applying. Applicants should provide a curriculum vitae, a letter describing research and teaching goals, and arrange for three letters of reference to be sent to: **Dr. Dawn S. Neuman, Chair, The Department of Biological Sciences, University of Nevada, Las Vegas, 4505 Maryland Parkway, Las Vegas, NV 89154-4004. E-mail: neuman@ccmail.unlv.edu.** For more information about our department see website: <http://www.unlv.edu/Colleges/Sciences/Biology/>. Positions are contingent upon funding. Salary is commensurate with qualifications and experience. The University has an excellent fringe benefits package. Review of completed applications will begin November 5, 1998, and continue until the position is filled. *The University of Nevada, Las Vegas is an Affirmative Action/Equal Opportunity Employer. Minorities, women, veterans, and the disabled are encouraged to apply.*

ADJUNCT PROFESSOR DEPARTMENT OF NEUROLOGY University of California, San Francisco

Position immediately available in prion biology laboratory of **Stanley Prusiner** for Ph.D. to direct protein expression and purification group that prepares proteins for structural studies. Requires six to ten years of experience in constructing expression vectors, expressing proteins in bacterial and mammalian cells, purifying the protein products, and characterizing their physical properties. Experience with protein crystallization is desirable but not required. Preferred skills include creative problem solving, clear and concise writing, constructive editing of manuscripts, strong leadership and organization. Salary and title is commensurate with experience and accomplishments. Send curriculum vitae and four letters of recommendation to: **Steven Glaser, Department of Neurology, Box 0518, University of California, San Francisco, CA 94103. FAX: 415-476-8386.** *Equal Opportunity/Affirmative Action Employer.*

ASSISTANT/ASSOCIATE PROFESSOR

One long-term-track faculty position. Begin August 1998. Ph.D. required, teaching experience in anatomy/physiology. Expected to teach undergraduates with opportunity for graduate teaching. Experience in small college preferred. Liberal arts environment. Responsibilities include academic advising, committee work, expected to engage in biomedical research with undergraduates and to publish. Experience in gross anatomy helpful. Strong record of teaching excellence and scholarship desirable. Letter stating interests, complete résumé, transcripts, and three letters of reference due prior to November 3, 1998, to: **Sr. John Karen Frei, Dean, School of Natural and Health Sciences, Barry University, Miami Shores, FL 33161.**

POSITIONS OPEN

TENURE-TRACK POSITIONS IN GENETIC MEDICINE FUNCTIONAL GENOMICS Weill Medical College of Cornell University

As part of a significant enhancement of its basic biomedical science research programs and laboratory facilities, Weill Medical College of Cornell University is developing a major initiative in the area of genetic medicine including functional genomics and is seeking to recruit tenure-track faculty at all levels. We are especially interested in candidates with research interests related to the functional analysis of genes, the study of polygenic disease, genome scanning, and chip technology. Exceptional candidates in other related/appropriate fields will also be considered. Candidates for Junior positions should demonstrate the potential for establishing a vigorous independent research program, and candidates for Senior positions should have an outstanding record of productivity. Candidates should have Ph.D. or M.D. degrees.

Recruited faculty will receive generous start-up support. Candidates may participate in the Graduate School of Medical Sciences program, which includes faculty from the Weill Medical College and the Sloan-Kettering Institute. Applications should include a curriculum vitae, statement of research interests, and three letters of recommendation. Applications should be sent to: **Bernadette M. Mosellie, Genetic Medicine Recruitment Team, Box# 27, Cornell University Medical College, 1300 York Avenue, New York, NY 10021.**

Equal Employment Opportunity/Affirmative Action/Minorities/Females/Disabled/Veterans.

The Neurobiology Program of Children's Memorial Institute for Education and Research (CMIER)/Northwestern University Medical School is seeking outstanding candidates for tenure-track faculty positions at the **ASSISTANT PROFESSOR** level. Applicants should hold a Ph.D. or M.D. and significant postdoctoral training. The successful candidate will be expected to establish an independent, externally funded research program and to teach in the graduate program of the Northwestern University Institute for Neuroscience. Laboratory will be located in the new CMIER building located in the Lincoln Park area of Chicago. Substantial resources, competitive salary, and state-of-the-art facilities are available. Investigators with expertise in molecular mechanisms of neurogenesis, neuronal stem cells, patterning, cell fate decisions, and axonal guidance are particularly encouraged to apply. To ensure full consideration, applicants should send a curriculum vitae, a statement of research goals, and three letters of recommendation to: **Martha C. Bohn, Ph.D., Director, Children's Memorial Institute for Education and Research, Neurobiology Program, Children's Memorial Hospital, 2300 Children's Plaza, Box 209, Chicago, IL 60614. E-mail: m-bohn@nwu.edu.** *Northwestern University is an Affirmative Action/Equal Opportunity Employer. Hiring is contingent upon eligibility to work in the United States. Women and minorities are encouraged to apply.*

ASSISTANT PROFESSOR CHEMICAL ENGINEERING Massachusetts Institute of Technology

Applicants are sought for a junior-level, tenure-track faculty position in the Department of Chemical Engineering at the Massachusetts Institute of Technology. Applicants should have a Ph.D. in chemical engineering or a closely related field, should have demonstrated excellence in academic research, and should have a strong interest in teaching graduate and undergraduate chemical engineering students. Send résumé including the names of at least three references, graduate transcripts, and a description of research interests to: **Dr. Robert C. Armstrong, Head, Department of Chemical Engineering, Massachusetts Institute of Technology, 66-350, Cambridge, MA 02139.** Material should be received by January 1, 1998. *MIT is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR. Insect systematics/morphology. The Department of Entomology, Kansas State University invites applications for a research and teaching tenure-track position to start after March 1, 1999. Ph.D. in systematics/morphology required; experience with modern approaches to systematics, curation, grantsmanship, and teaching preferred. Incumbent will teach morphology, systematics, and general entomology. Send curriculum vitae, research interests and teaching philosophy, reprints, and three letters of recommendation to: **Head, Department of Entomology, Kansas State University, Manhattan, KS 66506.** Application deadline December 1, 1998. *KSU is an Affirmative Action/Equal Opportunity Employer.*

MEETINGS

UCSF-MDI Meeting

"Structure and Design of Synthetic Gene Carriers"

University of California San Francisco
Laurel Heights Conference Center
San Francisco, California

February 24-26, 1999

The Molecular Design Institute (MDI) of the University of California San Francisco (UCSF) and UCSF Cystic Fibrosis Research and Development Program announce a three day meeting organized by Professor Frank Szoka, Philip Felgner, and Leaf Huang to assess current synthetic gene transfer vehicles and ask how they may be improved using new chemical, computational, and molecular biology techniques. Scientists who devise gene carriers and experts at the interface of chemistry, functional biology and drug discovery, including computational experts, are invited to attend. Selected presenters of posters will be asked to present a synopsis of their work at the meeting.

Speakers and Chairs

- Eric Alton, Imperial College of Science Technology & Medicine
- Jean Paul Behr, Centre National de la Recherche Science
- Vladimir Budker, University of Wisconsin
- Hermann Bujard, ZMBH, University of Heidelberg
- Philip Felgner, Gene Therapy Systems
- Todd D. Giorgio, Vanderbilt University
- Evan M. Hersch, Arizona Cancer Center
- Leaf Huang, University of Pittsburgh
- Alexander Kabanov, University of Nebraska Medical Center
- Yasufumi Kaneda, Osaka University School of Medicine
- David Klatzmann, Université Pierre et Marie Curie
- Eric B. Kmieciak, Thomas Jefferson University
- Peter Kollman, UCSF-Molecular Design Institute
- Philip L. Leopold, New York Hospital/Cornell Medical Center
- Gergely L. Lukacs, Hospital for Sick Children Research Institute
- Frank McCormick, UCSF-Cancer Center
- Jeffrey Nordstrom, GeneMedicine
- Cyrus Safinya, UC-Santa Barbara
- Nadrian C. Seeman, New York University
- Frank Szoka, UCSF-Molecular Design Institute
- Jean Michel Vos, University North Carolina Chapel Hill
- John A. Wagner, Stanford University
- Winfried Wels, Chemotherapeutisches Forschungsinstitut Georg-Speyer-Haus
- Ronald Zuckermann, Chiron Corporation

Registration is US\$1050. (corporate) or US\$525. (non-profit) including continental breakfast and lunch each day and dinner Wednesday evening. To register contact Melina O'Grady (tel: 415.502.2848 fax: 415.502.7457; email: ogrady@cgl.ucsf.edu) or visit the UCSF-MDI web site <http://mdi.ucsf.edu>. Please register early, space is limited. Conference fees are waived for Corporate Scholars Program members.



UNIVERSITY OF CALIFORNIA SAN FRANCISCO
MOLECULAR DESIGN INSTITUTE
Box 0446, Room U-64
San Francisco, CA 94143
<http://mdi.ucsf.edu>

Staff Scientist and Postdoctoral Positions in Transgenic Mouse Imaging

The Imaging Sciences Program of the Clinical Center is developing a multidisciplinary program for the imaging of experimental and transgenic mouse models of disease. This program is being sponsored by several departments in the Imaging Sciences Program including the Laboratory of Diagnostic Radiology Research and Positron Emission Department in collaboration with various research laboratories at NIH. The program is to develop and implement various imaging techniques to study the morphologic, physiologic, and metabolic changes produced in rodents as well as the phenotypic expression of genetic alteration in transgenic mouse models. Training and research areas will focus on using high-resolution imaging techniques to characterize genetic expression in multiple organ systems (i.e., central nervous systems, hepatic, renal, and prostate) and develop imaging strategies to monitor expression of cellular markers in disease states using novel radiopharmaceutical and MR contrast agents. Projects will also focus on demonstrating the natural history and preclinical evaluation of new treatments in the fetal and adult mouse with autoimmune diseases, spontaneous or inducible malignancies, metabolic disorders as well as the tracking of specific molecular or cellular targets. The program has access to *in vivo* magnetic resonance microscopic imaging, ultrasound, computerized tomography and positron emission tomography. Experience in magnetic resonance imaging at high fields is highly desirable, as well as imaging other modalities, and working with animal models. A Ph.D. or M.D. is required and salary will be commensurate with experience.

Please submit curriculum vitae and two letters of recommendation to:

**Dr. Joseph A. Frank, National Institutes of Health,
10 Center Drive MSC 1074, Building 10 Room B1N256,
Bethesda, MD 20892-1074**

NIH is an Equal Opportunity Employer.

EVOLUTIONARY BIOLOGIST

The Department of Zoology at Duke University invites applications for an evolutionary biologist whose research addresses the nature of the evolutionary process and its mechanisms. Appointment may be made at the level of assistant, associate, or full professor. We seek a candidate who will enhance established strengths in the Evolution, Ecology, and Organismal Biology group at Duke, which includes members in the Departments of Zoology, Botany, and Biological Anthropology and Anatomy. In addition to establishing a strong program of research and graduate training, the candidate will be expected to teach one undergraduate course and one graduate course each year.

Please submit a curriculum vitae, a statement of research interests, a statement of teaching interests specifically describing potential undergraduate course offerings, reprints, and arrange to have three letters of recommendation sent to:

**Dr. Stephen Nowicki
Chair, Evolutionary Biology Search
Committee
Department of Zoology
Box 90325
Duke University
Durham, NC 27708-0325**

Review of applications will begin on
December 1st, 1998.

*Duke University is an Affirmative Action/
Equal Opportunity Employer.*

Pharmacology and Pharmaceutics/ Pharmacokinetics Faculty Positions

The Department of Pharmaceutical Sciences at North Dakota State University invites applications for two tenure-track positions (one in pharmacology, one in pharmaceutics/pharmacokinetics) at the rank of Assistant Professor, with appointments beginning August 15, 1999. The successful candidates will be expected to establish an externally funded research program, teach and mentor graduate students, and contribute instruction in the professional pharmacy curriculum. Qualified candidates must hold a doctoral degree in Pharmacology, Pharmaceutics, or a closely related field. In addition, a strong record of scholarship is required. The candidate must also have a strong commitment to teaching as well as good interpersonal and communication skills. A professional pharmacy degree and/or having postdoctoral experience is desirable, but not required.

Applicants for the pharmacology position should be prepared to teach in the area of neuropharmacology; however, the specific area of research interest is open. Applicants for the pharmaceutics/pharmacokinetics position should be prepared to both teach and develop a research program in the area of either biopharmaceutics or pharmacokinetics. Current active areas of research in the department include cardiovascular and neuropharmacology, regulation of gene expression, pharmacokinetic modeling, drug delivery systems, and rational drug design.

Application deadline is December 1, 1998, or thereafter until the position is filled. Candidates should indicate the position they are applying for, submit a curriculum vitae, statements of teaching interests and research plans, and request that three letters of reference be sent to: **Dr. John J. Wagner, College of Pharmacy, 123 Sudro Hall, Fargo, ND 58105.**
NDSU is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR GENES AND BEHAVIOR CALIFORNIA INSTITUTE OF TECHNOLOGY

We invite applications for a tenure-track Assistant Professor position in the Division of Biology at the California Institute of Technology. The applicant is expected to develop research programs that combine behavioral and molecular genetic approaches, and to be committed to high-quality teaching as well. We are interested in candidates who exploit mouse genetics for the study of neurobehavioral mechanisms. Preference is given to Molecular Geneticists with a strong background in the study of natural behavior, such as ethology, and experience in physiology. Applicants working with other animals, including nonmammalian vertebrates and invertebrates, are encouraged to apply, for research originality will be a major consideration. The term of the initial appointment is normally four years, and appointment is contingent upon completion of a Ph.D. Applicants should submit a curriculum vitae, list of publications, and a brief statement of teaching experience, research interests, and plans. In addition, the candidate should arrange to have three letters of reference sent to the Search Committee to coincide with receipt of the application. All materials should be sent to: Gilles Laurent, Genes and Behavior Search Committee, Division of Biology 139-74, California Institute of Technology, Pasadena, CA 91125 USA. *Caltech is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.*

Tenure-track faculty position. Magnetic resonance. The University of Pennsylvania Medical Center, Department of Radiology will accept applications for a tenure-track, nonclinical faculty position at the **ASSISTANT/ASSOCIATE PROFESSOR** level. The individual should demonstrate the following qualifications: the applicant must have a Ph.D. in chemistry and have at least eight years of research experience in the field of magnetic resonance. Experience in the following areas is desired: extensive experience and expertise in non-proton MRI and MRS, some teaching of graduate-level courses on biological MR, imaging at high fields, coordinating core and collaborative projects within a research resource grant environment. Candidate must have demonstrated ability to attract extramural funding, in particular active grant support from NIH and other sources, and be established in an area of research dealing with biomedical MR. Send curriculum vitae and three letters of references before October 31, 1998, to: Susan Colleluori, Associate Director, Metabolic Magnetic Resonance Research and Computing Center, Department of Radiology, B1-Stellar-Chance Laboratories, 422 Curie Boulevard, Philadelphia, PA 19104-6100.

The University of Pennsylvania Medical Center is an Equal Opportunity/Affirmative Action Employer. Qualified female and minority candidates are encouraged to apply.

ANATOMY/BIOLOGICAL SCIENCES

Tenure-track **ASSISTANT PROFESSOR** position starting August 1999. Ph.D. required; broad training/experience in biology and undergraduate education in the liberal arts. Teaching responsibilities (two courses per semester) will include participation in general biology, courses in human anatomy and histology for majors, specialty course for M.S. candidates, and a course for non-majors. Strong commitment to undergraduate teaching and research (research area open). Send statement of teaching and research interests, curriculum vitae, transcripts, and three letters of reference to: Dr. Paul A. Richmond, Chair, Department of Biological Sciences, University of the Pacific, Stockton, CA 95211. Visit us at website: <http://www.uop.edu>. Review will begin December 1, 1998. To help meet the needs of an increasingly diverse student body we strongly encourage women and minority candidates to apply.

ASSISTANT PROFESSOR IN BIOLOGY-GENETICS

(V-17) Teach B.S. and M.S. courses in genetics, general biology. Develop and maintain active research program in eukaryotic genetics, including pursuit of funding, with student participation. Ph.D. in biological science. Review of applications begins immediately and continues until the position is filled. Send résumé; statement of teaching philosophy, research interests, and goals; and three letters of reference to: Dr. Bonnie Lustigman, Montclair State University, Upper Montclair, NJ 07043. *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSORS BIOCHEMISTRY AND MOLECULAR GENETICS University of Colorado Health Sciences Center

We are continuing a phase of rapid expansion and several positions will be filled this year. We are broadly interested in outstanding research in any area of biochemistry, molecular genetics, and molecular structure. Candidates should have a strong record of research accomplishments, and will be expected to pursue a vigorous, independent research program. Teaching interests and expertise should be appropriate for courses in biochemistry or genetics. Applicants should include a curriculum vitae and a statement of research plans. Candidates should also arrange to have three letters of reference forwarded to:

Dr. Tom Blumenthal, Chairman
Department of Biochemistry and
Molecular Genetics
Box B-121
University of Colorado
Health Sciences Center
4200 East 9th Avenue
Denver, CO 80262

For full consideration completed applications should be received by December 1, 1998.

The University of Colorado Health Sciences Center is committed to Equal Opportunity and Affirmative Action.

PLANT EVOLUTIONARY BIOLOGIST

The Division of Biological Sciences at the University of Missouri-Columbia invites applications for a tenure-track faculty position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. The successful applicant will apply field, laboratory, and/or theoretical approaches to the study of plant evolution. We are particularly interested in individuals whose research interests complement strengths of our current faculty: plant genetics and population biology, plant/animal interactions, and molecular evolution (website: <http://www.missouri.edu/~bioscwww>).

The University of Missouri-Columbia features a world-class interdisciplinary program in plant biology, extensive new greenhouse and herbarium facilities, and close proximity to floristically diverse field sites and the Missouri Botanical Garden. The Division offers highly competitive salaries, generous start-up packages, modern research laboratories and support facilities, an active graduate program with institutional support for students and Postdoctoral Associates, and an interactive faculty. Send curriculum vitae, reprints, statement of teaching and research interests, and three letters of reference to: Dr. John David, Chair, Division of Biological Sciences, University of Missouri, Columbia, MO 65211-7400. Complete applications should be received by December 1, 1998. *The University of Missouri is an Equal Opportunity/Affirmative Action Employer. We are firmly committed to fostering ethnic and racial diversity on our faculty and strongly encourage applications from women and members of minority groups.*

TENURE-TRACK POSITION UNIVERSITY OF CALIFORNIA, IRVINE

The Department of Biological Chemistry in the College of Medicine invites applications for a state-funded, tenure-track position at the **ASSISTANT PROFESSOR** level. Senior candidates of outstanding accomplishment will also be considered for the rank of **PROFESSOR**. Applicants should hold the Ph.D. or Ph.D.-M.D. degree and have postdoctoral experience. We are seeking individuals with expertise in genome-based research with medical relevance. Specialization can be in human or model vertebrate system genetics, or in the biochemical basis of disease. The individual is expected to establish an independent, funded research program of high caliber and participate in the training of graduate and medical students. A curriculum vitae, reprints of relevant publications, statement of research plan and teaching interests, and three letters of reference should be submitted prior to December 1, 1998, to: Department of Biological Chemistry Search Committee, Department of Biological Chemistry, College of Medicine, D240 Med Sci I, University of California, Irvine, CA 92697-1700.

The University of California, Irvine is an Equal Opportunity Employer.

POSITIONS OPEN

NEUROBIOLOGIST TENURE-TRACK POSITION

We are seeking a talented scientist actively engaged in cellular and/or molecular genetic studies to fill a tenure-track position at the **ASSISTANT, ASSOCIATE, or FULL PROFESSOR** level in the Division of Neurosciences. We are particularly interested in candidates pursuing investigations of the development or degeneration of vertebrate nervous systems. Applicants should have multidisciplinary training, at least three years of postdoctoral experience, and expect to develop or continue an independent research program in neurobiology. The Division is a diversified group conducting basic neuroscience research in a number of areas, including development, cell death, synaptic transmission, transmitter metabolism, transmitter receptors, and ion channels, and genetics of neurodegenerative diseases. These investigations utilize both vertebrate and invertebrate preparations. Additional opportunities exist for collaborative studies in immunology, molecular biology, molecular medicine, and neurooncology with the members of other departments of the institution. Information concerning the research programs at the Beckman Research Institute of the City of Hope and the Division of Neurosciences is available on the Internet at website: <http://bricoh.coh.org>. Send curriculum vitae and a summary of research goals to: Dr. James E. Vaughn, Chair, Division of Neurosciences, Beckman Research Institute of the City of Hope, 1450 East Duarte Road, Duarte, CA 91010-3000. *The City of Hope is an Equal Opportunity/Affirmative Action Employer.*

Two **ASSISTANT PROFESSORS** in visual science. The University of Rochester has available two tenure-track positions for scientists working in the broad domain of visual science, including psychophysical, physiological, and computational approaches. Especially encouraged to apply are candidates whose research is multidisciplinary. The positions will be in the Department of Brain and Cognitive Sciences (website: <http://www.bcs.rochester.edu>), one of six departments participating in the Center for Visual Science (website: <http://www.cvs.rochester.edu>), an interdisciplinary community of 27 faculty engaged in vision research. Junior appointments are preferred, although appointments at a more senior level may be considered. Applicants should submit a curriculum vitae, a brief statement of research and teaching interests, reprints, and three reference letters to: David R. Williams, Director, Center for Visual Science, University of Rochester, Rochester, NY 14627-0270. Review of applications will begin December 1, 1998. Desired start date is September 1999 to September 2000. *The University of Rochester is an Affirmative Action/Equal Opportunity Employer.*

CONSERVATION BIOLOGIST

The Department of Botany, University of Texas at Austin, invites applications for a tenure-track faculty position at the rank of **ASSISTANT PROFESSOR** in the area of conservation biology. We are particularly interested in applicants involved in ecological studies of natural populations or communities. Duties will include developing and maintaining a vigorous, externally funded research program and graduate and undergraduate teaching. A Ph.D. or equivalent degree is required; postdoctoral experience is helpful. Applicants should send a curriculum vitae, descriptions of research and teaching interests, and up to three publications, and have three letters of recommendation sent to: Dr. Norma Fowler, Conservation Biology Search Committee Chair, Department of Botany, University of Texas, Austin, TX 78713 by November 13, 1998. *The University of Texas is an Equal Opportunity/Affirmative Action Employer.*

Three tenure-track positions of **ASSISTANT/ASSOCIATE PROFESSOR** are available. One position is to assume organization of a new course in basic aspects of pharmacology for medical students and to conduct independent research. Two other positions are sought for research/teaching in molecular biology, biochemistry, or molecular pharmacology. Please submit curriculum vitae, a statement of future research plans, and, if applicable, current interest in organizing a course for pharmacology. Request three letters of recommendation to be sent to: Dr. Gerald Litwack, Chairman Department of Biochemistry and Molecular Pharmacology, Jefferson Medical College, Thomas Jefferson University, 350 BLSB, 233 South 10th Street, Philadelphia, PA 19107. Applications will be considered until January 31, 1999. *Thomas Jefferson University is an Equal Opportunity Employer.*

Postdoctoral Positions In Cell Biology

Mount Sinai School of Medicine is in the midst of substantial growth. Under the leadership of a new Dean, we are expanding our research and core facilities.

**Mount
Sinai**

The Department of Cell Biology and Anatomy occupies 25,000 square feet on the 18th floor of the Annenberg Building which overlooks Central Park on Manhattan's "Museum Mile," and houses current research including the study of macromolecular assemblies

involved in organelle biogenesis, signal transduction, cell motility, cell-cell interactions, and RNA formation.

This continued growth has created exciting postdoctoral opportunities. Specific research interests of participating faculty include the following:

-Avrom Caplan, Ph.D. (caplan@msvax.mssm.edu)
Role of molecular chaperones in signal transduction and macromolecular assembly.

-Paul B. Lazarow, Ph.D. (lazarow@msvax.mssm.edu)
Biogenesis of peroxisomes in yeast; genetic defects in human peroxisome assembly that cause fatal neurological disease (e.g. Zellweger syndrome).

-Sandra K. Masur, Ph.D. (masur@inka.mssm.edu)
1.) Integrins, growth factors, and cadherins in the cell biology of wound healing; and 2.) Impact of targeted mutations in extracellular matrix molecules on cell structure and function.

-Anne Moscona, M.D. (A.Moscona@smtplink.mssm.edu)
Molecular mechanisms responsible for the pathogenesis of human parainfluenza viruses.

-Serafin Pinol-Roma, Ph.D. (spinolr@smtplink.mssm.edu)
Ribonucleoprotein assemblies, the nucleolus, and nucleocytoplasmic exchange of proteins and RNA.

-Aurelian Radu, Ph.D. (radua01@doc.mssm.edu)
Nucleocytoplasmic transport in mammalian cells; intracellular traffic of non-viral vectors for gene therapy.

-Lynn Schnapp, M.D. (lschnapp@smtplink.mssm.edu)
1.) Integrin-extracellular matrix interactions and their role in the development of cardiopulmonary disease; and 2.) Effect of HIV infection on interactions between lymphocytes, microvascular endothelium, and surrounding extracellular matrix.

We offer excellent benefits, as well as a stimulating and challenging environment. For more information on the Department of Cell Biology and Anatomy, visit our web site at <http://www.mssm.edu/cellbio>. Please direct inquiries and curriculum vitae for your area of interest to the faculty member's e-mail address or to the following mail address: **Department of Cell Biology and Anatomy, Mount Sinai School of Medicine, Box 1007, One Gustave L. Levy Place, New York, NY 10029-6574.** We are an equal opportunity employer fostering diversity in the workplace.

Mount Sinai School of Medicine

**NATIONAL
CANCER
INSTITUTE**

NATIONAL CANCER INSTITUTE
DIVISION OF CANCER
EPIDEMIOLOGY AND GENETICS
BETHESDA, MARYLAND

CHIEF, CLINICAL GENETICS BRANCH

The Division of Cancer Epidemiology and Genetics (DCEG), National Cancer Institute (NCI), is seeking candidates for the position of Chief of the Clinical Genetics Branch (CGB). Candidates should be internationally recognized for their expertise, leadership, and collaborative abilities in the area of human cancer genetics.

CGB is one of eight branches and a laboratory within the Division's intramural research program. The CGB (1) integrates clinical observations in an interdisciplinary approach involving epidemiologic, statistical, and laboratory methods to define the role of susceptibility genes in cancer etiology; (2) identifies and characterizes phenotypic manifestations of genetic and familial syndromes predisposing to cancer; (3) counsels high-risk individuals regarding their personal risk of specific cancers; (4) conducts research into the clinical, social psychological, and ethical issues involved in predisposition testing and counseling programs; (5) conducts observational studies and clinical trials to evaluate strategies for the intervention and prevention of hereditary cancer; (6) participates in the cancer genetics training program; and (7) cooperates with national and international organizations to promote research on genetic determinants of cancer.

The Chief plans, manages and directs the activities of the CGB, utilizing intramural resources, contracts, interagency agreements, and multi-disciplinary collaborations. He/she designs, implements and analyzes interdisciplinary studies of cancer-prone individuals and families to achieve the mission of the branch. In addition, the Chief fosters a mentorship program to train clinicians, epidemiologists, allied researchers and health care providers in the skills needed to characterize and counsel individuals and families predisposed to cancer.

Research experience must include extensive interdisciplinary investigations using clinical, epidemiologic, and laboratory approaches toward the identification and characterization of genetic and familial syndromes predisposing to cancer. Candidates must also have satisfactory experience in the administration and management of a research program that is relevant to the Branch's mission. Candidates must hold a medical or other doctoral-level degree in a relevant scientific field. Nonresident aliens must have a valid employment visa.

The annual salary range is commensurate with education and experience. Depending on the hiring mechanism, an individual with an M.D. degree may receive a Physician's Comparability Allowance per annum.

To obtain information on the application procedures and documents required for consideration for this position, please contact Dr. Ruthann Giusti at (301) 496-1611, FAX: (301) 402-3256 or e-mail her at: gjustir@epndce.nci.nih.gov

NIH is an Equal Opportunity Employer

POSITIONS OPEN

ASSISTANT PROFESSOR POSITION EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

The Department of Pharmacology at East Carolina University School of Medicine invites applications for a tenure-track Assistant Professor position. Successful applicants are expected to have a minimum of two years of postdoctoral experience, an excellent record of scholarship, and either active research support or the potential to develop and maintain an active, independent research program. Preference will be given to applicants with training and postdoctoral experience in molecular biology and the ability to apply these to the solution of cardiovascular or central nervous system pharmacological problems. Participation in the teaching of medical, allied health, and graduate students is also required. Please send curriculum vitae, statement of research interests, and at least three letters of recommendation to: **Dr. Wallace R. Wooles, Chairman, Department of Pharmacology, School of Medicine, East Carolina University, Greenville, NC 27858.** Applications will be received until February 1, 1999. Federal law requires proper documentation of identity and employability at the time of employment. East Carolina University is an Affirmative Action/Equal Opportunity Employer and invites applications from women and minority scientists.

ASSISTANT PROFESSOR. The Department of Physiology invites applications from outstanding scientists with Ph.D., M.D., or equivalent degrees for two tenure-track Assistant Professor positions. Of particular interest are candidates who will develop independent research programs in cellular, molecular, or biophysical aspects of contractility, motility, or cell signaling. Integrative biology research using cell and molecular biological approaches to investigate higher-order physiological systems is also of primary interest. However, the excellence of the successful candidates is more important than the particular area of research. These positions are part of the continuing growth of this dynamic department and will be supported by exceptional start-up packages. Applicants should submit a curriculum vitae, a brief statement of research plans, and arrange to have three letters of reference sent to: **James T. Stull, Ph.D., Department of Physiology, The University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-9040.** An Affirmative Action/Equal Opportunity Employer.

MOLECULAR NEUROBIOLOGIST. ASSISTANT/ASSOCIATE PROFESSOR. The Department of Anatomy and Neurosciences and the Marine Biomedical Institute, University of Texas Medical Branch, Galveston, Texas invites applications for a tenure-track faculty position in molecular neurobiology at the Assistant/Associate Professor level, beginning as early as January 1, 1999. An applicant should have an independent, vigorous, and externally funded research program in the area of neurobiology using molecular approaches. Applicants will be expected to interact with existing faculty in the department who have expertise in the field of pain/neurotrauma research. Campus-wide, there are over 100 Neuroscientists with a wide range of expertise and a Center of Excellence in Molecular Sciences. Please send curriculum vitae, summary of research plan, and the names of three references to: **Kyungsoon Chung, Ph.D., Chair, Search Committee, Marine Biomedical Institute, 301 University Boulevard, University of Texas Medical Branch, Galveston, TX 77555-1069 USA.** Equal Opportunity/Affirmative Action Employer.

Biochemistry faculty position. Tenure-track 12-month teaching and research position with emphasis in animal nutrition (mineral or protein/nucleotide biochemistry). Appointment at ASSISTANT PROFESSOR level is likely, although exceptions will be considered. Earned Ph.D. from an accredited institution in nutritional biochemistry or closely related discipline required. Submit letter of application, curriculum vitae, copies of transcripts, two-page summary of proposed research, one-page summary of teaching interests, and arrange three current letters of professional recommendation sent to: **Biochemistry Search, South Dakota State University, Chemistry and Biochemistry Department, Box 2202, Brookings, SD 57007.** Telephone: 605-688-5151. A full listing of qualifications is available from this address. Application deadline November 1, 1998, or until filled. Further information at website: <http://www.sdstate.edu/~wchm/http/index.html>. SDSU is an Equal Employment Opportunity/Affirmative Action Employer. ADA reasonable accommodations: Telephone: 605-688-4493; TTY: 605-688-4394.

POSITIONS OPEN

ASSISTANT PROFESSOR MOLECULAR GENETICS

Applications are invited for a tenure-track position in human biology at the University of Wisconsin-Green Bay for fall of 1999. Teaching responsibilities include genetics, genetics laboratory, and Biology I for majors. Candidates should have completed a Ph.D. (or equivalent) by August 1999 in genetics, molecular biology, or a related field. The successful candidate should be broadly educated in biology and have a commitment to undergraduate teaching excellence in an interdisciplinary program. This includes a commitment to directing undergraduate research. Preference will be given to candidates with teaching and postdoctoral experience. First screen November 1, 1998; position open until filled. To apply send (1) letter of application, (2) curriculum vitae, (3) statement of teaching and research philosophy, (4) copies of undergraduate and graduate transcripts, and (5) three current letters of reference to: **Dr. Warren Johnson, University of Wisconsin-Green Bay, 2420 Nicolet Drive, Green Bay, WI 54311-7001.** Telephone: 920-465-2275; FAX: 920-465-2769. Further information available at website: <http://www.uwgb.edu/~humbio/>. UWGB is an Affirmative Action/Equal Opportunity Employer. Unless confidentiality is requested in writing, information regarding the applicants must be released upon request. Finalists cannot be guaranteed confidentiality.

The Department of Microbiology and Immunology at The Wake Forest University School of Medicine invites applications for a tenure-track ASSISTANT or ASSOCIATE PROFESSOR position in bacterial pathogenesis, beginning July 1999. Applicants must have a Ph.D. degree, postdoctoral training in bacterial pathogenesis, and documented evidence of high-quality research. Candidates for the position of Associate Professor must have extramural research funding. The successful candidate will be expected to establish an independent research program and participate in the teaching of graduate and medical students. Information about the department and its faculty and students may be found at website: <http://www.bgsu.edu/microbio>. Candidates should submit a curriculum vitae, a description of proposed research, and arrange for three letters of recommendation to be sent directly to: **Dr. Steven B. Mizel, Chair, Department of Microbiology and Immunology, Wake Forest University School of Medicine, Medical Center Boulevard, Winston-Salem, NC 27157.** Wake Forest University is an Affirmative Action/Equal Opportunity Employer.

Biology. ASSISTANT PROFESSOR. University of Nebraska at Kearney (UNK). Tenure-track. Teach genetics and developmental biology with associated laboratories; advise biology/health-related programs majors; pursue promotion/tenure requirements; active membership on departmental/college committees. Required: earned Doctorate in biological sciences with genetics and developmental biology emphasis; evidence of good communication skills and successful teaching experience. Preferred: grant-writing experience. Teaching is first priority at UNK, with evidence of potential to conduct reviewable research expected. Starting date January 1999. Salary and benefits are competitive. Submit applications on or before October 30, 1998, to assure consideration. Send letter of application, current curriculum vitae, three professional letters of reference, and official transcripts to: **Chair, Search Committee, Dr. John Hertner, Department of Biology, University of Nebraska at Kearney, Kearney, NE 68849-1140.** Telephone: 308-865-8603; FAX: 308-865-8045; website: <http://www.unk.edu/>. Affirmative Action/Equal Opportunity/ADA.

BIOLOGY LABORATORY COORDINATOR/INSTRUCTOR. Penn State Erie, Behrend College. Biology Laboratory Coordinator/Instructor position beginning fall 1999. Responsibilities will be to teach undergraduate laboratories, manage teaching laboratories, and develop laboratory experiments. Candidates should have strong laboratory skills in biological chemistry. Laboratory teaching experience in general biology and cell and molecular biology is desired; M.S. required. Penn State Erie is a four-year and graduate college offering the B.S. in biology within the Penn State system. Application deadline is November 16, 1998, or until the position is filled. Send résumé, transcripts, and names, addresses, and telephone numbers of three references to: **Dr. Roger Knacke, School of Science, Department BIOL-A, The Pennsylvania State University at Erie, Station Road, Erie, PA 16563-0203.** An Affirmative Action/Equal Opportunity Employer. Women and minorities encouraged to apply.

POSITIONS OPEN

BEHAVIORAL BIOLOGIST

The Division of Biological Sciences at the University of Missouri-Columbia invites applications for a tenure-track faculty position at the ASSISTANT or ASSOCIATE PROFESSOR level. The successful applicant will study basic mechanisms and/or evolution of behavior. We are particularly interested in individuals whose research interests complement strengths of our current faculty: behavioral ecology, evolution of behavior, and neuroethology (website: <http://www.missouri.edu/~bioscwww>).

The Division offers highly competitive salaries, generous start-up packages, modern research laboratories and support facilities, abundant field sites in the vicinity of Columbia, an active graduate program with institutional support for students and Postdoctoral Associates, and an interactive faculty. The University features a new interdisciplinary program in conservation biology. Send curriculum vitae, selected reprints, statement of teaching and research interests, and three letters of reference to: **Dr. John David, Chair, Division of Biological Sciences, University of Missouri, Columbia, MO 65211-7400.** Complete applications should be received by December 1, 1998. The University of Missouri is an Equal Opportunity/Affirmative Action Employer. We are firmly committed to fostering ethnic and racial diversity on our faculty and strongly encourage applications from women and members of minority groups.

ASSISTANT PROFESSOR (tenure-track). Environmental/molecular toxicology, College of Agricultural Sciences, Penn State. The Center for Molecular Toxicology invites applications for a faculty position at the level of Assistant Professor with expertise in molecular biology as related to the discipline of toxicology, to join a dynamic group of faculty studying molecular mechanisms of toxicity. The candidate is expected to maintain an externally funded research project that should address basic aspects of any of the following areas: heavy metal, pesticide, reproduction, endocrine disruption, immunotoxicology, or other related areas. Excellent laboratory space and start-up package is available. The position is 75 percent research and 25 percent resident education. Submit curriculum vitae, a brief statement of research interests, and at least three references to: **Gary H. Perdue, Faculty Search Committee, Penn State, 115 Henning Building, University Park, PA 16802.** Review commences November 15, 1998; applications accepted until position filled. Penn State is committed to Affirmative Action/Equal Opportunity and the diversity of its work force.

SYSTEMS NEUROBIOLOGY OR COMPUTATIONAL NEUROSCIENCE CORNELL UNIVERSITY

The Section of Neurobiology and Behavior invites applications for a tenure-track position at the ASSISTANT PROFESSOR level. Applicants must have a Ph.D., an excellent record of scientific productivity, and a commitment to undergraduate and graduate teaching. Candidates should have research interests in neuroethology with expertise in one or more of the following areas: sensory or motor systems, evolutionary neurobiology, neural modeling. Send curriculum vitae, statement of research interests, statement of teaching interests, up to three publications, and three letters of reference to: **Chair, Search Committee, Section of Neurobiology and Behavior, Cornell University, Ithaca, NY 14853-2702.** Review of applications begins December 1, 1998. Women and minority candidates are strongly encouraged to apply. Cornell University is an Equal Opportunity/Affirmative Action Employer.

Faculty position. Sexually transmitted diseases (STDs) research. The Indiana University School of Medicine invites applications for a faculty position at the rank of ASSISTANT/ASSOCIATE PROFESSOR in the Department of Medicine/Division of Infectious Diseases and the Department of Microbiology. Applicants may have a M.D. or a Ph.D. degree and should demonstrate an ability to investigate basic mechanisms used by pathogens to cause STDs or host responses to STDs. M.D. candidates must be Board-certified/Board-eligible in infectious diseases and will be offered a primary appointment in medicine. Ph.D. candidates will be offered a primary appointment in microbiology. Interested applicants please send curriculum vitae, names of at least three references, and statement of research interest to: **Dr. Stanley M. Spinola, Department of Medicine, EH 435, 545 Barnhill Drive, Indianapolis, IN 46202-5124.** Minorities and women are strongly encouraged to apply. Indiana University is an Affirmative Action/Equal Opportunity Employer.

**Funding Now Available for Research on the
Neurobiology of the ATM Protein**

- Up to \$75,000 per year
- Rapid, 30-day peer review decision process
- Early start date possible
- Application process not too burdensome

Grants are now available to support efforts aimed at understanding the neurodegeneration seen in patients with ataxia-telangiectasia (A-T), as well as efforts focused on identifying therapeutic interventions. A major objective of new grant awards will be to elucidate the functional role of the ATM protein in the development and maintenance of the brain, in collaboration with other labs that have already developed reagents such as ATM knock-out mice, monoclonal antibodies and biochemical assays for ATM activity.

Competitive awards will be given to researchers for one- and two-year projects to be funded up to a total direct cost of \$75,000 per year. No administrative overhead or fixed costs are supported.

Scientific excellence, originality and direct relevance to A-T neurodegeneration are the paramount criteria in award decisions. There is no formal deadline date for the submission of proposals. Decisions will be made within 30 days after proposals are received and grant periods can begin as early as 15 days after the grants are awarded.

For grant proposal guidelines, contact the A-T Children's Project or visit our web site.



1 West Camino Real, Suite 212
Boca Raton, FL 33432-5966 U.S.A.
Web site: www.atcp.org

Phone: 561-395-2621
Fax: 561-395-2640
E-mail: rosa@atcp.org



**U.S. Department of Agriculture (USDA)
Agricultural Research Service (ARS)
RESEARCH LEADER/ BIOLOGIST**

National Center for Cool and Cold Water Aquaculture

USDA Agricultural Research Service is seeking a Supervisory Research Biologist with a background in aquaculture to be Research Leader of the National Center for Cool and Cold Water Aquaculture in Leetown, West Virginia. This unique National facility is co-located with the Leetown Science Center of the U.S. Geological Survey. The successful candidate will be responsible for conducting and administering basic and applied research that meets the needs of the Center's Mission to support and enhance the Nation's cool and cold water aquaculture production. The incumbent will also serve as Research Program Representative during the design and construction of the Center with a program of applied genetics and breeding, fish health, physiology and nutrition culture and production management, aquaculture engineering, and product quality of cool and cold water species including, but not limited to, rainbow trout, Arctic Char, salmon, and hybrid striped bass. Experience in leading a diverse program related to aquaculture production, protection, and breeding is preferred. A Ph.D. is desirable and research qualifications are determinant in the salary range of GS-14: \$66,138 to \$85,928; GS-15: \$77,798 to \$90,767.

Candidate must be a U.S. citizen. For additional information on the position contact Wilda Martinez at 215-233-6593 or email at wmartinez@ars.usda.gov. Applicants must review the vacancy announcement prior to application submittal. See Website: www.ars.usda.gov/afm/hrd/resjobs. For application information/instructions contact Maryanne Cage at 304-725-3451, Extension 332.

Applications must be postmarked by October 15, 1998.

USDA/ARS is an Equal Opportunity Employer.
Women and minorities are encouraged to apply.

CONQUER

the next
frontier in medicine

**Challenging
Opportunities
for Cell
Biologists in
CNS Drug
Discovery**

Astra, an international pharmaceutical company in a phase of rapid growth, currently employs over 22,000 people involved in all phases of research, production, and marketing of pharmaceuticals. Sales in 1997 were \$5.65 billion worldwide.▲

As one of five R&D companies within the Astra Group, Astra Arcus is focused on the discovery and development of drugs for the treatment of central nervous system diseases. To further expand our research activities, we are building a Boston-based, state-of-the-art research center for 250 staff to be completed in 2001. In the interim, we are able to offer

several exciting opportunities within the **Cell Biology Department** to work at our newly-renovated facility at the **Massachusetts Biotechnology Park in Worcester**. These are exceptional opportunities for ambitious scientists who aspire to work with advanced technologies in a multidisciplinary environment. ▲

Qualifications: Senior Research Scientists should have a Ph.D. with three to five years of postdoctoral experience in a relevant field. Research Associates should have either a B.S. or an M.S. degree with two or more years of relevant experience. Preference will be given to candidates with training in neuroscience or medical research experience in diseases of aging and dementia, movement disorders or neurodegeneration. Excellent organizational skills are required, as well as a demonstrated ability to work in a highly interactive team-oriented environment. ▲

ELECTROPHYSIOLOGY

**Senior Research Scientist
Research Associate**

The Electrophysiology section is looking for candidates whose electrophysiological expertise will help explore the effects of ion channels on disease processes and on the overall biology of neurons and glial cells. The candidate will interact with other electrophysiologists focused on the detailed function of channels and with other scientists in Cell Biology as well as Pharmacology and Molecular Sciences. 2-3 years' experience with sharp or patch-clamp recording on native cells in culture or slices is required. Experience with recording from and maintaining glial cells is especially useful. A strong knowledge in cellular biology as well as neuroscience is important. Experience in techniques complementary to electrophysiology required.

Job Code: SM•TL01

We offer a highly competitive compensation/benefits plan and managed relocation assistance. Please specify Job Code and forward your resume, including salary history and references to: **Human Resources, Astra Arcus USA, Inc., P.O. Box 20890, Rochester, NY 14602; fax: (716) 272-3979; e-mail: jobs@arcus.us.astra.com**. Astra Arcus is an equal opportunity employer. ▲



**Astra Arcus USA
ASTRA ARCUS**

Visit our website at www.astra.com

POSITIONS OPEN

HISTOLOGIST/GROSS ANATOMIST UNIVERSITY OF MISSOURI-KANSAS CITY SCHOOL OF MEDICINE Department of Basic Medical Science

We are seeking two individuals with exceptional teaching skills in human anatomy for two vacant faculty positions. Both positions require a Ph.D. or M.D. degree. Primary teaching assignments will be in either a histology or gross anatomy course for medical or dental students with secondary assignments in a discipline differing from the primary one (either neuroanatomy, histology, or gross anatomy). One tenure-track position will be filled at the ASSISTANT/ASSOCIATE PROFESSOR rank preferably with an individual with a history of extramurally supported research productivity. The other position is for a non-tenure-track ADJUNCT ASSISTANT PROFESSOR, and will emphasize teaching, though research productivity is desirable. The University of Missouri-Kansas City School of Medicine is an innovative six-year B.A./M.D. program that emphasizes early clinical contact and integration of clinical medicine into the basic science curriculum. Please state clearly which position you are applying for and have your curriculum vitae and three letters of reference sent by December 1, 1998, to:

T. Beringer, Ph.D.
Chairman, Anatomy Search Committee
Department of Basic Medical Science
University of Missouri-Kansas City
School of Medicine
2411 Holmes Street
Kansas City, MO 64108

UMKC is an Affirmative Action/Equal Opportunity Employer Institution.

MIT PLANETARY SCIENCE FACULTY

The Department of Earth, Atmospheric, and Planetary Sciences at MIT invites applications for a faculty position in the area of planetary science. Rank and salary are OPEN, but we particularly encourage potential JUNIOR FACULTY to apply. We seek creative applicants with broad research interests who have a strong understanding of fundamental physical processes. The position is open to outstanding candidates in all areas of planetary science; the areas of solar system formation and planetary evolution are of particular interest. The applicant may have any focus: theoretical, experimental, or observational; applicants capable of initiating and/or taking full advantage of future spacecraft opportunities are encouraged to apply. MIT facilities include the Center for Space Research and a share of the two 6.5-meter telescopes of the Magellan Consortium. Interest in teaching at the graduate and undergraduate levels is essential at MIT.

Interested individuals should send curriculum vitae and names of three references to: **Ron Prinn, Department Head, Department of Earth, Atmospheric, and Planetary Sciences, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA 02139-4307.** MIT is an Equal Opportunity/Affirmative Action Employer. MIT is a nonsmoking environment.

Developmental biology **RESEARCH ASSISTANT PROFESSOR** position to study the role of cut-homeodomain HNF-6 and winged helix HFH-11 and HNF-3 β transcription factors in liver morphogenesis and regeneration (see: *Dev. Biol.* 192:228, 1997; *Mol. Cell. Biol.* 17:1626, 1997). These studies will involve analysis of HNF-6 and HFH-11 transgenic and gene knockout mouse models. Preference will be given to applicants with experience in the analysis of mouse mutant phenotypes. Salary is negotiable and will be related to postdoctoral research experience. Please send curriculum vitae, names and telephone numbers of three references to: **Dr. Robert Costa, University of Illinois at Chicago, Department of Biochemistry and Molecular Biology (M/C 536), 1819-53 West Polk Street, Chicago, IL 60612-7334. FAX: 312-413-0364; e-mail: robcosta@uic.edu.** UIC is an Affirmative Action/Equal Opportunity Employer.

An **INSTRUCTOR** position is available to analyze cellular immune responses to STV and CMV in nonhuman primates. Applicants should have a strong background in cellular immunology, including T cell cloning and flow cytometry.

Please send curriculum vitae and the names of three references to: **Dr. Paul Johnson, Division of Immunology, New England Regional Primate Research Center, Harvard Medical School, P.O. Box 9102, Southborough, MA 01772.**

POSITIONS OPEN



BIOINFORMATICS SUPPORT

Genetics Computer Group, Inc. (GCG) is seeking a **BIOLOGIST** to join our highly regarded technical support team. This team provides assistance to the worldwide community of scientists that use GCG's Wisconsin Package and Oxford Molecular's OMIGA and MacVector products for sequence analysis. Technical support is diverse and challenging and may include system management, experimental design, and assistance with software improvement and quality assurance testing.

The ideal candidate will have a degree in molecular biology or related field; experience with sequence analysis; knowledge of Windows 95, Windows NT, UNIX, and Macintosh systems; strong interpersonal and communication skills; and strong problem-solving abilities. Experience with MacVector, OMIGA, GCG's Wisconsin Package, UNIX operating systems, X Windows, and terminal emulation software is desirable. Programming experience is not required, but knowledge of C, Fortran, or PERL is beneficial.

This is an opportunity to be part of a leading bioinformatics software company that provides a competitive salary, excellent benefits, and a friendly working environment.

GCG is located in Madison, Wisconsin, which has been recognized nationally as a great place to live and work. Visit our website: www.gcg.com for more information.

To apply, send curriculum vitae or résumé with three references to:

Genetics Computer Group
Attn: Bioinformatics Support
575 Science Drive
Madison, WI 53711

Genetics Computer Group is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE/FULL PROFESSOR OF NEUROLOGY

University of California, San Francisco

The Department of Neurology at University of California, San Francisco (UCSF) seeks outstanding applicants for a newly created faculty position in neurodegeneration. The Department has a strong commitment to study the basic mechanisms of neural degeneration and now wishes to develop genetic approaches to Alzheimer's disease or other degenerative disorders. Individuals with an interest in dementia are particularly encouraged to apply. The position has an extraordinary level of support appropriate for well-established, as well as more junior, applicants. The applicant will be expected to participate in the program in biological sciences and biomedical sciences graduate programs and will be a member of the graduate program in human genetics. Send curriculum vitae, a statement of research interests, and the names of three references to: **Robert Edwards, M.D., Department of Neurology, University of California, San Francisco, School of Medicine, 513 Parnassus Avenue, San Francisco, CA 94143-0435.** The University of California is an Equal Opportunity Employer. Women, minority groups, and disabled individuals are encouraged to apply.

TWO POSITIONS IN CELL BIOLOGY

The School of Biological Sciences of the University of Texas at Austin invites applications for two tenure-track faculty positions in cell biology. Appointments will be in the newly formed Section of Molecular, Cell, and Developmental Biology at the level of **ASSISTANT PROFESSOR**, although unusually well-qualified individuals may be considered at a more senior level. We seek to hire at least one individual working on signal transduction, but all areas of eukaryotic cell biology will be considered. Applicants must have a Ph.D. or similar degree. The successful candidate will be expected to establish an active research program, and to teach at both graduate and undergraduate levels. To apply, send a curriculum vitae, a research statement, and representative reprints, and have three letters of recommendation sent to: **Dr. Klaus Kalthoff, Cell Biology Search Committee, Department of Zoology, University of Texas, Austin, TX 78712.** Include telephone numbers and e-mail addresses of recommenders in the application. Applications should be received by October 30, 1998. The University of Texas at Austin is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

INFORMATION SPECIALIST DIVISION OF PHYSICS NATIONAL SCIENCE FOUNDATION

The National Science Foundation's (NSF) Division of Physics (MPS Directorate) is seeking qualified applicants for the position of Information Specialist. This position will be filled from the competitive Civil Service on a permanent basis. The salary range is from \$26,532 to \$51,029 per annum. The NSF Physics Division is responsible for support of a wide range of basic research activities in physics. In support of the planning and administration of many of these activities, we are seeking an experienced computer specialist with a scientific or engineering background to act as a System Administrator to manage our local computing environment and to support our staff in their administrative and planning activities.

Principal responsibilities will include managing and maintaining the local hardware and software environment (mostly PCs, with some UNIX and MAC systems); supporting scientific and administrative staff in the use of business software application packages; using the NSF internal database for statistical studies, reports, and trend analysis; maintaining the Physics Division's website for communicating with the outside scientific community; and facilitating the implementation of the NSF FastLane proposal handling system. For more information, see the full position description at website: <http://www.nsf.gov/oirm>.

For a copy of the vacancy announcement or general information, call Ms. Sybil Smith, Telephone: 703-306-1185, ext. 3090. Hearing-impaired individuals call TDD: 703-306-0189. NSF is an Equal Opportunity Employer committed to employing a highly qualified staff that reflects the diversity of our nation.

DIRECTOR. Division of Comparative Pathology. The Department of Pathology and Laboratory Medicine at the University of Cincinnati is recruiting a **VETERINARY PATHOLOGIST** to serve as Director for the Division of Comparative Pathology. The applicant should have a D.V.M. degree, be Board-certified in ACLAM or ACVP, and have a minimum of three years of experience in small animal pathology with an emphasis on mice pathology. Candidates with special expertise in developmental pathology as observed in transgenic and knockout mice are particularly encouraged to apply. The Division of Comparative Pathology is a Departmental and College resource providing services, consultation, and collaborative support to College faculty. Departmental areas of focused research are cardiovascular and cancer biology. College areas of strength include a very active transgenic and knockout mice research program. Leadership skills, excellence in communication, commitment to service and education, ability to serve as a collaborator, and evidence of scholarly pursuits are requirements. The candidate would be expected to pursue independent research. Appointment is commensurate with experience and accomplishments. Send curriculum vitae and the names of three references to: **Tito Cavallo, M.D., Department of Pathology, P.O. Box 670529, Cincinnati, OH 45267-0529.** The University of Cincinnati is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR BIOLOGICAL NMR DEPARTMENT OF BIOCHEMISTRY Duke University Medical Center

The Department of Biochemistry, Duke University Medical Center invites applications for a faculty position at the level of Assistant Professor. We are seeking candidates with experience in the field of biological NMR as applied to fundamental problems of enzymology, protein structure, or nucleic acid biochemistry. Send résumé, summary of research interest, and three letters of reference to: **Christian R. H. Rætz, Chairman, Department of Biochemistry, Duke University Medical Center, Durham, NC 27710.** Consideration of applications will commence in October 1998. Duke University is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE

Looking for a highly motivated individual to conduct studies on the mechanisms controlling GI motility and to develop molecular approaches to investigate nutrient-activated responses. Applicants should have a Ph.D. or equivalent in advanced laboratory experience. Send curriculum vitae and three references to: **Henry C. Lin, M.D., Cedars-Sinai Medical Center, 8700 Beverly Boulevard #7511, Los Angeles, CA 90048. FAX: 310-967-8356; e-mail: henry.lin@cshs.org.**



Alexander Hollaender
DISTINGUISHED
**Postdoctoral
Fellowship Program**

Research Opportunities in Energy-Related
Life, Biomedical, and Environmental
Sciences including Human and Microbial
Genome and Global Change

- Research in OBER-sponsored programs
- Tenable at various laboratories
- Stipends \$37,500
- Doctoral degree received after April 30, 1997
- U.S. citizens or PRA eligible

Information and application:
<http://www.ora.gov/ober/hollaender.htm>

or
Hollaender Postdoctoral Fellowships
Science and Engineering Education, MS 36
Oak Ridge Institute for
Science and Education
P.O. Box 117
Oak Ridge, TN 37831-0117
(423) 576-9975

Deadline January 15, 1999

Building a winning team

IMAGINE a place where people are dedicated to a singular goal. **IMAGINE** a company intensely focused on building and supporting its **PEOPLE**.

I M A G I N E

Pharmacia & Upjohn.

We are among the world's largest pharmaceutical companies, employing over 30,000 people around the globe. At our Kalamazoo, Michigan research facility we are discovering innovative therapeutic agents to treat Infectious and Central Nervous System diseases. In all of these areas, our objective is to help people live longer and fuller lives.

Neurobiology Scientist

We are seeking a scientist with expertise in the pathology of neurodegenerative disease, preferably with training and expertise in Alzheimer's Disease. Experience with one or more of the available transgenic models of APP mutations in Alzheimer's Disease, SOD1 mutations in ALS, or one of the CAG repeat transgenic models is desirable. The successful candidate will have a demonstrated interest in the mechanisms of pathogenesis, and in particular, will have shown an ability to generate hypotheses which are testable with histological and immunocytochemical techniques. The successful candidate will also participate in the generation and characterization of new transgenic and knock-out models, in the discovery and validation of new therapeutic targets, and in the preclinical evaluation of potential therapeutics in the appropriate transgenic model.

Candidates should have completed at least 2-3 years of postdoctoral training, preferably with a Ph.D. in the neurosciences. Training in histology and immunocytochemistry are absolute requirements, as is a record of publication and individual accomplishment. Familiarity with in situ hybridization is also desirable. We work in a multidisciplinary team environment, so the ability to work successfully with a group is also a desired quality.

At Pharmacia & Upjohn you can make a difference. Not only for the sake of your career, but also for the millions of people around the world whose lives will be enhanced by the solutions you help us provide. For confidential consideration, please send your resume to: **Pharmacia & Upjohn, Ad# 980219, Recruiting, 5045-88-81, 7000 Portage Road, Kalamazoo, MI 49001.** Or you may e-mail your resume (no attachments, please) to: recruit@am.pnu.com. We are an equal opportunity employer with a commitment to workplace diversity.



Pharmacia & Upjohn

FACULTY POSITION MOLECULAR CARDIOLOGY PROGRAM

The Molecular Cardiology Program at the University of Chicago invites applications for a tenure-track position at the Assistant or Associate Professor level. The successful candidate has an M.D. and/or Ph.D. with research experience in the areas of molecular and cellular biology, developmental biology and/or human and mouse genetics. Applicants should submit a curriculum vitae, summary of research accomplishments, and three letters of recommendation to: **Jeffrey M. Leiden, M.D., Ph.D., Molecular Cardiology Search Committee, The University of Chicago, 5841 S. Maryland, MC 6080, Room B608, Chicago, IL 60637.**



**THE UNIVERSITY
OF CHICAGO**

An Affirmative Action/
Equal Opportunity Employer

POSTDOCTORAL POSITIONS IN PHOSPHOLIPID GROWTH FACTOR RESEARCH

NIH-funded postdoctoral positions are available to study phospholipid growth factor (LPA, SP-1-P) receptors and signaling. The three projects include 1.) the molecular cloning of novel phospholipid receptors, 2.) site-directed mutagenesis and the generation of chimeric phospholipid/sphingolipid receptors, 3.) development of receptor knockout ES cell and animal models.

Preferences will be given to candidates who have a recent Ph.D. and experience in molecular biology and/or signal transduction. Send CV and names of three references to:

Dr. Gabor Tigyi
Department of Physiology
University of Tennessee
894 Union Avenue
Memphis, TN 38163
E-mail: gtigyi@physio1.utm.edu
Fax: (901) 448-7126.

*The University of Tennessee is an
EEO/AA/Title VI/Title IX/Section 504/
ADA/ADEA Employer.*



CELL/MOLECULAR BIOLOGIST

An entry level **FACULTY** position is available in the Division of Basic Sciences. Candidates must have a doctorate degree, postdoctoral or teaching experience in a relevant field, and a commitment to interdisciplinary teaching. The position will involve teaching cell biology and genetics to medical students. Primary emphasis is on education, but research and/or other academic activities are expected. Position is available now. Salary & rank will be commensurate with experience and qualifications. Send CV to: **Dawn M. Harrington, Director of Human Resources, University of Health Sciences-College of Osteopathic Medicine, 1750 Independence Ave., Kansas City, MO 64106-1453.**

AA/EEO

POSITIONS OPEN

DIRECTOR, ED.D. IN SCIENCE AND SCIENCE EDUCATION

Department of Biology/Science Education
Ball State University
Muncie, Indiana

Applications and nominations are sought for a tenure-track science education position in the Science Education Program housed in the Department of Biology available August 20, 1999. Rank and credit toward tenure are negotiable. The successful candidate may be considered for the Directorship of the Doctoral Programs (Ed.D.) in Science and Science Education. Responsibilities: teaching both undergraduate and graduate courses in early childhood, elementary, and/or secondary science methods; conducting research in specialty area and promoting student involvement; participating actively as a member of the academic community. Minimum qualifications: earned doctorate in science education or the equivalent of science education with a strong background in the life, earth, or physical sciences; elementary or secondary teaching experience and certification; proven record as a Teacher-Scholar with an established reputation in the field of science education; evidence of contribution to the discipline that would merit appointment as an Associate or Full Professor in the Department, including credit toward tenure; an established record of teaching excellence; evidence of scholarly activity of grantsmanship and publication; effective written and oral communication skills. Send letter of application, curriculum vitae, documentation of scholarly activity, transcripts, and three letters of reference to: **Chair, Science Education Search Committee, Department of Biology, Ball State University, Muncie, IN 47306. Website: www.bsu.edu.** Review of applications will begin October 19, 1998, and will continue until the position is filled.

Ball State University is an Equal Opportunity/Affirmative Action Employer and is strongly and actively committed to diversity within its community.

RESEARCH ASSISTANT VIROLOGY

Hughes Institute, a nonprofit research organization, dedicated to combating cancer, AIDS, and diseases of the immune system, is currently recruiting for multiple openings within our expanding Virology Research Program.

Successful candidates for Research Assistant positions are required to have a B.S. in biology or cellular biology. Primary duties involve drug screening of antiviral agents as well as growing and culturing of HIV CMV. Successful candidates for Postdoctoral Fellow, Scientist, and Staff Scientist positions are required to have a Ph.D. in microbiology, molecular biology, or virology and will be involved in basic and translational virology research. Interested candidates with B.S., M.S., or Ph.D. degrees are encouraged to apply.

Interested applicants should send salary requirements and curriculum vitae to:

Human Resources Department
Hughes Institute
P.O. Box 8178
St. Paul, MN 55108
FAX: 612-697-1057
E-mail: humanresources@ih.org

Equal Opportunity Employer.

MARINE MALACOLOGIST/CURATOR

The Florida Museum of Natural History, at the University of Florida, invites applications for a tenure-track position as **ASSISTANT CURATOR** in marine malacology. The successful candidate is expected to develop an active collections-based research program using current systematic tools, and to assist in curating and further developing the museum's malacology collection. The candidate must have a strong commitment to university education and is expected to interact in allied academic departments and public programs. Minimum qualifications: Ph.D. and strong research and collections interests in systematic malacology. Starting date: 6 August 1999. Salary competitive and commensurate with experience. Send a letter of application; a curriculum vitae; a statement of research, collections, and teaching experience; the names and addresses of three references; and reprints of three selected publications, by 15 November 1998, to: **Dr. Steven R. Manchester, Florida Museum of Natural History, University of Florida, P.O. Box 117800, Gainesville, FL 32611-7800.** The University of Florida is an Equal Opportunity/Affirmative Action Employer. The selection process will be conducted under the provisions of Florida's "Government in the Sunshine" and Public Records laws.

POSITIONS OPEN

Experimental medicine. Candidates with documented research skills sought for 12-month tenure-track **ASSISTANT/ASSOCIATE PROFESSOR** position with emphasis on research (80 percent) and professional and graduate teaching (20 percent). Expected to develop funded program in molecular and cell biological approaches to disease. Ph.D. degree and significant postdoctoral experience expected; D.V.M. degree preferred. Competitive salary and benefits package. Earliest start date July 1, 1999. Send curriculum vitae, career goals statement, research summary, reprints, and references to: **Dr. Philip N. Bochsler, Pathology Search Committee Chair, Department of Pathology, College of Veterinary Medicine, University of Tennessee, Knoxville, TN 37901-1071. Telephone: 423-974-8234.** Informed inquiries are encouraged. The University of Tennessee is an Equal Opportunity/Affirmative Action Employer.

DIRECTOR OF NASA ASTROBIOLOGY INSTITUTE

The National Aeronautics and Space Administration (NASA) is seeking a Director for its new NASA Astrobiology Institute (NAI), which is managed by NASA's Ames Research Center in Mountain View, California. Astrobiology is the study of life in the universe, a multidisciplinary field that addresses fundamental questions concerning the origin, evolution, distribution, and future of life. The NAI represents a partnership between NASA and 11 lead member research organizations to promote and conduct interdisciplinary astrobiology studies and train young scientists. The Institute will employ modern networks and information technology to bind together institutions and research teams in geographically separated locales. Additional information on astrobiology and the Institute can be found at website: <http://astrobiology.arc.nasa.gov>.

A leader with a strong interest in biology is sought to help define this new discipline. The Director will identify research opportunities, coordinate efforts involving multiple academic organizations, and communicate the excitement of astrobiology. The Director should also be interested in developing revolutionary ways to use modern communications to foster effective collaborations among geographically dispersed scientists. The position will be filled through appointment to the Civil Service or through assignment under the Intergovernmental Personnel Act, and will administratively report to the Ames Center Director. It's expected that during this initial phase the NAI Director will devote full time to the position and be in residence at Ames. Applicants should have a record of original research in one or more of the disciplines associated with astrobiology, experience in academic or government administration, and commitment to develop innovative approaches to astrobiology research and training.

If interested, please send a letter of application by October 19, 1998, describing your leadership and research abilities and your ideas for the Astrobiology Institute, together with a curriculum vitae, to: **Ms. Rho Christensen, NASA Astrobiology Institute Program Coordinator, MS 240-1, NASA Ames Research Center, Moffett Field, CA 94035-1000. Telephone: 650-604-4251.** Female or minority applicants are encouraged to apply.

GROSS ANATOMIST

The Department of Anatomy, Indiana University School of Medicine seeks an excellent, experienced **TEACHER** for its human gross anatomy program. The successful candidate will teach in the medical gross anatomy course, a team-taught course to about 150 medical and graduate students. Teaching opportunities also include other graduate anatomy courses. Continued scholarly activity can be in the candidate's area of research (preferably in cancer or diabetes) or in development of teaching methodology or curriculum design. This position can be filled on a tenure or non-tenure-track basis. For details of research areas in the Department, see website: <http://anatomy.iupui.edu/>. Send letter of interest, curriculum vitae, and names and addresses of three references to: **Dr. David B. Burr, Chairman, Department of Anatomy, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, IN 46202-5120.** Review process to begin December 15, 1998, with appointment as early as July 1, 1999. Indiana University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

The Reproductive Toxicology Division of the National Health and Environmental Effects Research Laboratory, U.S. Environmental Protection Agency carries out research supporting risk assessment of the adverse reproductive and developmental effects of environmental exposures. To enhance our research in mechanism-based dose-response models, we anticipate opening one full-time **RESEARCH BIOLOGIST** position and filling two **POSTDOCTORAL POSITIONS** investigating the cellular and molecular effects of environmental chemicals on the developing reproductive system. Research Biologist: *Only U.S. citizens may apply.* Candidates should have knowledge of structural requirements for receptor and enzyme interactions, analysis of enzymes involved in steroid hormone synthesis, *in vivo/in vitro* gene expression assays, and *in vitro* assays to quantify interactions between the ligand-receptor/receptor-DNA. Familiarity with analysis of toxicants and their metabolites in *in vivo/in vitro* systems is useful. A Ph.D. and at least two years of postdoctoral experience in reproductive physiology, reproductive toxicology, or a related field, and knowledge of biochemistry is required. Laboratory space, support services, and start-up funds would be excellent for a permanent, full-time position. Submissions will be reviewed and, if a formal position is opened, all candidates will be instructed on how to apply. Postdoctoral Trainees: *Candidates must be U.S. citizens or permanent residents and have a Ph.D. in reproductive physiology, reproductive toxicology, or a related field.* Candidacy for the Postdoctoral Traineeships will be assessed from the submitted materials. Please respond by November 27, 1998, by sending a curriculum vitae, the names of three references, and a letter indicating which position you are interested in and describing your research interests and career goals to: **Dr. Robert Kavlock, Director, Reproductive Toxicology Division (MD-71), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711.** The U.S. Environmental Protection Agency is an Equal Opportunity Employer.

RESEARCH FELLOW IN TROPICAL FOREST SCIENCE

At the Center for International Development of the Kennedy School of Government (CID) and the Harvard University Herbaria (Arnold Arboretum (AA)) at Harvard University.

CID pursues long-term research on issues relevant to policy reform, and offers Master's and Doctoral programs in international development. An interdisciplinary program in tropical forest research aimed at sustainable forestry including forest conservation, exists in Asia in collaboration with Harvard's Arnold Arboretum and the Center for Tropical Forest Science (CTFS) of the Smithsonian Tropical Research Institute.

A young Postdoctoral Plant Scientist is sought with at least five years of experience, including field experience, and a strong record of published research and funding, in the systematics and ecology of the trees and forests of the Asian tropics. The appointee will conduct and promote research relevant to the CID program; act as a representative for CTFS, and interact with students and researchers in Harvard, CTFS, and in Asia; teach at the Harvard Herbaria and/or CID; and assist CTFS staff in preparing grant proposals.

Application should be sent, with a curriculum vitae and four letters of reference, two of which must be from scientists domiciled in Asia, to: **Professor Peter Ashton, the Arnold Arboretum of Harvard University, 22 Divinity Avenue, Cambridge, MA 02138. E-mail: pashton@hiid.harvard.edu.**

HEALTH RESEARCH ANALYSTS

ECRI, a nonprofit health services research organization, seeks individuals with the ability to work within a team-oriented "think tank" group to assess the effectiveness and cost-effectiveness of medical devices, drugs, and procedures. Ph.D. in life or social sciences, ability to critically evaluate the medical literature, excellent writing skills, and ability to simultaneously work on several projects. Knowledge of statistics or computer modeling a plus. Qualified applicants must complete a 25-page test report. Résumés and cover letter to: **Department CT, ECRI, 5200 Butler Pike, Plymouth Meeting, PA 19462. FAX: 610-834-1275.** Equal Opportunity Employer/Affirmative Action.

GORDON RESEARCH CONFERENCES

The 1999 Winter and International GRC Programs will
appear in the October 2, 1998 Issue of *SCIENCE*

The preliminary 1999 Summer GRC program will
appear in the November 27, 1998 issue of *SCIENCE*

For further information visit THE GRC WEB SITE

<http://www.grc.uri.edu>

or request information by Fax at 401-783-7644

VISIT THE FRONTIERS OF SCIENCE

GO TO A GORDON CONFERENCE

Want to get your foot in the door?

Then let *Science* open some doors for you by attending the **Science Career Fairs**. *Science* Career Fairs offer the perfect opportunity for scientific professionals to meet in person with representatives from top biotechnology and pharmaceutical companies, universities, governmental agencies, and institutions.

UPCOMING 1998 *SCIENCE* CAREER FAIR

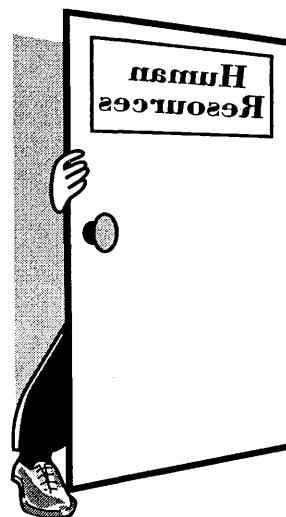
Palo Alto, CA at Stanford University
Tresidder Memorial Union

23 October: 11 am – 4 pm

24 October: 11 am – 3 pm

To pre-register post your résumé online in the Résumé Databank on *Science* Professional Network (www.scienceonline.org). **Remember to bring multiple copies of your CV or résumé with you to the Career Fair; a copy will be necessary to gain admission to the hall.**
Admission is FREE.

Do not contact Stanford directly. They are not responsible for organizing this event.



Science
CAREER FAIRS
For more information call (202) 326-7018

POSITIONS OPEN

FELLOWSHIPS for the National Research Service Award Program of the NIDDK, National Institutes of Health at Stony Brook are available in the cell and molecular biology of metabolic diseases for candidates with Ph.D., Sc.D., M.D., or equivalent. The program benefits from nearly 30 NIH-supported Trainers with state-of-the-art research programs in areas of cell signaling relevant to diabetes, endocrine, and metabolic diseases. This institutional Postdoctoral Training program is interdisciplinary, interdepartmental, and interinstitutional by design, supported by a regional interaction with Brookhaven National Laboratory and Cold Spring Harbor Laboratory, and is located on the campus of Stony Brook, 50 miles west of Manhattan on scenic Long Island Sound. Current research opportunities include **Nada Abumrad**: fatty acid transporters; **Wadie Bahou**: proteases and endothelial cell pathology; **Dafna Bar-Sagi**: cell signaling by *ras*; **Eugenio Cersosimo**: counter regulation in diabetes; **Ira Cohen**: molecular and cellular cardiovascular research; **Peter Garlick**: controlling protein homeostasis; **Michael Frohman**: phospholipase D and membrane vesicular trafficking; **Marie Gelato**: IGF-1 action; **Michael Goligorski**: angiogenesis, i NO, and diabetes; **Roger Johnson**: adenyl cyclase biology; **Jamie Konopka**: G protein-coupled receptors in yeast; **William Lennarz**: signaling in development; **Craig Malbon**: heterotrimeric G proteins and insulin action; **Margaret McNurlan**: insulin action in muscle; **Todd Miller**: tyrosine kinases; **Andrew Morris**: phospholipid signaling; **Mario Rebecchi**: phospholipase regulation; **Nancy Reich**: cytokine signaling; **Suzanne Scarlata**: insulin receptor structure; **Hsien-yu Wang**: G proteins and development. *U.S. citizens or permanent residents only are eligible for NIH-supported Fellowships.* Applicants should send a curriculum vitae, three references, and a brief letter of research interest to: **Craig C. Malbon, Director, c/o Department of Molecular Pharmacology, SUNY/Stony Brook, Stony Brook, NY 11794-8651. FAX: 516-444-7696; e-mail: craig@pharm.som.sunysb.edu. Equal Opportunity/Affirmative Action Employer.**

Long-term collaborative research position. A position is available immediately for a supporting **RESEARCH SCIENTIST** in the Laboratory of Molecular and Developmental Biology in the National Eye Institute, National Institutes of Health. This position involves collaborative experimentation on the various projects within the laboratory, including the molecular basis of tissue-specific gene expression in the lens and cornea, analyses of protein function, and laying the foundations for gene therapy in the cornea. This is intended to be a long-term appointment and the chosen individual will have a major role in maintaining research continuity within the laboratory. *The applicant must be a U.S. citizen or permanent resident, have a Ph.D. and/or M.D. degree, and have previous experience in molecular biology, cell biology, tissue culture, and/or biochemistry.* The salary will depend on prior experience and the position is indefinitely renewable depending on mutual agreement. **Laboratory of Molecular and Developmental Biology, NEI, NIH, 6 Center Drive, MSC 2730, Building 6, Room 201, Bethesda, MD 20892-2730. Telephone: 301-496-9467; FAX: 301-402-0781; e-mail: joramp@intr.net.nih.gov. NIH is an Equal Opportunity Employer.**

The California Department of Food and Agriculture (CDFA), website: <http://www.cdca.ca.gov>, has announced openings for an **ASSOCIATE PLANT NEMATOLOGIST** (website: <http://165.235.116.10/openx.cfm?exc=8FA7101>), a **SENIOR PLANT NEMATOLOGIST (Specialist)** (website: <http://165.235.116.10/openx.cfm?exc=8FA7102>), and a **SENIOR PLANT NEMATOLOGIST (Supervisor)** (website: <http://165.235.116.10/openx.cfm?exc=8FA7103>). One position is immediately available. Interested parties should check these websites for the announcements, and see website: <http://exams.spb.ca.gov/capp.htm> for an application form. CDFA's job line is Telephone: 916-654-0441.

POSTDOCTORAL POSITION available immediately to study the role of mitochondrial dysfunction and oxidative stress in mechanisms of neurodegeneration in Parkinson's disease, using both *in vitro* and *in vivo* approaches. A strong background in biochemistry and/or molecular neurobiology is desired. Send curriculum vitae, description of research experience, and three references to: **Teresa G. Hastings, Ph.D., Department of Neurology, University of Pittsburgh School of Medicine, S-526 Biomedical Science Tower South, Pittsburgh, PA 15213. E-mail: hastings@bns.pitt.edu; FAX: 412-648-1239.**

POSITIONS OPEN



POSTDOCTORAL POSITION FUNCTIONAL GENOMICS NATIONAL CANCER INSTITUTE

A Postdoctoral Training position is available immediately in the Staudt Laboratory of the NCI to use genomic-scale cDNA microarray analysis of gene expression to address problems in lymphocyte biology and malignancy. We have developed the "Lymphochip" cDNA microarray, which consists of 13,000 cDNAs chosen from lymphoid libraries for their relevance to lymphocyte function. We are developing large databases of gene expression data from normal B and T lymphocytes under various states of cellular activation and cytokine stimulation. In addition, a major effort is aimed at clinically important gene expression differences in human lymphomas, leukemias, and immunodeficiency disorders. This position provides an opportunity to develop all aspects of this exciting technology, from creating and using the microarrays to novel bioinformatics approaches to mine the gene expression data. A strong background in molecular biology is essential, as is an interest in applying genomics approaches to the study of immune function. Candidates must have less than five years of previous postdoctoral experience. Please send curriculum vitae and contact information (telephone and e-mail) for three references to: **Louis M. Staudt, M.D., Ph.D., Metabolism Branch, NCI, Building 10, Room 4N114, National Institutes of Health, Bethesda, MD 20892-1374. NIH is an Equal Opportunity Employer.**

Chemistry. Sarah Lawrence College, a coeducational liberal arts college dedicated to individualized education, is recruiting a broadly trained **CHEMIST** for a **TENURE-TRACK POSITION** beginning August 1, 1999. The successful candidate will teach general chemistry, other undergraduate courses of interest to liberal arts students, and some upper-level courses, preferably including biochemistry. An interest in working closely with students on an individual basis is essential. A Ph.D. and teaching experience are required. Please send résumé, copy of graduate transcripts, and three letters of recommendation to: **Dr. Mali Yin, Sarah Lawrence College, Bronxville, NY 10708. Deadline for receipt is November 15, 1998. An Equal Opportunity Employer, Sarah Lawrence College encourages applications from minorities and women.**

STAFF RESEARCH ASSOCIATE

Flow Cytometrist/Cell Sorter wanted by University of California Berkeley, Cancer Research Laboratory. Career, full-time position, salary \$30,200 to \$54,900 depending on experience and qualifications. Responsible for operation and maintenance of the Cell Sorting Facility including computer analysis. See website: <http://www.biology.berkeley.edu/crl> for specific classification requirements. Send résumé to: **Job #09-328-30/SL, University of California Berkeley, Human Resources, 2200 University Avenue, Room 7G, Berkeley, CA 94720-3540. FAX: 510-643-6657; e-mail: applyucb@uclink.berkeley.edu. Affirmative Action/Equal Opportunity Employer.**

ASSISTANT RESEARCH SCIENTIST FOR NEUROSURGERY LABORATORY

Requires a Ph.D. or equivalent in a scientific discipline with experience in a research laboratory. Proven record of accomplishment, animal surgery experience, biochemical/cellular assays, understanding of standard molecular biological techniques (mammalian cell transfection), and ability to function in an academic medical center is desired. Send résumé to: **Department of Surgery, University of Iowa Hospitals and Clinics, 200 Hawkins Drive, Iowa City, IA 52242. The University of Iowa is an Equal Opportunity/Affirmative Action Employer. Women and minorities are strongly encouraged to apply.**

Immediate two openings at **POSTDOCTORAL LEVEL and JUNIOR FACULTY** for Cellular and Molecular Immunologist to work on multiple sclerosis research. Salary based on qualifications (\$23,000 to \$60,000). Please send curriculum vitae to: **Oregon Health Sciences University, Neuroimmunology Research R&D—31, Portland VA Medical Center, 3710 S.W. U.S. Veterans Hospital Road, Portland, OR 97201. OHSU is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

The Feinberg Graduate School of the Weizmann Institute of Science will award a limited number of

DISTINGUISHED POSTDOCTORAL FELLOWSHIPS

Tenable for two years, with the possibility of an extension for a third year, to exceptionally qualified candidates who have received a Ph.D. or equivalent degree from a recognized institution within three years from taking up the appointment. The successful candidates will be known as

KOSHLAND SCHOLARS

They will receive the same stipends as regular Weizmann Institute Postdoctoral Fellows, but with an increased allowance for scientific travel, and, in addition, a one-time personal grant to be utilized freely at their own discretion.

The Fellowships are available in all the fields of research pursued by the scientific departments of the Weizmann Institute: chemistry, computer science, environmental sciences, life sciences, applied mathematics, mathematics, and physics.

Applications may be submitted at any time, but the awards will be made shortly after the usual deadlines for the submission of Fellowship applications, January 1 and May 15 each year. Candidates for Koshland Fellowships must be submitted by a Professor of the Weizmann Institute, so interested candidates are strongly advised to contact prospective sponsors directly.

Further information and application forms may be obtained from: **The Feinberg Graduate School, Weizmann Institute of Science, Rehovot 76100 Israel. FAX: +972-8-9344114; Telephone: +972-8-9343843; e-mail: nfinfo@weizmann.weizmann.ac.il; website: <http://www.weizmann.ac.il/feinberg/wisdoc.html>.**

STAFF ASSOCIATE POSITION

A Staff Associate position for a Genetic Counselor is available immediately in the Department of Neurology, Division of Movement Disorders at Columbia University. The Staff Associate will act as Study Coordinator for funded clinical genetics projects and as the Genetics Counselor for the Center for Parkinson's Disease and other Movement Disorders at Columbia-Presbyterian Medical Center. Primary responsibilities include enrolling families into the studies and obtaining family histories, interviewing patients and family members, organizing data for grants and manuscripts, collecting blood from subjects for DNA analysis, and genetic counseling. Some travel is required. The applicant should have an M.S. degree in genetic counseling and one to two years of related experience. Send curriculum vitae and names of three references to: **Stanley Fahn, M.D., Department of Neurology, 710 West 168th Street, New York, NY 10032. Columbia University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION

A Postdoctoral position in the area of cellular microbiology is available. Qualified candidates will join a collegial group in a highly interactive and newly renovated department with state-of-the-art facilities for research in molecular genetics and cell biology. Primary projects will focus on the cellular targets and cofactors of the type III toxins encoded by *Pseudomonas aeruginosa*. Candidates with experience in genetic or biochemical techniques and who qualify for NRSA awards are preferred. Applicants should send their curriculum vitae and three letters of reference to: **Dara W. Frank, Ph.D., Department of Microbiology and Molecular Genetics, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226.**

POSTDOCTORAL POSITION available to join a laboratory studying disease mechanisms in honey bees. Candidate would identify viruses associated with honey bees and their parasitic mites, obtain nucleic acid sequence data for these viruses, and develop diagnostic molecular tools for use in epidemiological studies of virus/mite/bee associations. Candidate should possess experience in molecular techniques appropriate for studying RNA viruses and have excellent communication skills. Send curriculum vitae and names of three references to: **Dr. Scott Camazine, Department of Entomology, Penn State University, 501 ASI Building, University Park, PA 16802. E-mail: smc14@psu.edu.**

Penn State is an Affirmative Action/Equal Opportunity University.

National Health Research Institutes (NHRI) Taiwan, R.O.C. Investigator and Postdoctoral Fellow Positions

The Division of Biotechnology and Pharmaceutical Research in the National Health Research Institutes seeks investigators in the areas of tumor biology, cell biology, protein chemistry, virology, animal models, pharmacokinetics, drug metabolism, medicinal chemistry, and combinatorial chemistry. Postdoctoral fellow positions are also available.

The National Health Research Institutes (NHRI) is a non-profit academic organization supported by the Government of the Republic of China. The purpose of NHRI is to promote and develop medical and health-related research in the hope of enhancing social welfare. Through intramural and extramural programs, NHRI conducts and supports mission-oriented research in its own laboratories and in other research institutions throughout the country.

Applications should include a letter of intent, curriculum vitae with publication list, a brief research proposal, reprints of selected publications, and three reference letters. Please forward your application to:

**Dr. Ming-Chu Hsu, Director, Division of Biotechnology
and Pharmaceutical Research,
National Health Research Institutes
128 Yen-Chiu-Yuan Road, Sec II, Taipei 115,
Taiwan, R.O.C.
Tel: 886-2-2653-4401, ext. 6110; Fax: 886-2-2789-0264
E-mail: mingchu@nhri.org.tw
NHRI website: <http://www.nhri.org.tw>**

The Endowment for

SCHOLARS

in

Biomedical Research

at

The University of Texas Southwestern Medical Center

UT Southwestern is pleased to announce the second year of the Endowed Program for Scholars in Biomedical Research. The Program, which is fully funded from private endowment, will provide \$600,000 over four years to support the research activities of each new **Assistant Professor** (tenure track) appointed to the Program; five will be appointed annually. In addition, regular funding for salary, as well as research space, will be provided by the medical school department or research center offering the appointment. Positions in both **basic science** and **clinical departments** are available. The goal of the program is to assure a successful beginning of the research careers of an ever-growing cadre of outstanding young investigators at UT Southwestern.

For detailed information about currently available faculty positions, please access our web page: <http://www.swmed.edu>

SOUTHWESTERN

THE UNIVERSITY OF TEXAS
SOUTHWESTERN MEDICAL CENTER
AT DALLAS

UT Southwestern is an equal opportunity institution

Head of New Laboratory BRAINWAY GROUP BRAIN SCIENCE INSTITUTE (BSI) INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH (RIKEN), JAPAN

BRAIN RESEARCH INSTITUTE

The BSI was established in October 1997 with three general research aims: "understanding the brain," "protecting the brain," and "creating the brain," and the Brainway Group under **Gen Matsumoto** is involved in the third of these activities.

BRAINWAY GROUP

The Brainway part of BSI has two laboratories: the first, under **Michinori Ichikawa**, concentrates on brain-operative devices research and the second, under **Gen Matsumoto**, on brain-operative expression research. The first is developing a Brainway computer and the second concentrating on neuronal activity, for which it has been developing optical imaging device to measure real-time neuronal activity in the brain.

NEW LABORATORY

Brainway is establishing a third laboratory for the study of the super-algorithms as to how they are genetically acquired and expressed in the brain. For the laboratory head, deep experiences in the fields of neuroscience, cell biology, and molecular biology, as well as interests in the constitutional approach of understanding the brain, are required.

CONTRACT

- 5 years: extendable on review by review committee
- Staff of 10 recruited by laboratory head in association with the group director
- Operation starts in the early 1999

APPLICATIONS

- (1) curriculum vitae, (2) list of publications and reprints of 5 papers
- (3) research interests and proposed projects, (4) names and addresses of 3 referees.

DEADLINE OF APPLICATION: November 30, 1998

CONTACT DETAILS

Search Committee (6), BSI, RIKEN
2-1 Hirosawa, Wako-shi, Saitama 351-0198 Japan
Fax: +81-48-467-9643, e-mail: search6@brain.riken.go.jp

Unfortunately we cannot accept telephone enquiries in connection with this post.

RIKEN Brain Science Institute, Japan

Applications invited for two heads of laboratory in the "Protecting the Brain" section of BSI (RIKEN).

The Institute of Physical and Chemical Research (RIKEN) established the Brain Science Institute (BSI) in October 1997 to promote three strategic research areas: "understanding the brain," "protecting the brain," and "creating the brain." A new laboratory in the "protecting the brain" section will start operations in early 1999 and possible fields for applicants are i) aging, ii) neurodegenerative disorders and neuronal cell death, iii) psychiatric disorders, and iv) developmental disorders. Work is already being carried out at BSI in a number of related fields: CAG repeat diseases (**Nobuyuki Nukina**), Alzheimer's disease (**Akihiko Takashima**), Neuro-genetics (**Kazuhiro Yamakawa**), and Proteolytic neuroscience (**Takaomi C. Saido**). More information about the Institute and RIKEN in general can be seen on the website: <http://www.riken.go.jp>.

New heads of laboratory will be required to organize a team of 5-10 researchers and technical staff and be provided with generous support for five years. A review of progress by international review committee occurs every 5 years with possibility of contract renewal. Applications are encouraged from outside Japan, but researchers must be willing to work at BSI full time.

Applicants should send a full curriculum vitae listing all publications with a statement of research interests and work projected at BSI (max. 2,000 words), plus names and addresses of three referees to:

Search Committee (7), Brain Science Institute, RIKEN,
2-1, Hirosawa, Wako-shi, Saitama 351-0198, JAPAN.
Fax: +81-48-462-4796, e-mail: search7@postman.riken.go.jp

Deadline: December 15, 1998.

For further information, please contact the search committee (7).

POSITIONS OPEN

PROJECT SEAHORSE

This international conservation program seeks to fill the following five-year **POSTDOCTORAL POSITIONS** (equivalent experience may be acceptable). All need independence, flexibility, and strong interpersonal and organizational skills.

SPECIAL PROJECTS COORDINATOR

Develop and implement special activities to support conservation and management of seahorses and their relatives. Located at McGill University, Canada.

AQUARIUM RESEARCH COORDINATOR

Develop and coordinate research on husbandry and management of seahorses and their relatives, especially by public aquaria. Located at Shedd Aquarium, USA.

AQUACULTURE RESEARCH COORDINATOR

Guide developing country teams in advancing small-scale low-technology seahorse aquaculture. Based at the Zoological Society of London, UK and located in Asia.

Deadline for all applications: 23 October 1998.

Possible applicants should request detailed information from: **Dr. Amanda Vincent and Dr. Heather Hall**, Telephone: 1-514-398-5112; FAX: 1-514-398-5069; e-mail: c3ah@musica.mcgill.ca before sending applications.

POSTDOCTORAL POSITIONS

Beth Israel Deaconess Medical Center and Harvard Medical School, Department of Pathology invites applicants for Postdoctoral positions in angiogenesis and tumor biology. Experience with *in vivo* and *in vitro* models of angiogenesis and tumor progression, or recombinant protein expression, cell biology, protein structure, or signal transduction is desirable. Postdoctoral positions are available immediately and are funded through grants to individual laboratories or an NIH Institutional Training Grant in Angiogenesis and Inflammation. Applicants for Training Grant positions must be permanent residents or U.S. citizens. Send curriculum vitae, a summary of research interests and experience, and the names of three references to: **Dr. Jack Lawler**, Department of Pathology, Beth Israel Deaconess Medical Center, RN 270C, P.O. Box 15707, Boston, MA 02215. We are an Equal Opportunity Employer. Minorities/Females/Disabled/Veterans.

NIH POSTDOCTORAL FELLOWSHIP in chemical senses available (for three years depending upon annual performance) to study the modulation of ion channels via tyrosine phosphorylation involved in olfaction physiology. Must be previously trained in molecular biology or single-channel electrophysiology; will be trained in field not experienced. Please send curriculum vitae, reprints, three letters of recommendation, and career objective to: **Debra Ann Fadool**, 331 Funchess Hall, Zoology Department, Auburn University, Auburn, AL 36849. Deadline: December 1, 1998. See website: <http://www.ag.auburn.edu/~dfadool/>. Auburn is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available immediately to study intracellular signaling and transcriptional regulation of proinflammatory pathways in neutrophils involved in the development of acute inflammatory lung injury. Candidates must have relevant experience in molecular biology/immunology. Send curriculum vitae and three references to: **Dr. Edward Abraham**, Division of Pulmonary Sciences and Critical Care Medicine, Box C272, University of Colorado Health Sciences Center, Denver, CO 80262. FAX: 303-315-5632; e-mail: edward.abraham@uchsc.edu.

POSTDOCTORAL POSITIONS funded by NIH are available to join the laboratory of **Dr. Peng Liang**, the co-inventor of Differential Display (DD) technology (*Science* 257:967). Successful candidates will use automated DD to identify and characterize molecular targets of Ras oncogene during cell transformation. Send curriculum vitae and names of two references to: **Dr. Peng Liang**, 649 MRB II, Vanderbilt University, Nashville, TN 37232. FAX: 615-936-2183; e-mail: peng.liang@mcm.vanderbilt.edu.

POSTDOCTORAL POSITION available immediately for recent Ph.D. in biochemistry/cell biology/pharmacology to study changes in gene expression during tumorigenesis. Experience in molecular biology required. Curriculum vitae, three references to: **Dr. H. A. Robertson**, Department of Pharmacology, Dalhousie University, Halifax, Nova Scotia B3H 4H7 Canada. FAX: 902-494-1388; e-mail: harold.robertson@dal.ca.

POSITIONS OPEN



U.S. Department of Agriculture, Agricultural Research Service, Avian Disease and Oncology Laboratory, East Lansing, Michigan is seeking a **POSTDOCTORAL RESEARCH GENETICIST/MOLECULAR BIOLOGIST** to identify QTLs associated with production traits in poultry. Ph.D. in genetics, molecular biology, animal science, or related area is required. This excepted service appointment will be for two years with the possibility of an extension. Salary range is \$38,593 to \$50,168 with full benefits. U.S. citizenship is required unless the candidate is a citizen of a country that has a mutual defense treaty with the United States. Send curriculum vitae and names of three references to: **Dr. Hans Cheng**, USDA-ARS-ADOL, 3606 East Mount Hope Road, East Lansing, MI 48823. E-mail: hcheng@pilot.msu.edu. Refer to vacancy announcement number RA-98-46L in all communications. USDA/ARS is an Equal Opportunity/Affirmative Action Employer.

BIOTECHNOLOGY INDUSTRIAL LIAISON IOWA STATE UNIVERSITY

A position is available for a Liaison between Iowa State University faculty and the biotechnology industry. The individual will develop university/industry research agreements; assist industry in accessing the university research, business, and educational services; and collaborate with economic development organizations to foster business development in Iowa. Minimum requirements: Ph.D. in a molecular biology-related discipline; three years of experience in industrial research and business development in agricultural biotechnology; excellent written and verbal communication skills in English; and positive interpersonal skills. Send résumé and names of three references to: **Walter Fehr**, Office of Biotechnology, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260. Telephone: 515-294-6865; FAX: 515-294-4629; e-mail: wfehr@iastate.edu.

Iowa State is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS AT NIH

Several Postdoctoral positions are available immediately to work in the Laboratory of Molecular and Developmental Biology in the National Eye Institute, National Institutes of Health. The research involves studies on developmentally regulated, tissue-specific expression of genes in the lens and/or cornea and on genetic engineering of the cornea. Methodologies include cloning, expression and molecular analyses of cDNAs and genes, and production and utilization of transgenic mice, gene knockout mice, and transfected cells. Candidates must be U.S. citizens or permanent residents and have a Ph.D. or M.D. degree. Salary begins at \$30,000 and increases depending on experience. Please send curriculum vitae and the names of three references to: **Dr. Joram Piatigorsky**, Laboratory of Molecular and Developmental Biology, Building 6, Room 201, Bethesda, MD 20892-2730. E-mail: joramp@intra.nei.nih.gov.

NIH is an Equal Opportunity Employer.

POSTDOCTORAL POSITION available to study the role of neurotrophins and neuronal activity during vertebrate visual system development. Study emphasizes *in vivo* mechanisms controlling axon growth and synapse formation. A combination of microinjection, *in vivo* microscopy imaging, neuropharmacology, electrophysiology, and cell culture techniques will be used. Expertise in one or more of these areas desirable. Send curriculum vitae and names of three references to: **Dr. S. Cohen-Cory**, Mental Retardation Research Center, 760 Westwood Plaza NPI 58-258, University of California, Los Angeles, Los Angeles, CA 90095. E-mail: scohenco@ucla.edu. UCLA is an Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE position available to study polymorphisms in human quinone reductases, protein structure-function relationships, protein subunit interactions, and posttranslational modifications of wild type and mutant proteins. Applicants must have experience in protein biochemistry and in cell and molecular biology. Submit curriculum vitae and contact information for three references to: **Dr. David Ross**, School of Pharmacy, C-238, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Denver, CO 80262. E-mail: david.ross@uchsc.edu. The UCHSC is committed to Equal Opportunity/Affirmative Action.

POSITIONS OPEN

BIODIVERSITY

We seek applicants for a two-year **POSTDOCTORAL FELLOWSHIP** in the University of British Columbia (UBC) Centre for Biodiversity Research. The Centre is currently made up of four Postdoctoral Fellows, and over 30 members of the UBC science faculty with interests in biological conservation. Preference will be given to candidates with bold ideas, demonstrated research ability, and strong communication skills. The successful candidate will be expected to conduct original research on core problems in biodiversity and conservation, foster interactions within the centre, run a seminar series, and help maintain the Centre's website. Starting date, 1 April 1999. Salary \$33,000 per annum. Send curriculum vitae, three letters of reference, and a brief statement of goals to: **J. N. M. Smith**, Associate Director, Centre for Biodiversity Research, University of British Columbia, 6270 University Boulevard, Vancouver, British Columbia V6T 1Z4 Canada. FAX: 604-822-0653; e-mail: smith@zoology.ubc.ca. Closing date for application, 15 November 1998. The University of British Columbia hires on the basis of merit and is committed to Employment Equity. All qualified persons are encouraged to apply. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

NEUROSCIENCE

Three **POSTDOCTORAL POSITIONS** are available to study the molecular mechanisms of cell death caused by ischemia and related disorders. Preference will be given to candidates with experience in protein purification; gene therapy and the study of genes related to cell death; intracellular signaling for apoptosis. Initially, the positions will be two-year appointments. The Queen's Medical Center is a private nonprofit medical center in Hawaii affiliated with the University of Hawaii. The Center offers competitive salaries and excellent benefits. Please mail, FAX, or e-mail your curriculum vitae and contact information for three references to: **Dr. Bo K. Siesjö** or **Dr. Bingren Hu**, Center for the Study of Neurological Disease, The Queen's Medical Center, 1356 Lusitana Street #814, Honolulu, HI 96813. FAX: 808-534-7899; e-mail: bhu@www.cns.queens.org; website: www.cns.queens.org. The Queen's Medical Center is an Equal Opportunity/Affirmative Action Employer.

Two **POSTDOCTORAL POSITIONS** are available to join a study to modify enamel biomineralization using transgenic animal techniques. Experience in transgenic animal construction and husbandry required, along with suitable experience in other areas of molecular biology. Familiarity with biomineralization or extracellular matrix formation or bioengineering strongly desired. Salary commensurate with experience.

Please contact:

Professor Malcolm L. Snead, D.D.S., Ph.D.
The Center for Craniofacial Molecular Biology
The University of Southern California
2250 Alcazar Street
Los Angeles, CA 90033
Telephone: 323-442-3178
FAX: 323-442-2981

Website: <http://www.usc.edu/hsc/dental/ccmb/SNEAD.html>

POSTDOCTORAL RESEARCH POSITION available immediately to investigate regulation of drug metabolizing enzyme gene expression by insulin and glucocorticoid hormones. Experience with molecular cloning, transient transfection, cell culture, and gene expression techniques required. Send cover letter, curriculum vitae, and three letters of reference to: **Dr. M. Runge-Morris**, MCHT Building, Wayne State University, 2727 Second Avenue, Detroit, MI 48201. E-mail: m.runge-morris@wayne.edu. Wayne State University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are especially encouraged to apply.

POSTDOCTORAL POSITIONS are available immediately to investigate cellular and molecular mechanisms of preconditioning. Major areas include heat shock proteins, antioxidants, nitric oxide, apoptosis, signal transduction, and gene therapy. The positions require Ph.D. in biochemistry/molecular biology/physiology with experience in cell culture, signal transduction, gene therapy, and ischemia/reperfusion. Contact: **Dr. Rakesh Kukreja**, Associate Professor, Division of Cardiology, Virginia Commonwealth University, Box 281, Richmond, VA 23298. Telephone: 804-828-0389; FAX: 804-828-8700; e-mail: rakesh@email.hsc.vcu.edu.



The Institute of Cancer Research (University of London)
CRC Centre for Cancer Therapeutics, Sutton, Surrey

New Posts:

Senior Scientist/Team Leader in Combinatorial Chemistry

Team Leader in Medicinal Chemistry

Team Leaders in Molecular Biology

Postdoctoral Workers in Signal Transduction/Molecular Pharmacology

Scientific Officers in Analytical Biochemistry/High Throughput Screening

Scientific Officer in Combinatorial Chemistry

The Institute of Cancer Research is at the forefront of international cancer research and, with the Royal Marsden NHS Trust, forms the largest comprehensive cancer centre in Europe. The CRC Centre for Cancer Therapeutics (Director, Professor Paul Workman) is internationally recognised for its work in anticancer drug development and gene therapy. As a result of major new funding from the Institute and the Cancer Research Campaign to develop mechanism-based therapies aimed at novel molecular targets, a series of new positions are now available.

Faculty Posts:

We are looking for individuals who are outstanding in their own discipline and who are highly motivated and enthusiastic to apply their skills in a collaborative, multidisciplinary environment towards the overall goal of anticancer drug discovery. In each case an attractive package is available including support for laboratory staff and consumables. The positions are:

Senior Scientist/Team Leader in Combinatorial Chemistry (Ref. 45) A non-time limited appointment is expected and appropriately qualified individuals could be considered for a title in due course. A track record in combinatorial chemistry in an academic or industrial environment is essential. Experience in collaborating with biologists on drug discovery projects is an advantage. Starting salary will be in the range £32,130 - £34,060 p.a. inclusive of L.W.

Team Leaders These four appointments will be career development posts and will be for six years in the first instance. Postdoctoral experience (normally at least 5 to 6 years) in an academic or industrial environment is essential.

Medicinal Chemistry Team (Ref. 46) Postdoctoral experience in synthetic organic chemistry is essential. Experience in medicinal chemistry and in collaborating with biologists on drug discovery projects is an advantage. Starting salary will be in the range £24,487 - £26,321 p.a. inclusive of L.W.

Three Molecular Biology Teams will be established in the areas of **angiogenesis (Ref. 49)**, **apoptosis (Ref. 50)** and **cell cycle control (Ref. 51)**. Experience in these areas is therefore highly desirable. Postdoctoral experience in molecular biology and enthusiasm to employ molecular techniques in the identification and validation of novel therapeutic targets is essential. Starting salary will be in the range £24,487 - £26,321 p.a. inclusive of L.W.

Further details can be obtained from the Institute's Web pages at <http://www.icr.ac.uk>. Applicants for the Faculty posts may contact Professor Workman directly for further information. (Tel: 0181 643 8901; Fax: 0181 642 1140; email: paulw@icr.ac.uk).

Postdoctoral Workers Two postdoctoral positions are available in the Signal Transduction and Molecular Pharmacology Team (Team Leader, Professor Paul Workman). A PhD in cell and molecular biology is desirable, however candidates with a PhD in other disciplines (e.g. molecular pharmacology) but with strong molecular skills are encouraged to apply. The projects are:
Elucidation of mechanisms responsible for sensitivity to inhibitors of the ras-MAP kinase pathway in tumour cells (in collaboration with Professor Chris Marshall) (Ref. 52).

Use of nucleic acid microarrays to determine altered gene expression in tumour cells exposed to signal transduction inhibitors (in collaboration with Dr Richard Wooster) (Ref. 53).

These positions are for periods of three years in the first instance. Starting salary will be in the range £17,613 - £19,417 p.a. inclusive of L.W.

Research Support Posts:

Both a **Higher Scientific Officer (Ref. 54)** and a **Scientific Officer (Ref. 55)** are required to work in the newly established Analytical Biochemistry / High Throughput Screening facility.

Candidates should possess a first degree in a relevant discipline and have experience in the development and validation of biochemical assays. Experience of high throughput screening is desirable but not essential. These positions are for periods of three years in the first instance. Starting salary will be in the range £16,003 - £19,639 p.a. inclusive of L.W. (Ref. 54) and £13,963 p.a. inclusive of L.W. (Ref. 55).

Scientific Officer in Combinatorial Chemistry (Ref. 47) is also required for the Combinatorial Chemistry Team. Candidates should possess a first degree in Chemistry. Experience in combinatorial chemistry is desirable but not essential. This post is for a period of three years in the first instance. Starting salary will be in the range £13,963 - £14,817 p.a. inclusive of L.W.

For further details on these posts please contact Darren Loftus, in Personnel on 0171 878 3852.

To apply for the Faculty posts, please send two copies of your CV, including the names and addresses of four referees, a publications list, a brief account of research interests and a statement of research goals. Please quote the appropriate reference number.

To apply for the Post doctoral Worker or Research Support post, please send two copies of your CV including the names and addresses of two referees. Please quote the appropriate reference number.

For all posts please send applications to The Personnel Office, The Institute of Cancer Research, 17a Onslow Gardens, London SW7 3AL.
Closing date 23rd October 1998.



POSITIONS OPEN

POSTDOCTORAL POSITION

A Postdoctoral Fellowship position is available immediately to examine the health effects associated with ambient airborne particulate matter exposure. Specifically, research will be directed toward determining (1) the ability of particles to induce pulmonary transcription factor activation; (2) the cellular origin and molecular mechanism(s) of particle-induced pulmonary nuclear transcription factor activation. The position requires a Ph.D. in cell and/or molecular biology or pathology. Laboratory experience in techniques and procedures involved in analysis of nuclear transcription factors is highly desirable. *Candidates must be U.S. citizens or permanent residents.* Application deadline: October 15, 1998, or until filled. Send letter of interest, résumé, and names/addresses of three references to: **Kevin L. Dreher, Ph.D., Leader, Molecular Toxicology Group, Pulmonary Toxicology Branch, National Health and Environmental Effects Research Laboratory, MD82, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711.**

NC State University is an Affirmative Action and Equal Employment Opportunity Institution.

POSTDOCTORAL RESEARCH POSITION

A Postdoctoral position is open in the areas of statistical genetics, population genetics, and computational biology. Requires Ph.D. in one of these or a related area, strong quantitative/computational skills, and strong communication skills. Applicants with Ph.D. in a quantitative field and biological background/interests will be considered, as well as applicants with a Ph.D. in a biological field and quantitative/computational background or interests.

Interested candidates may submit a curriculum vitae and a concise statement of their research plans to:

**Fred Hutchinson Cancer Research Center
Human Resources
1300 Valley Street #5D8736
Seattle, WA 98109
FAX: 206-667-4051
TTY: 206-667-6861**

HARVARD MEDICAL SCHOOL/ DANA-FARBER CANCER INSTITUTE

POSTDOCTORAL POSITIONS available immediately for studies into molecular aspects of cancer spread (*Science* 271:509, 1996). Successful candidates will be highly qualified; background in molecular biology or biochemical analysis of cell activation preferred. A joint appointment will be held in an appropriate department of Harvard Medical School. Please forward curriculum vitae, bibliography, and names of three references to: **Dr. Georg Weber, Dana-Farber Cancer Institute, 44 Binney Street, SM736B, Boston, MA 02115. FAX: 617-632-4630; e-mail: georg_weber@dfci.harvard.edu.**

POSTDOCTORAL POSITION to study antigen recognition by human gamma delta T cells, and their role in host defense and immunoregulation. Research experience required in immunology, biochemistry, cell biology, or molecular biology. Send curriculum vitae and the names and contact information of at least three references to: **Jack F. Bukowski, M.D., Ph.D., Room 524 Smith Building, Department of Rheumatology, Immunology, and Allergy, Brigham and Women's Hospital, Harvard Medical School, 75 Francis Street, Boston, MA 02115. FAX: 617-525-1010; e-mail: jbukowski@rics.bwh.harvard.edu.**

POSTDOCTORAL POSITION to be filled immediately to study molecular mechanisms of 0-adrenergic and histamine receptor/G protein interaction by use of fusion protein and reconstitution techniques (*JBC* 273:5109, 1998; *JBC* 273:24181, 1998; *EJB* 255:369, 1998). Strong background in GPCR and G protein research required. Send curriculum vitae including addresses and telephone numbers of references to: **Dr. Roland Seifert, Department of Pharmacology and Toxicology, The University of Kansas, 5064 Malott Hall, Lawrence, KS 66046. FAX: 785-864-5019; e-mail: rseifert@falcon.cc.ukans.edu.**

POSTDOCTORAL POSITION is available to investigate the role of intracellular pH in wound repair after injury in cells of the GI tract. Experience with cell culture and microscopy is required. Please send letter and curriculum vitae to: **Dr. Susan Hagen, Department of Surgery, Beth Israel Deaconess Medical Center, RW 863, 330 Brookline Avenue, Boston, MA 02215. E-mail: shagen@bidmc.harvard.edu.**

POSITIONS OPEN

Two **POSTDOCTORAL RESEARCH SCIENTIST** positions are available immediately at Children's Memorial Institute of Education and Research (CMIER), an affiliated member of Northwestern University Medical School. Our research interest is to study the roles of HIV-1 protein R (Vpr) in cell cycle control, pathogenesis, and cancer gene therapy. Although our primary focus is to use fission yeast (*Schizosaccharomyces pombe*) as a model system to investigate various aspects of Vpr, we are seeking opportunities to expand our capacity to study Vpr in mammalian cell systems.

Position One: the applicant should have a Ph.D. degree in molecular virology or related disciplines. Experiences in cell culture, animal handling, and cancer gene therapy are desired.

Position Two: the applicant should have a Ph.D. degree in yeast genetics or related disciplines. Experiences in genetic crossing, molecular cloning are desired.

Innovative thinking and paper/grant writing are strongly encouraged. Competitive salary and attractive fringe benefit. *The applicants must be eligible for working in the United States.* Interested persons should send curriculum vitae and three letters/telephone numbers of references to: **2430 North Halsted Street #218, Chicago, IL 60614. Or contact: Dr. Y. Zhao, Telephone: 773-880-6608; FAX: 773-880-6009; e-mail: j-ebersold@nwu.edu.**

CMIER is located at the Beautiful Lincoln Park campus of Northwestern University Medical School, three miles north of Chicago downtown campus and a 15-minute walk to the lake shore. *CMIER is an Equal Opportunity Employer.*

POSTDOCTORAL OPPORTUNITY

The Ruttenberg Cancer Center at Mount Sinai School of Medicine has an opening immediately for a self-motivated Ph.D. with extensive experience in biochemistry and molecular biology to study the regulation and function of stress-inducible transcription factors and protein kinases (*PNAS* 95:10541, 1998; *Gene & Dev.* 12:2658-2663, 1998). Please send curriculum vitae and three letters of recommendation to: **Ze'ev Ronai, Ph.D., Ruttenberg Cancer Center, Mount Sinai School of Medicine, One Gustave L. Levy Place, Box 1130, New York, NY 10029-6574. FAX: 212-849-2446. We are an Equal Opportunity Employer fostering diversity in the workplace.**

SENIOR POSTDOCTORAL FELLOW needed to develop targeting strategies for gene therapy. Candidate will identify and characterize novel cellular receptors or surface antigens and develop antibodies to these proteins for specific cells. Experience in receptor biology or with phage display antibody and peptide libraries desirable. Possibility of long-term position. Salary, benefits competitive. Send cover letter, curriculum vitae, and names of three references to: **Ms. C. Farrell, Musculoskeletal Disease Center, Loma Linda University, P.O. Box 7210, Loma Linda, CA 92354.**

The Surgical Oncology Research Laboratories in Massachusetts General Hospital and Harvard Medical School is seeking **POSTDOCTORAL FELLOWS** to contribute to ongoing research on nutrient control of cancer cell proliferation, viability, and gene expression. Applicants must have a Ph.D. with experience in cell culture, molecular biology, and biochemical techniques. Competitive salary. Available December 1998. Contact: **Steve F. Abcouwer, Surgical Oncology Research Laboratories, Massachusetts General Hospital, Jackson 918, 55 Fruit Street, Boston, MA 02114-2696.**

NIH-funded **POSTDOCTORAL POSITION** available immediately to generate neutralizing anti-HIV antibodies using phage-display technology. Previous experience in immunology, virology, or molecular biology desirable. Join a highly interactive interdepartmental research environment that includes strong groups in the areas of B-cell biology, HIV vaccines, and autoimmunity. Send/FAX curriculum vitae and names of three references to: **Ignacio Sanz, M.D., University of Rochester, 601 Elmwood Avenue, Box 695, Rochester, NY 14642. FAX: 716-442-3214.**

POSTDOCTORAL POSITION to study rapid events in protein folding. Ph.D. applicants should have experience with protein expression, mutagenesis, purification, and spectroscopy. NMR experience is particularly desirable. Send curriculum vitae and two letters of recommendation to: **Dr. Lydia Gregoret, Department of Chemistry and Biochemistry, University of California, Santa Cruz, CA 95064. FAX: 831-459-2935.**

POSITIONS OPEN

Two funded **POSTDOCTORAL POSITIONS** are available immediately to work on neurotrophin signaling. The trafficking of neurotrophin receptors in central nervous system neurons is an area of special interest. Applicants should have a relevant Ph.D. and/or M.D. and expertise in one or more of the following: cell biology, neuroanatomy, biochemistry, and molecular biology. The selected candidates will join a multidisciplinary group in **Dr. William Mobley's** laboratory at Stanford University School of Medicine. Stanford University offers state-of-the-art laboratories with extensive core facility support including DNA and protein sequencing, oligonucleotide and peptide synthesis, confocal laser microscopy, and an outstanding animal facility. Interested parties should send a statement of research interest, curriculum vitae, no more than three reprints from refereed journals, and letters of recommendation to:

**William Mobley, M.D., Ph.D.
Professor and Chairman
Department of Neurology and Neurological Sciences
Stanford University School of Medicine
Room H3160
Stanford, CA 94305-5235**

Stanford University is an Equal Opportunity Employer.

POSTDOCTORAL/RESEARCH ASSOCIATE positions available for highly motivated, creative, technically skilled individuals to study transcriptional regulation by nuclear receptors for vitamin D and/or estrogen in cultured cell and transgenic animal models. Signal modulation and integration mechanisms in bone and other tissues represent a current focus with excellent research opportunities available. Knowledge of nuclear receptors/transcription factors and a documented expertise in molecular biologic/biochemical techniques and DNA/protein database usage are essential. Send a detailed curriculum vitae with career objectives, a summary of research experience, and the names of three references to: **Dr. J. Wesley Pike, Department of Molecular and Cellular Physiology (ML-0576), University of Cincinnati, 231 Bethesda Avenue, Cincinnati, OH 45267. FAX: 513-558-5738; e-mail: wes.pike@uc.edu.**

POSTDOCTORAL/RESEARCH ASSOCIATE/YOUNG FACULTY POSITION(S) available in autoimmune arthritis research. Understanding of the relevant area and documented experience in molecular cell biology/immunology are absolute requirements. Research areas are (1) genome-wide screening and positional cloning of disease-responsible genes, (2) transgenic/knockout approaches, and (3) immunoregulation of autoimmune diseases. Applicants should send a curriculum vitae, brief summary of research experience, names and addresses of current preceptor, and at least two additional referees to: **Tibor T. Glant, M.D., Ph.D., Professor, Section of Biochemistry and Molecular Biology, Department of Orthopedic Surgery, Rush University, 1653 West Congress Parkway, Chicago, IL 60612.**

POSTDOCTORAL POSITION is available immediately to study the role of mossy fiber synaptic reorganization in epilepsy. Experience with cellular electrophysiological techniques is highly desirable. Send a curriculum vitae and names of three references to: **Dr. J. Victor Nadler, Department of Pharmacology and Cancer Biology, Box 3813, Duke University Medical Center, Durham, NC 27710. E-mail: nadle002@acpub.duke.edu.**

Duke University is an Equal Opportunity/Affirmative Action Employer.

Biology/education. Innovative **POSTDOCTORAL FELLOW** in undergraduate biomolecular sciences education. Salary \$35,000. Required: Ph.D. in biology or related field with expertise in biomolecular sciences, e.g., cell, developmental, and molecular biology; skills in collaborative teaching and interactive instructional technology. Send letter, curriculum vitae, names and addresses of three references to: **Dr. Diane Sonnenwald, CB# 3360, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-3360. The University of North Carolina at Chapel Hill is an Affirmative Action/Equal Opportunity Employer.**

Immediate opening for two **POSTDOCTORAL POSITIONS** to do research on cell and molecular biology pertaining to the kidney. Must have Doctoral degree and be a U.S. citizen or permanent resident. Excellent salary and benefits. Please send curriculum vitae and references to: **Stephen L. Gluck, M.D., Director, Division of Nephrology, Hypertension and Transplantation, University of Florida, Box 100224, Gainesville, FL 32610. Great science in a great place to live.**



Active
Biotech 

Research Scientist

Biochemist/Molecular Biologist/Immunologist

Active Biotech is a biotechnology company focusing on research and development of pharmaceuticals and vaccines. The Group's business is based on knowledge of the human immune system and is conducted through its subsidiaries in Sweden SBL Vaccin and Lund Research Center, and in England Actinova. The business ranges from research and development to sales and distribution of proprietary pharmaceuticals and vaccines as well as licensed products.

Active Biotech AB (publ)

Postal address P.O. Box 724,
SE-220 07 Lund, Sweden
Visiting address Scheelevägen 22, Lund
Telephone +46 46 19 10 00
Fax +46 46 19 20 50
E-mail info@activebiotech.com
Internet www.activebiotech.com

A research scientist position is available at Active Biotech, Lund Research Center AB, Lund, Sweden, for a highly motivated individual. We are seeking a candidate with a Ph.D. in either Molecular Biology, Biochemistry or Immunology.

The candidate will be involved in the design and execution of studies aimed towards understanding the cellular mechanisms involved in induction and regulation of lymphocyte homeostasis at the molecular level. These investigations are integral activities of a multi-disciplinary team discovering novel anti-inflammatory compounds.

The candidate should have proven skills, particularly from studies on protein-protein

and protein-nucleic acid interactions. In addition to these technical skills and experience, the ideal candidate will appreciate a flexible team approach, and desire to work in an entrepreneurial environment.

Closing date for application:
November 6, 1998.

Please send your application, including full C.V., in confidence to:

Active Biotech, Lund Research Center AB,
Personnel & Organisation,
Attn. Nils Ljunggren,

P.O. Box 724,
SE-220 07 Lund, Sweden.

E-mail: nils.ljunggren@lrc.activebiotech.com

Post Doctoral Research Positions Training and Mobility of Researchers program of the European Union

Research Network Ultrasonic Separation of Suspended Particles (UltraSonoSep)



The recent progress in the development of new ultrasonic transducers, resonator chambers and electronics for ultrasonic separation and particle micro-manipulation systems offers a wide field of possible new applications of the ultrasonic separation technology (USST). The research activities in the network with the code name *UltraSonoSep* are the development of advanced acoustic separation systems for the application fields biotechnology (plant and animal cell separation) and emulsion splitting (oil/water lubricating-cooling liquids). The employment opportunities are

8 (Post-)Doctoral Positions at the partner institutions

Vienna University of Technology, Institut f. Allgemeine Physik, AT; Anton Paar GmbH, Graz, AT; Applikon Dependable Instr. B.V., Schiedam, NL; Vienna University of Agriculture, Institute of Applied Microbiology, AT; University College Dublin, Dept. Industrial Microbiology, Dublin, IE; University of Wales, School of Pure and Applied Biology, Cardiff, UK; University of Nottingham, Life Science Department; IFEU Institut f. Entsorgung und Umwelttechnik gGmbH, Iserlohn, DE

Further informations about job descriptions, durations and salaries can be found on the network homepage. Young scientists interested in the above fields holding a PhD (MSc) degree in physics, electronics, biotechnology, or physical chemistry are encouraged to contact the network coordinator. Applicants must be citizens of a member state of the European Union.

Network Coordinator:

Prof. Dr. Ewald Benes

Vienna University of Technology,
Institut fuer Allgemeine Physik

Wiedner Hauptstr. 8/134

A-1040 Vienna

AT Austria/Europe

Phone: 0043 1 58801 13470

Fax: 0043 1 58801 13499

E-mail: benes@iap.tuwien.ac.at

EU TMR network UltraSonoSep

homepage: <http://www.iap.tuwien.ac.at/www/euss/index.html>

ac.at/www/euss/index.html



THE UNIVERSITY
of LIVERPOOL

Department of Earth Sciences Chair in Earth Sciences

Applications are invited for a full professorship in Earth Sciences, available from October 1999 in a large department nationally graded as excellent for research and teaching in Geology, Geophysics and Oceanography. Candidates should demonstrate an international research profile and scientific leadership. He/she should either complement our existing research strengths or assist our development of new research areas in biogeochemistry, hydrogeology and palaeoclimatology. Existing core research areas include engineering seismology, fault mechanics, geodynamics, geomagnetism, marine chemistry, palaeoceanography, physical oceanography, rock texture/deformation, sequence stratigraphy and volcanology. Salary negotiable.

Informal enquiries to Professor Nick Kusznir, Head of Department on 0151 794 5182 or email: sr11@liv.ac.uk

Quote Ref: B/026/S

Closing Date: 30 November 1998

Further particulars and details of the application procedure may be requested from the Director of Personnel, The University of Liverpool, Liverpool L69 3BX on 0151 794 2210 (24 hr answerphone) or via email: jobs@liv.ac.uk

Web site at <http://www.liv.ac.uk>

COMMITTED TO EQUAL OPPORTUNITIES

POSITIONS OPEN

POSTDOCTORAL POSITION DARTMOUTH MEDICAL SCHOOL

Michael Sporn, M.D. and Ethan Dmitrovsky, M.D. have an immediate opening in a joint project for an M.D. and/or Ph.D. Postdoctoral Scientist with experience in molecular and cell biology. Studies will involve regulation of the cell cycle by estrogen analogs, androgens, and retinoids, with special emphasis on breast and prostate cells and tissues.

Applications accepted by mail only. Please send a curriculum vitae and names and addresses of three references to:

Michael B. Sporn, M.D.
Department of Pharmacology
Dartmouth Medical School
7650 Rensselaer, Room 524
Hanover, NH 03755.

Dartmouth is an Equal Opportunity/Affirmative Action Employer. Applications from women and minorities are strongly encouraged.

POSTDOCTORAL FELLOWSHIP MUCOSAL/NEUROENDOCRINE IMMUNOLOGY

A Postdoctoral position is available to study basic molecular and cellular events that govern the development, function, and regulation of the murine intestinal immune system, including the involvement of the neuroendocrine system in that process. Applicants should have a strong background in either immunology, infectious diseases, molecular biology, and/or endocrine biology. Screening begins immediately and will continue until the position is filled. Send curriculum vitae and the names of three references to: **Dr. John R. Klein, Department of Biological Sciences, The University of Tulsa, 600 South College Avenue, Tulsa, OK 74104-3189. FAX: 918-631-5005; e-mail: john-klein@utulsa.edu.** The University of Tulsa is an Equal Employment Opportunity/Affirmative Action Employer.

1999 INTERNATIONAL FELLOWSHIP OPPORTUNITIES

Eisenhower Exchange Fellowships announces a competition for U.S. citizens in leadership positions with significant professional experience (10 to 20 years) for Fellowships to:

Hungary: Technology in education, economy, and communications.

Malaysia: Computers in education; science and technology policy; telecommunications policy.

Fellows meet top level in government and business for four to 10 weeks. Benefits: travel costs, living allowance for Fellow and spouse. Applications due November 30, 1998. Request from: **J. Hartl, Eisenhower Exchange Fellowships, 256 South 16th Street, Philadelphia, PA 19102. FAX: 215-546-4567; e-mail: jhartl@ecf.org.**

POSTDOCTORAL POSITIONS NEW YORK UNIVERSITY MEDICAL CENTER

NIH-funded project investigating stimulus-secretion coupling in pancreatic beta-cells (*Nature* 361:362; *TIBS* 17:388; *JBC* 270:17749; *Diabetes* 46:1087). Electrophysiologist with experience in patch clamp, Ca^{2+} imaging, amperometric measurements of exocytosis. Cell/Molecular Biologist with interest in receptors, Ca^{2+} release channels, secretion. Extremely well-equipped laboratory with interests in GLP-1, PACAP, leptin, alpha-latrotoxin. Positions available immediately. Send curriculum vitae and names of three references to: **George G. Holz, Ph.D., Department of Physiology and Neurosciences, New York University Medical Center, 550 First Avenue, New York, NY 10016. E-mail: holz@helix.mgh.harvard.edu.**

POSTDOCTORAL POSITION IN CANCER GENETICS

A funded Postdoctoral position is available immediately to study the genetic mechanisms of human prostate cancer. The technique of representational difference analysis will be applied to map the loci of novel tumor suppressor genes and to obtain gene expression profiles. The ideal candidate will have experience in basic molecular genetic techniques. Applicants must have a doctoral degree and documented experience in molecular genetics techniques (PCR, DNA hybridization, DNA sequencing, DNA cloning). Send curriculum vitae and names of three references to: **Chris Moskaluk, M.D., Ph.D., Box 214, Health Sciences Center, University of Virginia, Charlottesville, VA 22908.** The University of Virginia is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

RESEARCH ASSOCIATE and POSTDOCTORAL TRAINING opportunities are periodically available with the College of Biological Sciences at the University of Minnesota. Positions may be available in the Departments of Biochemistry; Ecology, Evolution, and Behavior; Plant Biology; and Genetics and Cell Biology. Positions may also be available in the following research programs: the Biological Process Technology Institute, the Lake Itasca Forestry and Biological Station, and the Plant Molecular Genetics Institute. The Research Associate positions are for independent research. To be considered, applicants must hold a Ph.D. degree or foreign equivalent and at least two years of postdoctoral experience. Applicants are encouraged to secure salary support from an external granting agency. Multiple positions may be available, depending upon space and facilities, availability of funding, as well as faculty research interests. The Postdoctoral Training positions require a Ph.D. or foreign equivalent and appointments are limited to three years. Applications must include which position is of interest and must include a personal curriculum vitae, a brief statement of research interests and experience, and names, addresses, and telephone numbers of three references. Closing date for applications is August 31, 1999. Direct applications to: **Administrator, (Department Name), College of Biological Sciences, 123 Snyder Hall, 1475 Gortner Avenue, St. Paul, MN 55108.** Equal Opportunity Educator and Employer.

MOLECULAR BIOLOGIST

POSTDOCTORAL POSITION available November 1, 1998, in the Division of Radiation Oncology to study DNA damage and recombination. Highly motivated candidates with an interest in improving gene therapy are encouraged to apply. Experience required in molecular biology, tissue culture, DNA recombination, and virus/plasmid construction. Send curriculum vitae and the names and addresses of at least three references by mail or e-mail to: **Dr. Craig Stevens, Department of Radiation Oncology, Box 97, University of Texas M. D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030. E-mail: stevens@mdanderson.org.**

The University of Texas is an Equal Opportunity/Affirmative Action Employer. Smoke-free environment. Women in minority categories are encouraged to apply.

The National Eye Institute, National Institutes of Health, has a **POSTDOCTORAL POSITION** available to study the role of cyclin-dependent kinases in differentiation and apoptosis. A background in molecular/cellular biology is desirable. Applicants must be U.S. citizens or permanent residents. Applicants must have a Ph.D. or M.D. and less than five years of postdoctoral experience. Starting salary ranges from \$27,500 to \$38,000 per year depending upon experience. Please send curriculum vitae, bibliography, and names of three references to: **Dr. Peggy S. Zelenka, Laboratory of Molecular and Developmental Biology, Building 6, Room 214, MSC-2730, Bethesda, MD 20892-2730. Telephone: 301-496-7490; FAX: 301-435-7682; e-mail: zelenka@helix.nih.gov.**

NIH is an Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIP UNIVERSITY OF WISCONSIN-MADISON

Postdoctoral positions are available to study mechanisms of T cell signaling as they pertain to costimulation and tolerance. Experience in molecular biology techniques is a must. Experience in yeast two hybrid system and/or protein purification is preferred. Interested individuals should submit their curriculum vitae, a list of publications, and names and addresses of three references to:

Majed M. Hamawy, Ph.D.
Department of Surgery, Room H4/749
Division of Transplantation
600 Highland Avenue
Madison, WI 53792-7375

POSTDOCTORAL POSITION available to study the neurochemical and molecular aspects of ischemic and traumatic brain injury. Experience in ischemic surgery, neurochemistry, and molecular techniques, as well as the preparation of manuscript and grant proposals, is desirable. Submit curriculum vitae and the names of three references to: **Robert Dempsey, M.D., Professor and Chairman, Department of Neurological Surgery, 600 Highland Avenue, H4/338 CSC, University of Wisconsin, Madison, WI 53792.** Or contact **Dr. Rao Vemuganti** at the Neuroscience Meeting.

POSITIONS OPEN

YEAST TBP-TAF STRUCTURE, FUNCTION, AND DYNAMICS

POSTDOCTORAL POSITIONS are available to examine the role of the TATA-Box Binding Protein TBP and its associated factors (TAFs) in transcription initiation complex formation using the *Saccharomyces cerevisiae* system. We are currently using a combination of biochemical, genetics, and biophysical methods to study the regulation and interactions of these proteins with each other, DNA, and other transcription factors (see: *JBC* 271:13706; *JBC* 272:9436; *JBC* 273:19884; *Biochemistry* 34:8005; *PNAS* 92:8224; *MCB* 17:3081; *Yeast* 14: 813-825). Interested parties should send a curriculum vitae to: **Dr. Tony Weil, Department of Molecular Physiology and Biophysics, Vanderbilt University, School of Medicine, Nashville, TN 37232-0615. FAX: 615-322-7236; e-mail: tony.weil@mcmail.vanderbilt.edu.**

Vanderbilt University is an Equal Opportunity/Affirmative Action Employer.

Two **POSTDOCTORAL POSITIONS** in microbial pathogenesis are available to investigate virulence mechanisms of *Haemophilus ducreyi*, the etiologic agent of chancroid and a cofactor in transmission of HIV infection. Emphasis will be placed on characterization of *H. ducreyi* gene products involved in the regulation of expression of virulence factors, especially toxins (see: *PNAS* 94:4056, 1997). Experience with recombinant DNA techniques is required; this project makes extensive use of mutant analysis in conjunction with a relevant animal model. Positions include salary, fringe benefits, and the opportunity to work in a dynamic research environment. First position available after January 1, 1999. Second position available after June 1, 1999. Send curriculum vitae and the names and telephone numbers of three references to: **Dr. Eric J. Hansen, Department of Microbiology, The University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9048. FAX: 214-648-5905; e-mail: hansen01@utsw.swmed.edu.** UT Southwestern is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION DEPARTMENT OF ANATOMY WRIGHT STATE UNIVERSITY

This position requires a Doctoral degree in biomedical sciences. Some experience in the following techniques: electron microscopy, confocal microscopy, video microscopy, and image processing analysis, and immunocytochemistry is preferred. Send curriculum vitae and names of three references to: **Francisco J. Alvarez, Department of Anatomy, Wright State University, 3640 Colonel Glenn Highway, Dayton, OH 45435. FAX: 937-775-3391; e-mail: falvarez@wright.edu.** Review of applications will begin November 2, 1998, and continue until the position is filled.

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

POSTDOCTORAL POSITION

Postdoctoral position available to study the molecular mechanism of ionizing radiation-induced cell kill. Candidates must have a Ph.D. in biochemistry, cell or molecular biology, or a related field. Experience in mammalian cell culture, molecular biology (including cloning and sequencing DNA and gene expression systems) and protein chemistry (purification, electrophoresis, and Western blotting) is required. A working knowledge of cell redox, signal transduction, and apoptosis is desirable. Send curriculum vitae along with the names and addresses of three references to: **Stephen Tuttle, Ph.D., Department of Radiation Oncology, University of Pennsylvania, 195 John Morgan Building, Philadelphia, PA 19104-6072. E-mail: stuttle@mail.med.upenn.edu.** The University of Pennsylvania is an Equal Opportunity Employer.

POSTDOCTORAL FELLOW

Ph.D./M.D. with experience in molecular biology and cell culture to study the role of Rho small GTPases in cell cycling. Salary commensurate with qualifications and experience. Send curriculum vitae and the names of three references to: **Dr. Jeffrey Kreisberg, Department of Pathology, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284-7750.** The University of Texas Health Science Center is an Equal Employment Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH POSITION

Available in the Department of Pediatrics, Case Western Reserve University School of Medicine, Cleveland, Ohio to study the molecular immunology of host response to bacterial polysaccharides and glycoconjugates. Experience in tissue culture, immunology, and molecular biology required. Send curriculum vitae and references to: **John Schreiber, M.D., Division of Pediatric Infectious Diseases, Rainbow Babies and Children's Hospital, 11100 Euclid Avenue, Cleveland, OH 44106. FAX: 216-844-8362; e-mail: jrs3@po.cwru.edu.** CWRU is an Equal Opportunity/Affirmative Action Employer.

COURSES & TRAINING

INTERESTED IN CLINICAL OR POSTDOCTORAL RESEARCH TRAINING?

The National Institutes of Health has both! For more information, visit our website which lists an array of clinical and postdoctoral opportunities, including tenure-track positions.

<http://www.training.nih.gov>
The NIH is an Equal Opportunity Employer.

MEETING

HEPATIC INFLAMMATION AND IMMUNITY GALVESTON, TEXAS JANUARY 15-17, 1999

A multidisciplinary meeting examining unique aspects of the intrahepatic immune system and its role in health and disease. Sessions include "The liver in health and disease": **I. Arias, A. M. Diehl, D. M. Bissell**; "Immunobiology of the liver": **T. Abo, N. Crispe, A. Bendalac, G. Teigs**; "The liver and immunologic tolerance": **P. Bertolino, A. Thomson**; "Immune response to viral infections": **C. O'Farrelly, G. Dennert, F. Chisari, M. Koziel, S. Abrignani, G. Klimpel**; "Parasitic and bacterial infections of the liver": **U. Krzych, M. Stadeker, J. Harty**; "Summary roundtable": **J. Hoofnagle, H. Johnson**. For further information and registration details, see website: <http://microbiology.utmb.edu/> or contact: **S. M. Lemon, Department of Microbiology and Immunology, University of Texas Medical Branch, Galveston, TX 77555-1019. FAX: 1-409-772-3757; e-mail: msusman@utmb.edu.**

EUROPEAN OPPORTUNITIES

RESEARCH ASSISTANT AT THE MEDICAL FACULTY CHARITÉ BERLIN

Two positions are immediately available for highly motivated candidates with diploma degree of biology or biochemistry (or equivalent) within a national research center of hyperthermia. The study will use cell culture, molecular biology, and biochemical techniques to investigate the cellular response of malignant and normal cells and tissues to hyperthermia and in combination with radiation and drug treatment. Nine months full-time; further 18 months optional.

RESEARCH TECHNICIAN

Required to work within our research projects upon *in vitro* and *in vivo* effects of radiation, drugs, and hyperthermia. Nine months full-time; further 18 months or more optional.

Applications to: **A. Jordan, Department of Radiation Oncology of the Medical Faculty Charité of the Humboldt Universität zu Berlin, SFB 273, Augustenburger Platz 1, Berlin 13353 Germany. E-mail: andreas.jordan@charite.de.**

POSTDOCTORAL POSITION

Postdoctoral position available to study physiology and genetics linked to the synthesis of peptidoglycan in *Enterococcus* as well as different targets of cell wall antibiotics. Experience with DNA techniques is required and knowledge in biochemistry would be helpful. Position available at beginning of January 1999. Please send curriculum vitae and names of references to: **Dr. Laurent Gutmann, Université Paris VI, Laboratoire de Recherche de Microbiologie sur les Antibiotiques, 15 rue de l'école de Médecine 75270 Paris Cedex 06, France. Telephone: 33-1-42-34-68-62; FAX: 33-1-43-25-68-12; e-mail: gutmann@ccr.jussieu.fr.**

POSITIONS OPEN

Two POSTDOCTORAL POSITIONS are available to develop and study recombinant vaccines for use against important veterinary viruses. Experience in molecular biology and tissue culture are required. A background in virology and animal experimentation is desirable. Send curriculum vitae, description of previous experience, and references (address, telephone, e-mail) to: **Dr. Leonard J. Bello, University of Pennsylvania, School of Veterinary Medicine, Department of Pathobiology, 3800 Spruce Street, Philadelphia, PA 19104-6049. FAX: 215-898-7887. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available to study the mechanisms of biosynthesis of hydrocarbons. Experience in biochemistry, molecular and cell biology is required. Send curriculum vitae, description of research interests, and list of three references with telephone and e-mail to: **Dr. P. E. Kolattukudy, Neurobiotechnology Center, The Ohio State University, 206 Rightmire Hall, 1060 Carmack Road, Columbus, OH 43210. FAX: 614-292-5379; Telephone: 614-292-5670; e-mail: kolattukudy.2@osu.edu. The Ohio State University is an Equal Opportunity/Affirmative Action Employer.**

MARKETPLACE

 **Science's Literature Library**
www.sciencemag.org
Click on Electronic Marketplace, then click on Literature Library

Diverse Small Molecules Ready for Screening

In plates, immediately available
50% academic discount, or use our
new easy access plan
ChemBridge Corporation

Website: www.chembridge.com

E-mail: chem@chembridge.com
(800) 964-6143 or (619) 451-7400
FAX: (619) 451-7401

Circle No. 26 on Readers' Service Card

T.E.A.M. * Lampire
*The Expert Antibody Maker

Polyclonal Alternatives: avian projects, as low as \$315.

Lampire Biological Laboratories, Inc.
Ph: 215-795-2838 Fax: 215-795-0237
e-mail: lampire@lampire.com

Circle No. 63 on Readers' Service Card

Custom Polyclonal Services 

The Babco Advantage:

- Proven Protocols
- Immediate Project Initiation
- Wide Variety of Species
- Controlled Environment

BABCO RESEARCH & TESTING COMPANY

800-922-2226
service@babco.com
www.babco.com

Circle No. 47 on Readers' Service Card

MARKETPLACE

PEG

Derivatives for Pharmaceutical and Biotechnical Applications Activated for Protein Modification

Monofunctional Methoxy,
Homobifunctional and
Heterobifunctional Derivatives

Exclusive Products:

Vinylsulfone, Aldehyde, SPA,
 ω -Amino- α -Carboxyl,
 ω -NHS- α -Vinylsulfone
and PEG2-NHS

**Chromatographically Pure
Derivatives, GMP, Bulk and Custom
Synthesis Available**

Shearwater Polymers, Inc.

(800) 457-1806 (US) 2307 Spring Branch Rd.
(205) 533-4201 (Int) Huntsville, AL 35801
(205) 533-4805 (fax) swpolymers@aol.com

Circle No. 12 on Readers' Service Card

RNA OLIGONUCLEOTIDES
2'-ACE™ - Advanced RNA synthesis.
Unsurpassed quality you can depend on every time.

www.dharmacon.com
(303) 415-9880
(800) 235-9880  Boulder, CO 80301

Circle No. 48 on Readers' Service Card

Quality Peptides and Antisera
Friendly, Personal Service
www.genosys.com

Custom Peptide Synthesis

- sequence analysis
- lg. >70%, >80%, >95% purity
- scales from 2 mg — 1 g
- variety of modifications available
- mass spec & HPLC on every peptide
- satisfaction guaranteed

Polyclonal Antisera Service

- antigen design assistance
- synthesis, conjugation and sera collection
- flexible protocol

GENOSYS

North America 1-800-234-5362 email: info@genosys.com
Europe (+44) (0) 1223 839000 email: genosys@genosys.co.uk

Circle No. 32 on Readers' Service Card

Lysyl Endopeptidase (Achromobacter Protease I)
Cleaves all Lys-X bonds

Wako  **Wako BioProducts**
Wako Chemicals USA, Inc.
1600 Bellwood Road, Richmond, VA 23237
Telephone: (804) 271-7677 Facsimile: (804) 271-7791
(800) 992-9256 bioproducts@wakousa.com

Circle No. 18 on Readers' Service Card

MARKETPLACE



**MORE PRODUCTS
ON PREVIOUS PAGE**

**CUSTOM ANTIBODIES
TO PEPTIDES AND PROTEINS**

1-800-481-9737

HTI (760) 788-9591 • fax: (760) 788-9594
e-mail: antibodies@htibio.com
HTI Bio-Products, Inc. http://www.htibio.com

Circle No. 11 on Readers' Service Card

**Polyclonal Peptide
Antisera**

From peptide synthesis through to fully titred sera at competitive prices. Please call for details:

Web: www.chirontechnologies.com

CHIRON TECHNOLOGIES

US: West Coast Tel: 800 644 1866 Fax: 800 655 1866
US: East Coast Tel: 800 633 8161 Fax: 800 424 3970
International Tel: +61 3 9565 1111 Fax: +61 3 9565 1199
Europe Tel: +33 141 38 9400 Fax: +33 141 38 9409

Circle No. 29 on Readers' Service Card

Widely Recognized
KlenTaq1 8¢/u
Original & Guaranteed
Truncated Taq DNA Polymerase
Withstand 99°C
US Pat # 5,436,149

Call: **Ab Peptides** 1-800-383-3362
Fax: 314-968-8988 abpeps@icon-stl.net

Circle No. 2 on Readers' Service Card

Enzymes, Antibodies, cDNA, Primers

PGHS GST FMOs NOS PKCs P450s

Extensive line of Reagents for:

- Eicosanoid Metabolism • Bioactive Lipids • Signal Transduction
- Cell Biology • Free Radical Biochemistry • Cancer Research

Oxford Biomedical Research, Inc.
1-800-692-4633 www.oxfordbiomed.com

Circle No. 49 on Readers' Service Card

Custom Peptide

\$15/residue
Free Mass Spec
Free HPLC
8-17 residues
15-35 mg
Tel: 800-597-7873
925-371-1070
Fax: 925-371-1156
email: pkim@ccnet.com

PeptidoGenic The Peptide Engineering Specialist

Circle No. 28 on Readers' Service Card

**NEW LOW PRICES VOLUME DNA SEQUENCING
CALL (800) 720-GENE**

- HIGH-THROUGHPUT GENOME SEQUENCING
- SHOTGUN SEQUENCING EXPERTISE
- NO ROYALTIES OR LICENSE FEES
- LARGE & SMALL PROJECTS ACCEPTED

seqwright (713) 528-4363 PHONE
(713) 528-6232 FAX
www.seqwright.com
email: seq@blkbbox.com

Circle No. 4 on Readers' Service Card

MARKETPLACE

Custom Primers - 48 hr turnaround: \$0.69/base
5 ODU - Standard Purity - Ready to Use



ransom hill bioscience, inc.

http://www.ransomhill.com

no setup - no minimum - no baloney!

Internet: visla@ix.netcom.com fax: (800) 597-8509

Circle No. 3 on Readers' Service Card

**Custom Peptides
& Antibodies**

Best Service & Price! Compare and Save!

Alpha Diagnostic (800) 786-5777

Fax (210) 561-9544; info@4adi.com

Web site: http://www.4adi.com

Circle No. 9 on Readers' Service Card

CUSTOM DNA SYNTHESIS

PURE & SIMPLE

- Superb Technical Support
- Impeccable Quality
- World's Fastest Service
- Cap Gel & TOF Mass Spec

\$1.19* per base
\$10 setup
50 nmole scale

* Some restrictions apply. Please call for details.

MIDLAND
STILL THE UNDISPUTED #1 CUSTOM DNA SYNTHESIS SERVICE

THE MIDLAND CERTIFIED REAGENT COMPANY
Phone 1-800-247-8766 FAX 915-694-2387
email mrcr@oligos.com

Circle No. 5 on Readers' Service Card

get sequenced!

with Genome Systems' Sequencing Services

As low as \$14/run

- High-throughput Sequencing
- Shotgun Sequencing
- Genomic and cDNA/EST Clone Sequencing
- Custom Sequencing
- Fast & accurate service

GenomeSystemsInc™
Voice: 800. 430. 0030 or 314. 427. 3222
FAX: 314. 427. 3324
email: sequencing@genomesystems.com
World Wide Web:
http://www.genomesystems.com

Circle No. 10 on Readers' Service Card

Measuring Nitrate? Try Enzymes!

NECi's Nitrate Test Kits are Accurate, Economical, Safe Field, Lab and Microplate kits



1-888-NITRATE (888/648-7283)

Email: info@nitrate.com

The Nitrate Elimination Co., Inc. www.nitrate.com

Circle No. 20 on Readers' Service Card

MARKETPLACE

BIO•SYNTHESIS, INC.

DNA SEQUENCING SERVICES

AS LOW AS \$25/run

Other services: Cloning, Expression, Mutagenesis, Gene Synthesis, Contract R&D, & more

1-800-DNA-EXAM 1-800-362-3926

Circle No. 25 on Readers' Service Card

Smart Move!

Check around, you'll find CBI is the most comprehensive biotech service company in the market today. We provide:

- Protein Sequencing (N- & C- Terminal)
- Automated DNA Sequencing
- DNA/RNA/PNA Synthesis
- Peptide Synthesis
- Amino Acid Analysis
- Calorimetry
- Mass Spectroscopy



Call CBI for special projects, pricing: **1-800-735-9224**.

Commonwealth Biotechnologies, Inc.
fax: 804-648-2641 cbi@2020.net www.cbi-biotech.com

Circle No. 62 on Readers' Service Card

PRINCETON BIOMOLECULES

PEPTIDES ANTIBODIES

Phone 614-487-3663 Fax 614-487-3664
pbcpetide@aol.com www.pbcpetide.com

Circle No. 19 on Readers' Service Card

DNA	PEPTIDES
Call for prices	\$15.00/residue
Gene Synthesis, Site Mutagenesis, Protein Expression as low as \$500	
Sequencing: \$25 per run	
Custom Anti-peptide Antibody (including peptide synthesis) \$850	
GENEMED SYNTHESIS 800.344.5337 Fax: 650.952.9540 http://www.genemedsyn.com	

Circle No. 7 on Readers' Service Card

Custom DNA
Purified & Delivered in 48 Hours
\$1.20 per base • Purified
http://www.resgen.com
Research Genetics, Inc.
1-800-533-4363

Circle No. 1 on Readers' Service Card



MIDLAND

The Midland Certified Reagent Co.



Unsurpassed quality assurance

Exceptional customer service
and technical support

Midland is the only
DNA synthesis company that
routinely does MALDI

Time-of-Flight mass spectrometry to
verify the molecular weight of every
oligo made.

Let The Midland Certified Reagent
Co. help you with your project from
custom oligos, modifications,
labeling, probes and primers to
sequencing and gene construction.

Call us.

Phone: 800/247-8766

Fax: 800/359-5789

E-mail: mcrc@oligos.com

www.mcrc.com

20 Years of Quality

Circle No. 50 on Readers' Service Card

**GENE
CONSTRUCTION**

NTGA

GCCCAGA

**DNA
SEQUENCING**

GTACC

New!!

**Automated Sequencing
Fast, accurate, long reads
Call for details on our
new service!**

GTTAACG

**SPECIALTY
POLYMERS**

ACG

Chemiluminescent ELISAs

The power of Light

- Greater Sensitivity
- Broader Range

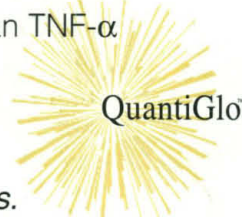


- Wide dynamic range (e.g. 0.5 - 5000 pg/mL) allowing the measurement of normal and pathological endogenous levels of cytokine in the same assay.
- Samples containing a high concentration of a cytokine require little or no dilution.
- Excellent precision across the range of the assay with increased sensitivity at the low end.
- Glow luminescence technology produces a bright and stable emission and is compatible with most microplate luminometers.
- Results in 5 - 6 hours.

QuantiGlo™ ELISAs:

human Endothelin-1
human IL-1 β
human IL-4
human IL-6
human IL-8
human IL-12
human TNF- α

*Please
inquire
about
new kits.*



FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES.

North America
R&D Systems, Inc.
614 McKinley Place NE
Minneapolis, MN 55413, USA
Tel: 612 379-2956
Fax: 612 379-6580
info@randsystems.com

Europe
R&D Systems Europe Ltd.
4-10 The Quadrant, Barton Lane
Abingdon, OX14 3YS, UK
Tel: +44 (0)1235 551100
Fax: +44 (0)1235 533420
info@randsystems.co.uk

Germany
R&D Systems GmbH
Borsigstrasse 7
65205 Wiesbaden, Germany
Tel: +49 (0)6122 90980
Fax: +49 (0)6122 909819
info@randsystems.co.uk

Europe Free Phone –
Belgique/België: 0800 10 468
Denmark: 80 01 85 92
France: 0800 90 72 49
Nederland: 060 225607
Norge: 800 11033
Sverige: 020 79 31 49
Switzerland: 0800 55 2482

Circle No. 60 on Readers' Service Card

R&D
SYSTEMS
1-800-343-7475
 www.randsystems.com