

The past year has been filled with dramatic developments in science and technology policy following the election in November 1994. Budget cuts, large-scale reorganizations, laboratory closings, and ventures into international cooperation have all been on the table in the most uncertain policy environment in decades. Like the preceding volumes in this annual series, the 1995 YEARBOOK brings together in a single volume the key science and technology policy documents of this remarkable year. Included are papers from the 1995 AAAS S&T Policy Colloquium as well as a variety of other influential documents.

1995; 368 pages; \$24.95 (AAAS member price \$19.96) *Call for bulk discount prices.* Purchase the 1994 Yearbook for \$12.50 (half price) and the 1991-1993 Yearbooks for only \$5.00 each. Postage/handling per order \$4.00. *Mail your order to:* AAAS Distribution Center PO Box 521 Annapolis Junction, MD 20701 Order by phone (VISA/MasterCard only) call 1-800-222-7809. Fax orders to 301-206-9789.

260 pages on LC columns, media and applications. Nothing else!

(No pumps, no racks, no filter paper.)

To answer your liquid chromatography questions, get your free TosoHaas catalog today and check out our World Wide Web site: http://www.rohmhaas.com/tosohaas/ or call TSK Direct in the U.S. at 1-800-366-4875, in Europe: 49-711-13257-0; in the U.K.: 44-1223-890098. Our E-mail address is: tosohaas_direct@rohmhaas.com



Circle No. 40 on Readers' Service Card



Precision



Introducing the new MP-285 Micromanipulator

Four programmable axes 25 mm of travel Submicron resolution Ultra-stable

Fully robotic

Neurosciences ee us at booth #1435

40 LEVERONI COURT, NOVATO, CA 94949

PHONE: 415.883.0128 FAX:415.883.0572 INFO@sutter.com www.sutter.com Circle No. 9 on Readers' Service Card

Stable Isotopes

& Isotopically Labelled Compounds I sotec Inc. pioneered the commercial production of enriched stable isotopes and today, is unsurpassed in custom synthesis capabilities. Currently, we separate and enrich over 30 stable isotopes including those of carbon, deuterium, nitrogen, oxygen and the noble gases. We inventory thousands of isotopically labelled compounds to ensure rapid delivery.

We provide the finest products at competitive prices to researchers in agriculture, biology, chemistry, drug testing, environmental, geology, health, nutrition and physics. Our goal is to support *your* research.

Call for information on products, custom synthesis, or a FREE catalog:

1-800-448-9760



513-859-1808 • Fax 859-4878 • isosales@isotec.com

Circle No. 8 on Readers' Service Card

SAVE Y			EIENCE
reinforced board like red material V-notched for es spring mechanis	or r year of is and cover and stam, asy access	imprinte binders protectir able & fror Ea c - order cases to ho sues. Con ed with du ped in gold ; binders H	l, the cases are have a special
easily snap in.			
easily snap in. Cases 1 –\$ 8 Binders 1 –\$11	.95 3 .25 3	-\$24.95 -\$31.85	6-\$45.95 6-\$60.75
Cases 1 - \$ 8 Binders 1 - \$11 SCIENCE Jesse Jones Indu 499 East Erie Ave	.25 3 stries, De e., Philade	-\$31.85 pt. 95 SCE phia, PA 1 for	6-\$60.75 9134 Cases; case/binder USA \$3 50
Cases 1 - \$ 8 Binders 1 - \$11 SCIENCE Jesse Jones Indu 499 East Erie Ave Enclosed is \$ Binder for postage & per case/bind dents add 7%	.25 3 estries, De b., Philade s. Add \$ handling er (US fu sales ta	-\$31.85 pt. 95 SCE phia, PA 1 for	6-\$60.75 9134 Cases; case/binder USA \$3.50 . PA resi-
Cases 1 - \$ 8 Binders 1 - \$11 SCIENCE Jesse Jones Indu 499 East Erie Ave Enclosed is \$ Binder for postage & per case/bind dents add 7% Print Name	.25 3 estries, De b., Philade s. Add \$ handling er (US fu sales ta	-\$31.85 pt. 95 SCE phia, PA 1 for	6-\$60.75 9134 Cases; case/binder USA \$3.50 . PA resi-

Outside the US call 215-425-6600 Allow 4-6 weeks



AMSIE'97

ENGAGING SCIENCE-SUSTAINING SOCIETY

Washington State Convention Center Seattle, Washington • February 13-18, 1997

Table of Contents

Program Chair Letter	2
Program Committee	2
Daily Time Table	
Meeting-At-A-Glance	
Lectures	6

PROGRAM

INCOLUM
Biological and Genetic Diversity7
The Brain, Human Behavior, and Language7
Communicating Science
Computers, Information Science, and
Technology7
Education and Education Reform
Environment and Environmental
Managment8
Genetic Research and Human Health
Global Change: Environment, Impacts,
and Action9
Industry, Technology, and Engineering9
Natural Resources Issues in the
Pacific Northwest9
People, Science, and History9
Public Health and Medicine9
Public Policy, Science, and Engineering 10
Risk, Science, and Nuclear Management 10

Science and Law 10 Science and Society 11 The State of the Oceans 11 The Universe: Mathematics and Astronomy 11
Science Innovation
Career Development Workshops12
Seminars
Optional Tour Program14
General Information
Conference Locations
On-Site Registration Hours
Exhibition Hours
Internet Access Center
Hotel Descriptions
Local Transportation
Discount Air Fares
Special Events
Barrier-Free Environment
Advance Registration Form 16
Housing Form
Exhibitors
Exhibitor Workshop18

American Association for the Advancement of Science

AMSIE'97 Program Committee Iane Lubchenco, Chair Oregon State University Halina S. Brown Clark University Mildred S. Dresselhaus -Massachusetts Institute of Technology Ronald L. Graham AT&T Bell Laboratories Lawrence Grossman **Johns Hopkins University** Richard T. Johnson Johns Hopkins University Hospital Judith Kildow Massachusetts Institute of Technology Alvin L. Kwiram University of Washington Orie L. Loucks Miami University Julie Havnes Lutz Washington State University **Jane Maienschein** Arizona State University Robert P. Morgan Washington University Robert M. Nerem Georgia Institute of Technology Savio L.C. Woo Institute for Gene Therapy-Mt. Sinai Medical Center Harry Woolf Institute for Advanced Study Science Innovation 1997 **Program Subcommittee** Savio L.C. Woo, Chair Institute for Gene Therapy-Mt. Sinai Medical Center Lerov E. Hood University of Washington Barbara Jasny Science Magazine Alvin L. Kwiram University of Washington Robert M. Nerem Georgia Institute of Technology Gilbert S. Omenn University of Washington AMSIE'97 Local Co-Chairs William I. Madia, Director Pacific Northwest National Laboratory Richard McCormick, President University of Washington Robert Day, President Fred Hutchinson Cancer Research Center AMSIE'97 Local Host Committee Villiam Grinstein, Associate Director External Relations, Pacific Northwest National Laboratory Karen Lane, Sr. V.P. for Development and Community Relations, Fred Hutchinson Cancer Research Center Robert Miller, Director Office of Technology Transfer, University of Washington Dennis Okamoto, Vice President **US West Communications** L Thomas Ranken, Executive Director Washington Biotechnology and Biomedical Association William Stafford, Executive Director Trade Development Alliance of Greater Seattle Sharon Sumpter Administrator Seattle Biomedical Research Institute Cathy Wilcox, Executive Director Washington Software Association



November 1996

Dear Colleague:

It is my pleasure to invite you to the **1997 AAAS Annual Meeting and Science Innovation Exposition (AMSIE'97)**, where you will meet an array of scientists, educators, and policymakers as we examine issues and emerging research from all areas of science.

The 1997 meeting also offers you an excellent program. Top researchers from every facet of science — medical, environmental, evolutionary, physical, social, and technological — will convene to exchange and publicize new information. In fact, more than 5,000 of your colleagues are expected to be in Seattle to share their latest research, explore fertile synergies between disciplines, and debate today's critical issues in science policy and education.

The theme for AMSIE'97 — *Engaging Science - Sustaining Society* — sets the tone for a unique blend of symposia, topical and plenary lectures, specialized seminars, and poster presentations. Some special highlights include:

Science Innovation offers exceptional symposia covering processes in molecular biology, medicine, physiology, and computer science. Morning and afternoon topical lectures will highlight emerging developments in instrumentation and research methodology ... see pages 6 and 12 of this program for more details.

The Planets: New Worlds and Old Worlds is a comprehensive 2-day seminar that examines the newest emerging data and research on planets, both nearby and distant and the newest research on life outside of earth! Speakers will highlight both where we are and what they expect for the future in this exciting field of research... more information on page 13.

The AAAS Forum for School Science, in the past a separate meeting, joins AMSIE'97 this year as a seminar that will feature workshops and presentations on implementing inquiry-based science teaching in K-12 schools... more information on page 13.

From Basic Research to the Global Marketplace, a third seminar, examines today's increasingly science-based, high-tech, global, and R&D intensive economy, and the roles of universities and industry. See page 13 for details.

Also of particular interest — field trips to important and educational science centers in the Seattle area; career development workshops and bioSCIENCE career fair; and over 100 exhibits of publishers, computer companies, government agencies, and scientific equipment companies.

AMSIE'97 offers numerous opportunities to meet, network, and learn from many of the leading figures in various fields of science. Please join us in Seattle, the Emerald City. Register now, and take advantage of the advance registration discount rates (see registration form on page 16). I look forward to seeing you there.

Sincerely, P hehene ane Lubchenco

AAAS President and AMSIE'97 Program Chair

SEE PAGES 16 AND 17 FOR

2

REGISTRATION AND HOTEL FORMS

DAILY TIME TABLE

February 13-18, 1997 Washington State Convention Center • Seattle, Washington *=Invited, not yet confirmed

THURSD	AY, 13th	FRIDAY, 14th	SATURDAY, 15th	SUNDAY, 16th	MONDAY, 17th	TUESDAY, 18th			
-						Field Trip Mt. St. Helens and Mima Mounds Tour 7:00 AM - 6:30 PM			
7:30 AM	g Registration - 7:00 PM on Center	Meeting Registration 7:30 AM - 7:00 PM Convention Center	Meeting Registration 7:30 AM - 5:00 PM Convention Center	Meeting Registration 7:30 AM - 5:00 PM Convention Center	Meeting Registration 7:30 AM - 5:00 PM Convention Center	Meeting Registration 7:30 AM - 2:30 PM Convention Center			
	UII Center	Convention Center	Convention Center Career Workshops 8:30 AM - 5:30 PM Convention Center	Career Workshops 8:30 AM - 5:30 PM Convention Center	Plenary Lecture William H. Gates* 8:00 AM - 9:00 AM Convention Center	Career Workshops 8:30 AM - 5:30 PM Convention Center			
		Seminar: Planets 8:30 AM - 5:30 PM See program for details		Seminar: Basic Research 8:30 AM - 11:30 AM See program for details	Exhibition 9:00 AM - 2:00 PM Convention Center	Seminars: School Forum 8:30 AM - 5:30 PM Basic Research 8:30 AM - 11:30 AM See program for details			
		Concurrent Sessions 8:30 AM - 11:30 AM Convention Center Sheraton	Concurrent Sessions 8:30 AM - 11:30 AM Convention Center Sheraton	Concurrent Sessions 8:30 AM - 11:30 AM Convention Center Sheraton	Career Workshops 9:30 AM - 5:30 PM Convention Center	Concurrent Sessions 8:30 AM - 11:30 AM Convention Center Sheraton			
,		Science Innovation Sessions 9:30 AM - 12:30 PM Convention Center	Science Innovation Sessions 9:30 AM - 12:30 PM Convention Center	Science Innovation Sessions 9:30 AM - 12:30 PM Convention Center	Seminars: School Forum 9:30 AM - 5:30 PM Basic Research 9:30 AM - 12:30 PM See program for details				
2		AJAS Posters 10:00 AM - 12:30 PM Convention Center	Exhibition 10:00 AM - 3:00 PM Convention Center	Exhibition 10:00 AM - 3:00 PM Convention Center	Concurrent Sessions 9:30 AM - 12:30 PM Convention Center Sheraton	bioSCIENCE Career Fair 11:00 AM - 5:00 PM Convention Center			
Field In Fred Huto 12:30 P/ Glassblow 1:30 P/M Boeing 7	chinson M - 4:30 PM ving I - 4:30 PM		Poster Session Life and Physical Sciences 10:30 AM - 2:30 PM Convention Center	Poster Sessions Social Science and Education Science Innovation Posters 10:30 AM - 2:30 PM Convention Center	Science Innovation Sessions 9:30 AM - 12:30 PM Convention Center	Career Caucus 12:00 PM - 2:00 PM Convention Center			
		Topical Lectures 1:00 PM - 2:00 PM SI Topical Lectures 1:30 PM - 2:15 PM See program for details	Topical Lectures 1:00 PM - 2:00 PM SI Topical Lectures 8:30 AM - 9:15 AM 1:30 PM - 2:15 PM See program for details	Topical Lectures 1:00 PM - 2:00 PM SI Topical Lectures 8:30 AM - 9:15 AM 1:30 PM - 2:15 PM See program for details	Topical Lectures 2:00 PM - 2:45 PM SI Topical Lectures 2:00 PM - 2:45 PM See program for details	Topical Lectures 1:00 PM - 2:00 PM See program for details			
		Student Poster Competition 1:30 PM - 5:30 PM Convention Center		Seminar: Basic Research 2:30 PM - 5:30 PM See program for details		Seminar: Basic Research 2:30 PM - 5:30 PM See program for details			
1		AJAS Oral Sessions 2:00 PM - 5:15 PM Convention Center							
Spec Event-	cial public ce Day	Concurrent Sessions 2:30 PM - 5:30 PM Convention Center Sheraton	Concurrent Sessions 2:30 PM - 5:30 PM Convention Center Sheraton	Concurrent Sessions 2:30 PM - 5:30 PM Convention Center Sheraton	Concurrent Sessions 3:00 PM - 6:00PM Convention Center Sheraton	Concurrent Sessions 2:30PM - 5:30PM Convention Center			
Wedr Feb	nesday, b. 12th	Science Innovation Sessions 2:30 PM - 5:30 PM Convention Center Exhibition	Science Innovation Sessions 2:30 PM - 5:30 PM Convention Center	Science Innovation Sessions 2:30 PM - 5:30 PM Convention Center	Science Innovation Sessions 3:00 PM - 6:00 PM Convention Center				
		Grand Opening/Reception 4:00 PM - 6:30 PM Convention Center							
S & T Ch Global Vil 6:30 PM	g Session: Iallenges for a Illage I - 8:30PM on Center	Keynote Address Leroy E. Hood 6:30 PM - 7:30 PM Convention Center	President's Lecture Jane Lubchenco 6:30 PM - 7:30 PM Sheraton	Plenary Lecture William Julius Wilson 6:30 PM - 7:30 PM Sheraton	Plenary Lecture Prime Minister Gro Harlem Brundtland* 6:30 PM - 7:30 PM Convention Center				
			President's Reception 7:30 PM - 8:30 PM Sheraton						

			N	I E E T I N G	i -	AT - A - G I	. /	NCE		
TRACK I		DAY, 14TH S	JAT	JRDAY, 15TH	SUN	IDAY, 16TH	Mo	NDAY, 17TH	TUE	SDAY, 18TH
Biological and Genetic Diversity		Sexual Differences in Mating Srategies: The Interface of Culture, Law, and Biology Valuing Biodiversity		•Communication: Neurobiological and Environmental Approaches The Global Biodiversity Assessment: The Importance of Biodiversity and Ecosystem Functioning	PM AM	Africa's Marine Resources as Potential Economic Assets Global Biodiversity: Is it in the Mud and the Dirt? The Nature and Value of Ecosystem Services	PM	Human Population, Climate Change, and Biodiversity: Science and Policy Issues	AM	Biodiversity and Human Responsibility
The Brain, Human Behavior, and Language	*****************		AM	Science of Memory in a Complex World	AM PM	Human Behavioral Ecology: What Have We Learned? •How Genes Influence Behavior	PM	Expressing Meaning through Word Structure and through Syntax		na n
Communicating Science	PM	Acoustics Demonstrations for the Classroom: The Science of Sounds	AM	Stormy Weather: Weather, Science, and Journalism		Accuracy in Science News Reporting	PM	Science Teaching Using Principles Derived from Cognitive Psychology		andala spinaren arazaren 1960an erre 20 dentekoaren errekatokiak errekatokiak errekatokiak errekatokiako errek
Computers, Information Science, and Technology		•Mobile Computing •The PetaFLOP Initiative	AM	•Electronic Collaboratories: Laboratories without Walls	AM	The Telecommunications Revolution in Russia: Its Impact on Science and Technology Cooperation Between Russia and the United States		•Prospecting for Knowledge: Mining the Published Archives of Science •Scholarly Publishing on the Internet: What Does the Future Hold?		Copyright and the Net: Is Legislatic the Answer? Policing the Internet: Cybercensor- ship and its Potential Impact
Education and Education Reform	PM	Third International Mathematics/ Science Study Results: Curriculum, Instruction, and Achievement Ethics, Employment, and Graduate Education in Science and Engineering Science Education and Dentistry: Improving the Connection	PM AM PM	High School Science Reform: History, Standards, and Ongoing Activities Perspectives on Mathematics Education from Around the World Common Threads in Undergraduate Science, Mathematics, and Engineering Education Reform	PM	Yooing Science K-12: Models for Authentic Research through Scientist /Educator Partnerships (8:30AM - 12:00PM 2:30PM - 6:00PM) Learning to Read: Educational Practice in Light of Linguistic and Psycholinguistic Evidence		Virtual Education Platforms: Examples from the Front Lines New Directions in Testing: Standards, Performance Assessment, and Learning	AM	How Do We Find Out What Science Students Know?
and	PM	Is Sustainable Tropical Forestry Possible or Desirable? •Changing Spatial Analysis Techno- logies in Agriculture and Ecosystem Management: Are We Ready?	РМ	Integrating Watershed Ecosystem Studies for Improved Natural Resources Management •Research Frontiers and Challenges in Environmental Sciences		Pathways of Exposure to Contaminants in Surface Soils Priorities for Environment and Natural Resources Research				
Genetic Research and Human Health		•Complex Traits: Where are the Genes? •The Genetic Basis of Drug Dosing		•HIV, Genomic Research, Statistics, and the Development of AIDS Vaccines •Host Genes and Resistance to HIV Infection and AIDS	PM	Genetic Influences on Food Preferences and Food Rejection		/ •The Human Genome Project: What's the Public Got To Do With It?	AM	The Challenges to Civil Liberties Presented by Human Genetics Research
Global Change: Environment, Impacts, and Action		'Global Change in Local Places	PM	Active Tectonics: Integrated Science Comes Home to Main Street				/ •Continuing Lessons from the IGY Forty Years Later	AM	The Role of Improved Climate and Weather Forecasting in Western Water Management
Industry, Technology, and Engineering	PM	Tracing Science and Engineering Interactions in the Evolution of Major Innovations	6-0-4		PM	Perspectives on Sustainability Indicators	PM	The Virtual Knowledge Based Organization in the Pacific Northwest High Speed Civil Transport: Why and When? The Future of Industry on the Internet		•Fundamentals of Industrial Catalys Advanced Materials and the U.S. Economy for the Twenty First Century
Natural Resources Issues in the Pacific Northwest		Complex Forests, Simple Visions: Science, Policy, and the Old-Growth Forests Columbia River Salmon Restoration: Can Science Help Resolve the Conflicts?		The Pacific Northwest: Coastal Ocean Ecosystems Under Stress Watershed-Based Restoration of Pacific Northwest Wetlands			PM	Geochemical Backgrounds and Metal Mobilities: Alaska and the Pacific Northwest	AM	Sustainable Development in the Arctic
People, Science, and History				Early Maritime Adaptations in North America, 10,000 to 4,500 yr BP Late Prehistoric Maritime Adaptations in North America		Cultural Connections on the Ancient Pacific Perimeter Was the Northwest Coast Agricultural?: Aboriginal Plant Use Reconsidered	AM	The Pacific Northwest as a Linguistic and Cultural Area		/The Last of the Nomadic Herders: Biocultural Dimensions
and Medicine	PM	Behavioral and Social Science Con- tributions to Other Health Sciences Alternative Medicine in a Scientific World •Recent Advances in the Biology of Aging	AM PM	Gender Based Biology: What Does it Mean? Managing Risks, Managing Care Biocultural Perspectives on Women's Health in Developing Countries •Radioisotopes in Medicine: New Promise for the Treatment of Cancer		Epidemiology of Low-Level Environmental Exposures: Present Boundaries and Future Possibilities Assessing Health Care Needs of the Gay, Lesbian, Bisexual, and Transgendered Communities	AM	•Interdisciplinary Perspectives on Emerging Infectious Diseases	AM	Creating Healthful Food Systems: Linking Agriculture to Human Need:

DACK I	DIDAY LATH	CATURDAY JETH	CIIN	DAY ISTU	-	NDAV 17TH	-	CDAV 10TH
TRACK Public Policy, Science, and	FRIDAY, 14TH AM Public Attitudes toward Science and Technology in Canada, Europe,	SATURDAY, 1 5TH AM Mobilizing the Science Community fo Political Action			AM/	NDAY, 17TH "The Underclass": Joblessness and the New Urban Poverty	-	SDAY, 18TH Science and Democracy: Beyond the "Science Wars"
Engineering	Japan, and the United States PM Global Processes, Regional Consequences: NAFTA, Economic Restructuring, and Social Change in Comparative Perspective	 AM The Complexity Challenge: Technology Policy for the 21st Century PM Environmental Security: Integrated Regional Stability Implications PM Research Funding, Prioritization, and Accountability in Agriculture 	PM	Science and Policy: Evaluating an Advocacy Coalition Framework		Impact Assessment: Influencing Policy and Current Issues	PM	Leaky Pipeline or a Door with Many Rooms? Career Metaphors and Options
Risk, Science, and Nuclear Management	PM Risk-Influenced Decisionmaking at DOE Sites: Time for Holistic Thinking	AM Nuclear Waste, Secrecy, and The Mass Media PM Science-Based Risk Management in Regulatory Agencies: Assessing Risk Commission Recommendations				Meeting the Challenge of Tank Waste Cleanup The Challenge of Infusing New Tech- nology Into Hanford Waste Treatment		
Science and Law	AM •Patenting Human Genes: An Incentive or Impediment to Research	PM Damned If You Do, Damned If You Don't: What the Scientific Communit Can Do About Whistleblowing	y PM	•DNA Profiling: Statistics and the Law Biology and Law: What Should We Believe? The Expert Witness: Professional Responsibility at the Intersection of Law and Science			AM	Liability and Ethical Issues for Consulting Scientists and Engineers
Science and Society	 AM Culture and Nature: Married or Divorced? The Impact of Gender Upon Sustainability PM Legal and Illegal Work: Macro- and Micro-Economic Influences on Violer PM Symmetry and Asymmetry in Science: Discovery, Theory Construction, and Aesthetics (2:30PM - 6:00PM) 	AM Research on Violence in the Family: Challenges and Opportunities PM When Nontraditional Family Structures Succeed-and Why ce		Sleepless in Seattle? Science and the American Coffee Revolution Computers and Social Theory: New Methods for Modeling Social Life	AM	Basic Research: So What Have You Done for Us Lately?		Ethical Aspects of Societal Decision Making: Fetal Risks and Rights? Ecological Integrity: Moving from Principle to Practice
The State of the Oceans				Marine Biological Invasions: Patterns, Processes, and Prospects Submarine Volcanoes, Chemosynthetic Life, and Mineral Deposit Formation		Managing Marine Fisheries in an Ecosystem Context Science and Marine Protected Areas		/ Changing States of Large Marine Ecosystems: A Global Perspective
The Universe: Mathematics and Astronomy	 AM Art, Bubbles, Crystals, Domes: Geometry in the World Around You PM •Novel Science with Radioactive Beams 	 Mathematical Visualization: Theory and Practice AM Taking the Pulse of the Universe: The First Year of Results from the X-Ray Timing Explorer 	PM	Excitement On and In the Sun Could Europa Harbor Submarine Hydrothermal Life? •The Electron: The First Elementary Particle	AM	New Milestones in Cosmic Distance Measurements (The Tom Lutz Memorial Symposium) The Nature of Time Inside Out: Inverse Boundary Problems		
Science Innovation	 AM Sonoluminescence and Sonochemistry AM Technologies for a Comprehensive Biology in the Post Genome Era PM Combinatorial Chemistry PM From the Human Genome to the Environment: A New Frontier 	 AM/Advances in Genetics PM AM: Human and Medical Genetics PM: Genomics AM Engineering the Future with Microsystem Technologies PM Implications of the Possibility of Life on Mars 	PM AM/	Computation Advances in Genetics AM: Genetics of Normal and Abnormal Vertebrate Development PM: New Insights in Chromosome Biology through Microscopy	PM	7 The Cell Cycle 7 Computation		
Seminars	AM/ New Worlds and Old Worlds PM (Begins Thursday, Februrary 13th 8:30AM - 5:30PM)			From Basic Research to the Global Marktplace	AM/	From Basic Research to the Global Marktplace Forum for School Science: Implementing Inquiry-Based Science Teaching in School 9:30AM - 5:30PM	PM AM	From Basic Research to the Global Marktplace Forum for School Science: Implementing Inquiry-Base Science Teaching in School 8:30AM - 5:30PM
	will be included in the next printing of thi	ny changes, additions, or deletions received aft s program. e of interest to Science Innovation attendees.	er that d	ate	All	ne Schedule AM Sessions 8:30AM-11:30AM (PM Sessions 2:30PM-5:30PM (u		
					All All	ience Innovation AM Sessions 9:30AM-12:30PM PM Sessions 2:30PM-5:30PM (u Monday Sessions are AM = 9:30A		



All information is as of 10/1/96. Changes, additions or deletions received after that date will be included in the next printing of this program.



= May also be of interest to Science Innovation attendees

AMSIE'97 Engaging Science -Sustaining Society

Plenary Lectures

All Plenary Lectures are from 6:30PM-7:30PM, unless otherwise noted

Opening Session – Science and Technology for a Global Village Thursday, February 13, 1997

6:30PM-8:30PM Moderator: John H. Gibbons, Special Assistant to the President for Sci and Tech Speakers: Zhou Guangzhao*, China Assoc for Sci and Tech Robert M. May, Chief Sci Adviser, U.K. Baldwin Ngubane*, South Africa Francisco Sagasti*, Grupo de Análisis para el Desarrollo, Peru Boris Saltykov*, Russia

Kevnote Lecture-Friday, February 14, 1997 Leroy E. Hood, Univ of Washington

President's Lecture -

Saturday, February 15, 1997 Jane Lubchenco, Oregon State Univ Entering the Century of the Environment

Sunday Evening Plenary-Sunday, February 16, 1997

William Julius Wilson, Harvard Univ

Special Morning Plenary-Monday, February 17, 1997 8:00AM-9:00AM William H. Gates, Microsoft Corporation

Monday Evening Plenary-Monday, February 17, 1997

Gro Harlem Brundtland*, Prime Minister of Norway

Topical Lectures

All Topical Lectures are from 1:00PM-2:00PM, unless otherwise noted

Friday, February 14

Angela B. Ginorio, Univ of Washington It Takes At Least Two: Ethnic Minorities in Science

*=Invited, not yet confirmed

SEE PAGES 16 AND 17 FOR



Jonathan Lash, World Resources Inst; David T, Buzzelli, Dow Chemical Co The President's Council on Sustainable Development: Outcomes and Implementation

Claudia I. Mitchell-Kernan, Univ of California-Los Angeles The NSB Task Force on Graduate Education

Saturday, February 15

George Sarton Award Lecture in the History and Philosophy of Science Mott T. Greene, Univ of Puget Sound

How 'What Goes Without Šaying' Turns into 'What Cannot Be Said'

Hale Bradt, MIT Milliseconds to Months: X-Ray Timing of Neutron Stars and Black Holes



Gene E. Likens, Inst of Ecosystem Studies Long-Term Studies and Management of Watershed Ecosystems

Sunday, February 16

John P. McGovern Award Lecture in the Behavioral Sciences

Endel Tulving, Univ of Toronto Sylvia Earle*, Deep Ocean Exploration and Resch Use and Misuse of Marine Resources

Elaine Vaughan, Univ of California-Irvine Social Diversity and the Science of Risk Assessment

Monday, February 17

2:00PM-2:45PM Earl Hunt, Univ of Washington Cognition, Intelligence, and the Training of the Future Workforce: The Bell Curve Revisited



2:00PM-2:45PM Lynnor Stevenson, Cascade Oncogenics, Inc and

Univ of Oregon Building a Biotechnology Industry: Biotech in the Boonies

Pepper J.Schwartz, Univ of Washington Love, Sex, and Marriage in the 21st Century

Tuesday, February 18

George Campbell, Jr., Nat'l Action Council for Minorities in Engineering, Inc Human Resources: Post Cold War, Post Affirmative Action, Ph.D Glut

Career Caucus: Is There a Science Career For Me? 12:00PM-2:00PM

Science Innovation **Topical Lectures**

Friday, February 14

8:30AM-9:15AM Robert C. Gallo*, Inst of Human Virology

1:30PM-2:15PM Claire M. Fraser, The Inst for Genomic Resch Microbial Genome Sequencing; New Insights on Microbial Physiology

Saturday, February 15

8:30AM-9:15AM Polly Matzinger, Natl Inst of Health Does the Immune System Really Discriminate Between Self and Non-Self?

1:30PM-2:15PM Thom H. Dunning, Jr., Environmental Molecular Sci Lab and Pacific Northwest Natl Lab Computational Chemistry: An Equal Partner in Chemical Research

Sunday, February 16

8:30AM-9:15AM Ellen Gold*, Univ of California-Davis Epidemiology

1:30PM-2:15PM Michael Lotze, Univ of Pittsburgh Dendritic Cells

Monday, February 17

2:00PM-2:45PM Mary-Claire King, Univ of Washington

REGISTRATION AND HOTEL FORMS 6



All information is as of 10/1/96. Changes, additions or deletions received after that date will be included in the next printing of this program.

AMSIE'97 ... **Engaging Science -Sustaining Society** **BIOLOGICAL AND**

GENETIC DIVERSITY

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Sexual Differences in Mating Strategies: The Interface of Culture, Law, and Biology FRIDAY PM

Org by Roger D. Masters, Dartmouth College; Margaret Gruter, Gruter Inst for Law and Behavioral Resch

Valuing Biodiversity FRIDAY PM

Org by Thomas Dietz, George Mason Univ; Janet Joy, Natl Resch Council



Neurobiological and Environmental Approaches SATURDAY PM

Org by Diana Deutsch, Univ of California-San Diego; Patricia K. Kuhl, Univ of Washington

The Global Biodiversity Assessment: The Importance of **Biodiversity and Ecosystem** Functioning SATURDAY PM Org by Anthony C. Janetos, NASA

Africa's Marine Resources as Potential Economic Assets

SUNDAY AM/PM Org by Amy Auerbacher Gimbel, AAAS; Keto E. Mshigeni, Univ of Namibia

Global Biodiversity: Is it in the Mud and the Dirt? SUNDAY AM

Org by Diana W. Freckman, Colorado State Univ

The Nature and Value of **Ecosystem Services**

SUNDAY PM Org by Gretchen Daily, Stanford Univ; Jane Lubchenco, Oregon State Univ

Human Population, Climate **Change, and Biodiversity: Science** and Policy Issues MONDAY PM[†] Org by Victoria Dompka, AAAS

* = Invited, not yet confirmed.

SEE PAGES 16 AND 17 FOR

7

Biodiversity and Human Responsibility TUESDAY AM Org by Audrey Chapman, AAAS;





THE BRAIN, HUMAN BEHAVIOR, AND LANGUAGE

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Science of Memory in a Complex World

SATURDAY AM Org by Alice F. Healy, Univ of Colorado-Boulder

Human Behavioral Ecology: What Have We Learned?

SUNDAY AM Org by Eric A. Smith, Univ of Washington; Bruce Winterhalder, Univ of North Carolina-Chapel Hill



Expressing Meaning through Word MONDAY PM[†]

Org by Arnold M. Zwicky, Stanford Univ and Ohio State Univ



AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Acoustics Demonstrations for the **Classroom: The Science of Sounds** FRIDAY PM

Org by James M. Sabatier, Univ of Mississippi; Logan E. Hargrove, Offc of Naval Resch

Stormy Weather: Weather, Science, and Journalism SATURDAY AM

Org by Rick Borchelt, Offc of Sci and Tech Pol; Lynne Friedmann, Friedmann Communications

Accuracy in Science News Reporting SUNDAY AM/PM

Org by Deborah L. Illman, Univ of Washington; Sharon Dunwoody, Univ of Wisconsin-Madison

Science Teaching Using Principles **Derived from Cognitive** Psychology MONDAY PM[†] Org by Earl Hunt, Univ of Washington



COMPUTERS, INFORMATION SCIENCE, AND TECHNOLOGY

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM



Mobile Computing FRIDAY AM

Org by Caroline M. Eastman, Univ of South Carolina

The PetaFLOP Initiative FRIDAY PM

Org by George Lake, Univ of Washington

Electronic Collaboratories: Laboratories without Walls

Org by Ray Bair, Pacific Northwest Natl Lab

The Telecommunications **Revolution in Russia: Its Impact** on Science and Technology **Cooperation Between Russia and** the United States SUNDAY AM

Org by Maureen Pastine, Southern Methodist Univ; Mary Beth Boswell, AAAS



[†]All Monday sessions are AM = 9:30AM - 12:30PM; PM = 3:00PM - 6:00PM

REGISTRATION AND HOTEL FORMS



How Genes Influence Behavior

Org by Sheri A. Berenbaum, Southern Illinois Univ

Structure and through Syntax



SATURDAY AM



Prospecting for Knowledge: Mining the Published Archives of Science MONDAY AM

Org by Maureen C. Kelly and Joel K. Hammond, BIOSIS

Scholarly Publishing on) the Internet: What Does the Future Hold? MONDAY PM[†]

Org by Maureen C. Kelly and James A. Walsh, BIOSIS

Copyright and the Net: Is Legislation the Answer? TUESDAY AM Org by Barbara Simons, U.S. Public

Pol Cint of ACM

Policing the Internet: Cybercensorship and its Potential Impact

TUESDAY PM Org by Mark J. Girouard, AAAS



EDUCATION AND EDUCATION REFORM

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Third International Mathematics/Science Study **Results: Curriculum, Instruction,** and Achievement

FRIDAY AM Org by William H. Schmidt, Michigan State Univ; Jeanne E. Griffith, Natl Ctr for Educational Statistics

Ethics, Employment, and **Graduate Education in Science** and Engineering

FRIDAY PM Org by Rachelle D. Hollander, Natl Sci Foundation

Science Education and Dentistry: Improving the Connection FRIDAY PM

Org by Bruce J. Baum, Natl Inst of Dental Resch, NIH; Lawrence A. Tabak, Univ of Rochester

High School Science Reform: History, Standards, and Ongoing Activities

SATURDAY AM/PM Org by Stephanie Pace Marshall, Illinois Math and Sci Academy; Gerry Wheeler, NSTA

Perspectives on Mathematics Education from Around the World SATURDAY AM

Org by Deborah Hughes Hallett, Harvard Univ

Common Threads in Undergraduate Science, Mathematics, and Engineering **Education Reform**

SATURDAY PM Org by Deborah Hughes Hallett, Harvard Univ

Doing Science K-12: Models for Authentic Research through Scientist/Educator Partnerships

SUNDAY 8:30AM-12:00N/2:30PM-6:00PM Org by M. Patricia Morse, Northeastern Univ and Natl Sci Foundation; Nancy Hutchison, Fred Hutchinson Cancer Resch Ctr; Robert F. Tinker, TERC and The Concord Consortium

Learning to Read: Educational Practice in Light of Linguistic and **Psycholinguistic Evidence**

SUNDAY PM Org by Mark S. Seidenberg, Univ of Southern California; David Pesetsky, MIT

Virtual Education Platforms: Examples from the Front Lines MONDAY AM[†]

Org by Sherry Dingman, Marist College; Thomas Danford, West Virginia Northern Comm College

New Directions in Testing: Standards, Performance Assessment, and Learning MONDAY PM[†]

Org by Lauren B. Resnick, Learning Resch and Dev Ctr

How Do We Find Out What Science Students Know? TUESDAY AM

Org by Juliet P. Shaffer, Educ Testing Serv



ENVIRONMENT AND **ENVIRONMENTAL** MANAGEMENT

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Is Sustainable Tropical Forestry Possible or Desirable? FRIDAY AM

Org by Nigel Sizer, World Resources Inst



Changing Spatial Analysis Technologies in Agriculture and Ecosystem Management: Are We Ready?

FRIDAY PM Org by John M. Barnes, U.S. DOA

Integrating Watershed Ecosystem Studies for Improved Natural **Resources Management** SATURDAY PM

Org by Raymond Herrmann, Colorado State Univ and U.S. Geo Survey



Research Frontiers and Challenges in **Environmental Sciences**

Org by Michael L. Knotek, Pacific Northwest Natl Lab; Michelle Broido, U.S. DOE

Pathways of Exposure to **Contaminants in Surface Soils**

SUNDAY AM Org by John C. Kissel, Univ of Washington

Priorities for Environment and Natural Resources Research SUNDAY PM

Org by D. James Baker and Donna S. Wieting, Natl Oceanic and Atmospheric Admin

GENETIC RESEARCH AND HUMAN HEALTH

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM



Complex Traits: Where are the Genes?

Org by Glenvs Thomson and Peter J. Bickel, Univ of California-Berkeley



The Genetic Basis of Drug Dosing

Org by Leslie Z. Benet, Univ of California-San Francisco



HIV, Genomic Research, Statistics, and the **Development of AIDS**

Vaccines SATURDAY AM Org by Francoise Seillier-Moiseiwitsch,



Resistance to HIV Infection and AIDS

SATURDAY PM Org by Janet M. Young, Natl Inst of Allergy and Infectious Diseases

Genetic Influences on Food Preferences and Food Rejection SUNDAY PM

Org by Adam Drewnowski, Univ of Michigan; Linda M. Bartoshuk, Yale Univ Schl of Medicine



The Human Genome Project: What's the Public Got To Do With It? MONDAY AM/PM[†]

Org by Gregory Fowler, Oregon Health Sciences Univ

The Challenges to Civil Liberties **Presented by Human Genetics** Research TUESDAY AM

Org by Philip L. Bereano, Univ of Washington

* = Invited, not yet confirmed.





AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Global Change in Local Places FRIDAY AM/PM Org by Robert W. Kates

Active Tectonics: Integrated Science Comes Home to Main Street

SATURDAY PM Org by Roy K. Dokka, Louisiana State Univ

Continuing Lessons from the IGY Forty Years Later

MONDAY AM/PM

Org by Joost A. Businger and Robert G. Fleagle, Univ of Washington; Thomas Malone, Sigma Xi

The Role of Improved Climate and Weather Forecasting in Western Water Management

TUESDAY AM Org by Dennis P. Lettenmaier, Univ of Washington



INDUSTRY, TECHNOLOGY, AND ENGINEERING

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Tracing Science and Engineering Interactions in the Evolution of Major Innovations FRIDAY PM Org by David Roessner, SRI Intl

Perspectives on Sustainability Indicators

SUNDAY PM Org by Jill Jäger, Intl Inst for Applied Systems Analysis

The Virtual Knowledge Based Organization in the Pacific Northwest MONDAY AM[†]

Org by Theodore W. Schlie, Lehigh Univ; Kenneth E. Knight, Seattle Pacific Univ

High Speed Civil Transport: Why and When? MONDAY PM[†]

Org by A. Richard Seebass, Univ of Colorado; Michael L. Henderson, Boeing Co

The Future of Industry on the Internet⁺

MONDAY PM Org by Barry G. Silverman, George Washington Univ

Fundamentals of Industrial Catalysis TUESDAY AM

Org by Leo E. Manzer and Thomas C. O'Brien, Du Pont Co

Advanced Materials and the U.S. Economy for the Twenty First Century

TUESDAY PM Org by F. H. Froes, Univ of Idaho; William E. Quist, Boeing Co



NATURAL RESOURCES ISSUES IN THE PACIFIC NORTHWEST

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Complex Forests, Simple Visions: Science, Policy, and the Old-Growth Forests FRIDAY AM Org by William R. Freudenburg, Univ of Wisconsin-Madison

Columbia River Salmon Restoration: Can Science Help Resolve the Conflicts?

FRIDAY PM Org by Hal Cardwell, Oak Ridge Natl Lab

The Pacific Northwest: Coastal Ocean Ecosystems Under Stress SATURDAY AM

Org by Christopher N. Mooers, Univ of Miami; Barbara M. Hickey, Univ of Washington

Watershed-Based Restoration of Pacific Northwest Wetlands SATURDAY PM

Org by Ronald M. Thom, Battelle Marine Sci Lab; Mary E. Kentula, U.S. EPA

Geochemical Backgrounds and Metal Mobilities: Alaska and the Pacific Northwest MONDAY PM[†]

Org by Richard J. Goldfarb, U.S. Geo Survey; Laurie S. Balistrieri, Univ of Washington

Sustainable Development in the Arctic

TUESDAY AM Org by William F. Isherwood, Lawrence Livermore Natl Lab



AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

a contraction of the second

Early Maritime Adaptations in North America, 10,000 to 4,500 yr BP SATURDAY AM Org by David R. Yesner, Univ of Alaska-Anchorage

Late Prehistoric Maritime Adaptations in North America SATURDAY PM

Org by Lucille Lewis Johnson, Vassar College

Cultural Connections on the Ancient Pacific Perimeter SUNDAY AM Org by Stephen C. Jett, Univ of

California-Davis

Was the Northwest Coast "Agricultural"?: Aboriginal Plant Use Reconsidered SUNDAY PM

Org by Kent Mathewson, Louisiana State Univ; Douglas Deur

The Pacific Northwest as a Linguistic and Cultural Area $_{MONDAY\,AM^{\dagger}}$

Org by Sarah Grey Thomason, Univ of Pittsburgh

The Last of the Nomadic Herders: Biocultural Dimensions TUESDAY AM/PM

Org by Michael H. Crawford, Univ of Kansas; William R. Leonard, Univ of Florida



AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Behavioral and Social Science Contributions to Other Health Sciences FRIDAY AM

Org by Jacquelyn H. Gentry, Amer Psychological Assoc; Denise Dougherty, U.S. Dept of Health

Alternative Medicine in a Scientific World

FRIDAY PM Org by Ursula W. Goodenough, Washington Univ; Robert L. Park, Univ of Maryland and Amer Physical Soc



Org by Arun K. Roy, Univ of Texas Health Sci Ctr-San Antonio; William C. Orr, Southern Methodist Univ

Gender Based Biology: What Does it Mean?

SATURDAY AM Org by Margaret Anderson, Soc for the Advancement of Women's Health Resch



Managing Risks, Managing Care SATURDAY AM

Org by Deborah C. Runkle, AAAS; Rebecca Klemm, Klemm Analysis Group

Biocultural Perspectives on Women's Health in Developing Countries SATURDAY PM

Org by Bettina K. Shell-Duncan and David P. Tracer, Univ of Washington



Radioisotopes in Medicine: New Promise for the Treatment of Cancer

SATURDAY PM Org by Thomas S. Tenforde, Pacific Northwest Natl Lab

Epidemiology of Low-Level Environmental Exposures: Present Boundaries and Future Possibilities

SUNDAY AM Org by Gay Goodman, Human Health Risk Resources

Assessing Health Care Needs of the Gay, Lesbian, Bisexual, and Transgendered Communities SUNDAY PM

Org by Rochelle Diamond and Barbara Belmont, Natl Org of Gay and Lesbian Scientists and Tech Pros



Interdisciplinary Perspectives on Emerging Infectious Diseases

MONDAY AM[†] Org by Jonathan D. Mayer, Univ of Washington

Creating Healthful Food Systems: Linking Agriculture to Human Needs TUESDAY AM

Org by Ross M. Welch, U.S. DOA; Gerald F. Combs, Jr., Cornell Univ



AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Public Attitudes toward Science and Technology in Canada, Europe, Japan, and the United States

FRIDAY AM Org by Jon D. Miller, Chicago Academy of Sci

Global Processes, Regional Consequences: NAFTA, Economic Restructuring, and Social Change in Comparative Perspective FRIDAY PM

Org by A. Douglas Kincaid, Florida Intl Univ

Mobilizing the Science Community for Political Action

SATURDAY AM Org by Catherine Morrison, Natl Action Council for Minorities in Engineering, Inc

The Complexity Challenge: Technology Policy for the 21st

Century SATURDAY AM Org by Don E. Kash, George Mason Univ

Environmental Security: Integrated Regional Stability Implications

SATURDAY PM Org by Brian R. Shaw, Pacific Northwest Natl Lab; Miriam Lowi, Trenton State College

Research Funding, Prioritization, and Accountability in Agriculture SATURDAY PM

Org by Peter J. Barry and Donald A. Holt, Univ of Illinois-Urbana-Champaign

Emerging Science and Policy Issues and the U.S. Congress

SUNDAY AM Org by Stephen D. Nelson and Bonnie Cassidy, AAAS

Science and Policy: Evaluating an Advocacy Coalition Framework SUNDAY PM Ours by Dayl Schotier Univ of

Org by Paul Sabatier, Univ of California-Davis

"The Underclass": Joblessness and the New Urban Poverty MONDAY AM/PM[†]

Org by William T. Golden, Amer Museum of Natural History; William Julius Wilson, Harvard Univ

Impact Assessment: Influencing Policy and Current Issues

MONDAY AM[†] Org by Daniel A. Bronstein, Michigan State Univ; Kristi M. Branch, Battelle Seattle Resch Ctr

Science and Democracy: Beyond the "Science Wars"

TUESDAY AM Org by Daniel Lee Kleinman, Georgia Tech

Leaky Pipeline or a Door with Many Rooms? Career Metaphors and Options

TUESDAY PM Org by Eliene Augenbraun, AAAS Diplomacy Fellow



RISK, SCIENCE, AND NUCLEAR MANAGEMENT

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Risk-Influenced Decisionmaking at DOE Sites: Time for Holistic Thinking? FRIDAY PM

Org by Elaine M. Faustman and Richard Fenske, Univ of Washington

Nuclear Waste, Secrecy, and The Mass Media SATURDAY AM

Org by Sharon M. Friedman, Lehigh Univ; JoAnn M. Valenti, Brigham Young Univ

Science-Based Risk Management in Regulatory Agencies: Assessing Risk Commission Recommendations

SATURDAY PM Org by Gilbert S. Omenn, Univ of Washington

Meeting the Challenge of Tank Waste Cleanup

MONDAY AM[†] Org by Bill D. Shipp and Mark Hanson, Pacific Northwest Natl Lab; Karl R. Fecht, Bechtel Hanford Co

The Challenge of Infusing New Technology Into Hanford Waste Treatment

MONDAY PM[†] Org by William L. Kuhn, Pacific Northwest Natl Lab



SCIENCE AND LAW

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM



Patenting Human Genes: An Incentive or Impediment to Research

FRIDAY AM Org by Linda M. Distlerath, Merck Resch Labs; Alice H. Fraenkel

Damned If You Do, Damned If You Don't: What the Scientific Community Can Do About Whistleblowing SATURDAY PM

Org by Diane Hoffman-Kim, Harvard Univ; Stephanie J. Bird, MIT



Org by David A. Freedman, Univ of California-Berkeley

Biology and Law: What Should We Believe?

SUNDAY PM Org by Jane Maienschein, Arizona State Univ

The Expert Witness: Professional Responsibility at the Intersection of Law and Science SUNDAY PM Org by Vivian Weil, Illinois Inst of Tech

* = Invited, not yet confirmed.

[†]All Monday sessions are AM = 9:30AM - 12:30PM; PM = 3:00PM - 6:00PM





Liability and Ethical Issues for Consulting Scientists and Engineers TUESDAY AM

Org by Margaret N. Strand, Bayh, Connaughton & Malone, P.C.



AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Culture and Nature: Married or Divorced? The Impact of Gender Upon Sustainablility FRIDAY AM

Org by Richard F. Whitten-Stovall, Gracie Square Hosp

Legal and Illegal Work: Macroand Micro-Economic Influences on Violence FRIDAY PM

Org by Jeffrey Fagan, Columbia Univ

Symmetry and Asymmetry in Science: Discovery, Theory Construction, and Aesthetics FRIDAY 2:30PM-6:00PM Org by Albert Rothenberg, Harvard Univ

Research on Violence in the Family: Challenges and Opportunities SATURDAY AM

Org by Rosemary Chalk, Natl Resch Council

When Nontraditional Family Structures Succeed—and Why SATURDAY PM

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

Sleepless in Seattle? Science and the American Coffee Revolution SUNDAY AM

Org by Albert H. Teich, AAAS

Computers and Social Theory: New Methods for Modeling Social Life

SUNDAY PM Org by Thomas Dietz, George Mason Univ

Basic Research: So What Have You Done for Us Lately?

MONDAY AM[†] Org by Andrea K. Dupree, Harvard-Smithsonian Ctr for Astrophysics

Ethical Aspects of Societal Decision Making: Fetal Risks and Rights? TUESDAY AM

Org by Steven G. Gilbert, Inst of Neurotoxicology and Neurological Disorders; Lowell E. Sever, Battelle Ctrs for Pub Health Resch and Evaluation

Ecological Integrity: Moving from Principle to Practice

TUESDAY PM Org by James R. Karr and Ellen W. Chu, Univ of Washington; Laura Westra, Univ of Windsor



THE STATE OF THE OCEANS

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Marine Biological Invasions: Patterns, Processes, and Prospects SUNDAY AM

Org by Jonathan B. Geller, Univ of North Carolina-Wilmington

Submarine Volcanoes, Chemosynthetic Life, and Mineral Deposit Formation SUNDAY AM

Org by Robert A. Zierenberg, Univ of California-Davis; John R. Delaney, Univ of Washington

Managing Marine Fisheries in an Ecosystem Context MONDAY AM[†] Org by Harold A. Mooney, Stanford Univ

Science and Marine Protected Areas

MONDAY PM[†] Org by Jane Lubchenco, Oregon State Univ

Changing States of Large Marine Ecosystems: A Global Perspective TUESDAY AM/PM

Org by Kenneth Sherman, Natl Oceanographic and Atmospheric Admin; Gotthilf Hempel, Ctr for Tropical Marine Ecology



THE UNIVERSE: MATHEMATICS AND ASTRONOMY

AM = 8:30AM-11:30AM; PM = 2:30PM-5:30PM

Art, Bubbles, Crystals, Domes: Geometry in the World Around You

FRIDAY AM

Org by Branko Grünbaum, Univ of Washington



Org by John M. D'Auria, Simon Fraser Univ



Mathematical Visualization: Theory and Practice

SATURDAY AM Org by Richard S. Palais, Brandeis Univ

Taking the Pulse of the Universe: The First Year of Results from the X-Ray Timing Explorer SATURDAY AM Org by Saeqa Dil Vrtilek, Harvard

Univ; Alan Smale, NASA-Goddard

Implications of the Possibility of Life on Mars

SATURDAY PM Org by Chris Corbally, Vatican Observatory Group

Excitement On and In the Sun SUNDAY AM

Org by Jay M. Pasachoff, Williams College

Could Europa Harbor Submarine Hydrothermal Life?

SUNDAY PM Org by John R. Delaney, Univ of Washington



The Electron: The First Elementary Particle

SUNDAY PM Org by Michael D. Crisp, U.S. DOE; Peter Achinstein, Johns Hopkins Univ

New Milestones in Cosmic Distance Measurements (The Tom Lutz Memorial Symposium) MONDAY AM[†]

Org by George Wallerstein, Craig J. Hogan and Paul Hodge, Univ of Washington

The Nature of Time

MONDAY AM[†] Org by Audrey Chapman, AAAS; Lawrence W. Fagg, Catholic Univ of America

Inside Out: Inverse Boundary Problems

MONDAY PM[†]

Org by Gunther Uhlmann, Univ of Washington

Early Bird Registration Winner

Charles Connell Foster City, CA

Winner of a Free trip to AMSIE'97, including roundtrip airfare and hotel accomodations for two.

AAAS employees and families were excluded from contest



Innovation





SCIENCE INNOVATION

AM = 9:30AM-12:30PM; PM = 2:30PM-5:30PM †All Monday sessions are AM = 9:30AM -12:30PM; PM = 3:00PM - 6:00PM

All information is as of 10/1/96. Changes, additions or deletions received after that date will be included in the next printing of this program.

Sonoluminescence and Sonochemistry FRIDAY AM

Org by Lawrence A. Crum, Univ of Washington; Logan E. Hargrove, Offc of Naval Resch

Technologies for a Comprehensive Biology in the Post Genome Era FRIDAY AM Org by Ruedi Aebersold and Leroy E. Hood, Univ of Washington

Combinatorial Chemistry FRIDAY PM Org by Richard A. Lerner, Scripps Resch Inst

From the Human Genome to the Environment: A New Frontier FRIDAY PM

Org by Ari Patrinos, U.S. DOE

Engineering the Future with Microsystem Technologies SATURDAY AM

Org by M. Kevin Drost, Pacific Northwest Natl Lab; Kaigham J. Gabriel, Defense Advanced Resch Projects Agency

Advances in Genetics SATURDAY AM/PM

SUNDAY AM/PM Saturday AM Session: *Human and Medical Genetics* Org by Arno G. Motulsky, Univ of Washington

Job Opportunities Resources

Org by Arden Forrey, Univ of Washington

Making Your Education Work For You

Org by Jan Reha, Career Discovery

New Directions: Maps to Diverse Science Careers

Org by Finley Austin, Burroughs Wellcome Fund; Carol Sibley, Univ of Washington

Talking Publicly about Science in Our Own Backyard

Org by Anna Davis and Eliene Augenbraun, USAID

The Requirements for a Successful Career in Science and Technology

Org by Richard C. Adams, Pacific Northwest Natl Lab

Saturday PM Session: *Genomics* Org by Maynard V. Olson, Univ of Washington Sunday AM Session: *Genetics of Normal and Abnormal Vertebrate*

Development Org by Charles J. Epstein, Univ of California-San Francisco

Sunday PM Session: *New Insights in Chromosome Biology Through Microscopy* Org by Barbara J. Trask, Univ of Washington

Computation

SUNDAY AM/PM MONDAY AM/PM† Org by Edward Lazowska, Univ of Washington

The Cell Cycle

MONDAY AM/PM[†] Org by Leland Hartwell, Fred Hutchinson Cancer Resch Ctr and Univ of Washington

Science Innovation is sponsored by Battelle Memorial Institute, Pacific Northwest National Labs, and the Environmental Molecular Sciences Lab.

The AAAS bioSCIENCE Career Fair

- The AAAS bioSCIENCE Career Fair is FREE to all
- Employers will be on-site in Seattle to talk to you about real biotech and biomed job openings
- Hundreds of postings: various positions and levels of experience to review a your leisure
- Bring multiple copies of your resume and visit as many employers as you wish
- On-site Career Development Workshops conducted by top science recruiters and human resource professionals (Workshops are \$10 AAAS Member/ \$25 Non-Member)
- Sponsored by AAAS and Science magazine

Washington State Convention Center February 18, 1997 11:00 AM - 5:00PM





REGISTRATION AND HOTEL FORMS

Career Development Workshops

Alternative Career Paths: AAAS Fellowship Programs in Science Policy and Mass Media

Org by Claudia Sturges and Amie King, AAAS

Career Planning for the 21st Century

Org by Jan Reha, Career Discovery

Seminars

All information is as of 10/1/96. Changes, additions or deletions received after that date will be included in the next printing of this program.

AMSIE'97... Engaging Science – Sustaining Society

FROM BASIC RESEARCH TO

THE GLOBAL MARKETPLACE Org by Kenneth D. Walters, Univ of Washington-Bothell; Robert S. Sullivan, Univ of Texas-Austin

Issues and Innovations at Research Universities - Systems, Policies, Relationships

SUNDAY 8:30AM - 11:30 AM Org by Kenneth D. Walters; Robert S. Sullivan; Robert C. Miller, Univ of Washington SPEAKERS

Robert C. Miller, Univ of Washington Robert S. Sullivan, Univ of Texas-Austin

Bruce L.A. Carter, Novo Nordisk A/S George B. Rathman, ICOS Corp Steven Atkinson, Oravax, Inc

Issues and Innovations at Research Universities - Programs and Case Studies

SUNDAY 2:30PM - 5:30PM Org by Kenneth D. Walters; Robert S. Sullivan; Robert C. Miller SPEAKERS Steven Lazarus, ARCH Venture Partners, L.P. Dwid B Longe, Univ of Pritich Columbia

David P. Jones, Univ of British Columbia Margaret Wagner-Dahl, Austin Tech Incubator James R. Lisbakken, Perkins Coie

Technology Entrepreneurship and New Science-Based Business Development

MONDAY 9:30AM - 12:30PM Org by Kenneth D. Walters; Robert S. Sullivan; David V. Gibson, Univ of Texas-Austin SPEAKERS

Karl Vesper, Univ of Washington Tom Byers, Stanford Univ Jeremy Jaech, Visio Corp Laura Kilcrease, Univ of Texas-Austin David Liddle, Interval Resch Corp

Creative Management for Fast-Growth Technology Companies

TUESDAY 8:30AM - 11:30AM Org by Kenneth D. Walters; Robert S. Sullivan

SPEAKERS

Richard Foster, McKinsey & Co Alan Nelson, Neopath, Inc Marvin H. Caruthers, Univ of Colorado-Boulder Stephen B. Davis, Corbis Corp Clayton M. Christensen, Harvard Univ

Education Leaders for the High Technology Economy TUESDAY 2:30PM - 5:30PM

Org by Kenneth D. Walters; Robert S. Sullivan; George Kozmetsky, Univ of Texas-Austin SPEAKERS

Theodore L. Johnson, Boeing Co Kathleen M. Eisenhardt, Stanford Univ Sara L. Beckman and Paul K. Wright, Univ of California-Berkeley Barbara M. Fossum, Univ of Texas-Austin

George Kozmetsky, Univ of Texas-Austin

12TH AAAS FORUM FOR SCHOOL SCIENCE: IMPLEMENTING INQUIRY-BASED SCIENCE TEACHING IN SCHOOL

MONDAY 9:30AM - 5:30PM TUESDAY 8:30AM - 5:30PM Org by Jerry Bell and Betty Calinger, AAAS

The Forum for School Science, which began in 1985 is coming to AMSIE'97. It is designed to inform and foster dialogue on current issues in science education among teachers (K-12), university science educators, scientists, federal, state, and local education agencies, science associations, museums, and others. The 1997 Forum will devote its two-day program to implementing inquiry-based science instruction.

Groups active in the reform of science education, including those involved in developing the National Science Education Standards and the AAAS-Project 2061's Benchmarks, believe that student learning depends on how students are taught. Inquiry-based instruction allows the teacher to help students develop knowledge and understanding of science through investigation and observation. Students discuss and pose questions and teachers develop questions, based on student experiences, that aid in the understanding of scientific phenomena and principles. In this mode teachers act as facilitators, guiding students as they acquire and interpret information. While the use of "handson" investigations is increasing in schools, many such experiences are demonstrations and offer little opportunity for discussion and inquiry. The 1997 Forum will provide a better understanding of inquiry-based teaching and how it can become a part of the classroom. The sessions will include lecture presentations and discussions presented by experts as well as presentation of actual examples ofinguiry-based instruction from science classrooms.

NEW WORLDS AND OLD WORLDS

Org by Stephen P. Maran, NASA -Goddard; Paul W. Hodge, *The Astronomical Journal*

THURSDAY 8:30AM - 5:30PM SPEAKERS

Stephen P. Maran, NASA-Goddard Michael Carr, USGS-Menlo Park Thomas Gold, Cornell Univ John R. Delaney, Univ of Washington Anneila Sargent, California Inst of Tech

Douglas N. C. Lin, Univ of California-Santa Cruz

Gibor Basri, Univ of California-Berkeley

Donald E. Brownlee, Univ of Washington

FRIDAY 8:30AM - 5:30PM SPEAKERS

Paul W. Hodge, Univ of Washington Alan Stern, Southwest Resch Inst William Cochran, Univ of Texas-Austin

Anita Cochran, Univ of Texas-Austin Geoffrey Marcy, San Francisco State Univ and Univ of California-Berkeley Robert Brown, Space Telescope Sci Inst Jill Tarter, SETI Inst



ur Program

For tour descriptions, visit the AAAS Annual Meeting Web site. http://www.aaas.org/ meetings/scope/fieldtrp.htm

AMSIE'97... Engaging Science – Sustaining Society

INFORMATION & REGISTRATION

TOUR TICKETS: Tickets will not be mailed. You will need to pick up your advanced purchased tickets at the Seattle V.I.P. Services Tour Registration Desk, adjacent to the AAAS registration area, at the Washington State Convention and Trade Center upon your arrival in Seattle. The tour desk will be open during peak conference registration hours.

TOUR DEPARTURES: Tours will depart promptly from Convention Place at the Washington State Convention and Trade Center. Please arrive 10 minutes prior to departure time.

CANCELLATIONS: Prepaid tour registrations are refundable only if canceled by January 30, 1997. Tour refunds will be made less a \$2.00 per ticket handling charge. There will be no refunds or exchanges after January 30, 1997. Note that should tour minimums not be met, all monies will be refunded.

TOUR REGISTRATION DEADLINE:

Tour Registration Deadlines are as follows: January 13, 1997 for Independent Victoria Day Trip January 30, 1997 for all other tours After the above dates, tour registration will be taken on a space available basis only. Any tickets available for sale on-site will include an additional \$2.00 charge. Please return the registration form on

the following page, along with a check or money order in U.S. funds and drawn on a U.S. bank for the amount due.



AMSIE'97 REGISTRATION FOR OPTIONAL TOUR PROGRAM

PARTICIPANT NAME:				
ADDRESS:				
CITY:				
STATE:				
PHONE:				
SEATTLE HOTEL:				
Full payment by check or money order in U.S. funds n you may fax your registration form to (206) 623-254				
FORM OF PAYMENT: Check/Money Order (pay Visa Mastercard				
Credit Card Number:			Expiration Da	te:
Signature:				
No confirmations will be sent.				
A. TECHNICAL TOURS	PRICE	X	#TICKETS	= TOTAL DUE
THURSDAY, FEBRUARY 13, 1997				
Fred Hutchinson Cancer Research Center, 12:30pm-4:30pm	\$34.00	Х		. =
The Art & Science of Glassblowing, 1:30pm-4:30pm	\$35.00	Х		. =
Boeing 777 Tour, 2:00pm-5:00pm	\$28.00	Х		=
TUESDAY, FEBRUARY 18, 1997 Mt. St. Helens & Mima Mounds Tour, 7:00am-6:30pm	¢76.00	v		
TECHNICAL TOURS SUBTOTAL	\$75.00	X		. =
				=
B. ACCOMPANYING PERSONS TOURS	PRICE	X	#TICKETS	= TOTAL DUE
THURSDAY, FEBRUARY 13, 1997				
Independent Victoria, 8:30am-8:00pm	\$85.00	X		_ =
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997	\$85.00			
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm	\$85.00	X		=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm	\$85.00 \$20.00 \$25.00	X X		. =
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Solmon Bake, 4:30pm-9:15pm	\$85.00	X		. =
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997	\$85.00 \$20.00 \$25.00	X X X		=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Seattle Underground Tour with Lunch, 9:45am-1:45pm	\$85.00 \$20.00 \$25.00 \$67.00	X X X		=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Seettle Underground Tour with Lunch, 9:45am-1:45pm SUNDAY, FEBRUARY 16, 1997	\$85.00 \$20.00 \$25.00 \$67.00	X X X X		=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Secttle Underground Tour with Lunch, 9:45am-1:45pm SUNDAY, FEBRUARY 16, 1997	\$85.00 \$20.00 \$25.00 \$67.00 \$38.00	X X X X		=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Secttle Underground Tour with Lunch, 9:45am-1:45pm SUNDAY, FEBRUARY 16, 1997	\$85.00 \$20.00 \$25.00 \$67.00 \$38.00	X X X X	Dome Car	=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Secttle Underground Tour with Lunch, 9:45am-1:45pm SUNDAY, FEBRUARY 16, 1997	\$85.00 \$20.00 \$25.00 \$67.00 \$38.00 \$72.00	X X X X X		=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Seattle Underground Tour with Lunch, 9:45am-1:45pm SUNDAY, FEBRUARY 16, 1997 Spirit of Washington Brunch Train, 10:00am-3:30pm MONDAY, FEBRUARY 17, 1997	\$85.00 \$20.00 \$25.00 \$67.00 \$38.00 \$72.00 \$59.00	x x x x x x	Dome Car	=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Seattle Underground Tour with Lunch, 9:45am-1:45pm SUNDAY, FEBRUARY 16, 1997 Spirit of Washington Brunch Train, 10:00am-3:30pm	\$85.00 \$20.00 \$25.00 \$67.00 \$38.00 \$72.00	X X X X X	Dome Car	=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Seattle Underground Tour with Lunch, 9:45am-1:45pm SUNDAY, FEBRUARY 16, 1997 Spirit of Washington Brunch Train, 10:00am-3:30pm MONDAY, FEBRUARY 17, 1997 Chateau Ste. Michelle Winery & Molbak's Nursery	\$85.00 \$20.00 \$25.00 \$67.00 \$38.00 \$72.00 \$59.00	x x x x x x	Dome Car	=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Seottle Underground Tour with Lunch, 9:45am-1:45pm SUNDAY, FEBRUARY 16, 1997 Spirit of Washington Brunch Train, 10:00am-3:30pm MONDAY, FEBRUARY 17, 1997 Chotreau Ste. Michelle Winery & Molbak's Nursery 1:00pm - 4:30pm	\$85.00 \$20.00 \$25.00 \$67.00 \$38.00 \$72.00 \$59.00	x x x x x x	Dome Car	=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Salmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Seottle Underground Tour with Lunch, 9:45am-1:45pm SUNDAY, FEBRUARY 16, 1997 Spirit of Washington Brunch Train, 10:00am-3:30pm MONDAY, FEBRUARY 17, 1997 Chateou Ste. Michelle Winery & Molbak's Nursery 1:00pm - 4:30pm TUESDAY, FEBRUARY 18, 1997	\$85.00 \$20.00 \$25.00 \$67.00 \$38.00 \$72.00 \$59.00 \$23.00	x x x x x x x	Dome Car	=
Independent Victoria, 8:30am-8:00pm FRIDAY, FEBRUARY 14, 1997 City Highlights & Pike Place Market Tour, 9:00am-12:00pm Snoqualmie Falls, Boehm's Tour, 9:45am-2:45pm Kiana Lodge Solmon Bake, 4:30pm-9:15pm SATURDAY, FEBRUARY 15, 1997 Seattle Underground Tour with Lunch, 9:45am-1:45pm SUNDAY, FEBRUARY 16, 1997 Spirit of Washington Brunch Train, 10:00am-3:30pm MONDAY, FEBRUARY 17, 1997 Choteau Ste. Michelle Winery & Molbak's Nursery 1:00pm - 4:30pm TUESDAY, FEBRUARY 18, 1997 Independent Victoria, 8:30am-8:00pm	\$85.00 \$20.00 \$25.00 \$67.00 \$38.00 \$72.00 \$59.00 \$23.00	x x x x x x x	Dome Car	=

SEE PAGES 16 AND 17 FOR

14

CONFERENCE LOCATIONS Washington State Convention

Center 800 Convention Place,

Seattle, WA 98101 AMSIE'97 activities include: Concurrent Sessions, Science Innovation, Poster Sessions, Headquarter's Office, Meeting Registration, Exhibition, Career Fair, and Career Development Workshops.

Sheraton Seattle Hotel & Towers

1400 Sixth Avenue, Seattle, WA 98101 AMSIE'97 activities include: Concurrent Sessions, Plenary and Topical Lectures.

ON-SITE REGISTRATION HOURS

AMSIE'97 Registration will be located in the Washington State Convention Center. Please note operational hours below: Thursday-Friday, February 13-14, 1997

7:30 AM - 7:00 PM Saturday-Monday, February 15-17, 1997

7:30 AM - 5:00 PM Tuesday, February 18, 1997 7:30 AM - 2:30 PM

EXHIBITION HOURS

Friday, February 14, 1997 4:00 PM - 6:30 PM Saturday-Sunday, February 15-16, 1997 10:00 AM - 3:00 PM Monday, February 17, 1997 9:00 AM - 2:00 PM

INTERNET ACCESS CENTER:

Multiple stations will be available where attendees can check their email, send email messages to colleagues and surf the net. The Internet Access Center, located in the Exhibit Hall, will be open during exhibit hours.

HOTEL DESCRIPTIONS Sheraton Seattle Hotel & Towers:

Located adjacent to the Convention Center, the Sheraton offers 24-hour room service, 5-star dining in Fullers, casual dining and entertainment in four other restaurants, a health club, full-service concierge, and easy access to plenty of downtown sights and recreational activities. As the AMSIE'97 headquarters hotel, the Sheraton will be the site of many conference activities.

The Westin Hotel Seattle:

The Westin is a short walk from the Convention Center, and one block from the monorail and fashionable shops of downtown. Most of the rooms offer sweeping views of Puget Sound, Lake Washington, or Mount Ranier. Amenities include indoor swimming pool/jacuzzi, fitness center, business center, 3 restaurants, 2 lounges, 24-hour room service, and concierge.

Crowne Plaza Seattle: Located 2.5 short blocks from the Convention Center and within walking distance of many downtown attractions, the Crowne Plaza features spacious, beautifully decorated guest rooms with panoramic view windows, voice mail, two phones, AM/FM clock radios, hair dryers, irons, ironing boards, and other amenities. The hotel also offers a restaurant, lounge, coffee bar, and health facility.

Seattle Hilton: The Hilton offers a panoramic view of Seattle's city lights, the Space Needle, distant mountain ranges, and Puget Sound. Designed for both the business and pleasure traveler, the hotel provides easy access to the Convention Center via an underground concourse. Amenities include concierge service, room service, an exercise facility, two top-quality restaurants, two lounges, and beautifully appointed guestrooms.

LOCAL TRANSPORTATION Airport Taxi: Taxis are available from Seattle-Tacoma International Airport

(Sea-Tac). The fare from Sea-Tac to downtown Seattle is approximately \$30. **Grayline Shuttle Bus:** Grayline operates bus service from Sea-Tac to each of the official AMSIE'97 hotels. Buses leave the airport every 20 minutes. The price is \$7.50 one-way and \$13 round-trip. For more information contact Grayline at (206) 626-6088.

Parking: All AMSIE'97 hotels have on-site parking. Parking rates for hotel guests range from \$11 to \$16 per day. **Downtown Buses:** Metro Buses are Free from 6:00 AM - 7:00 PM in the downtown Free Ride Zone.

DISCOUNT AIR FARES

United Airlines AAAS has arranged discounts on all United flight within the fifty United States and Canada for AMSIE'97 attendees traveling between 2/6/97 and 2/25/97.

Save 5% off any published fare or 10% off coach fares (BUA/YUA, M class) with a minimum 7-day advance purchase. Please refer to Tour Code Number 504ER when making reservation. Make your reservation by calling BTIAmericas, the official travel agent for AAAS, at 800-366-3847 or call United Airlines directly at 800-325-3788.

Northwest Airlines Save up to 15% when you fly Northwest Airlines to AMSIE'97! AAAS has arranged discounts on Northwest flights within the fifty United States and Canada for

AMSIE'97 attendees traveling between 2/10/97 and 2/21/97.

Please refer to Worldfile #NY028 when making your reservation. Make your reservation by calling BTIAmericas, the official travel agent for AAAS, at 800-366-3847 or call Northwest Airlines directly at 800-328-1111 or call your travel agent.

SPECIAL EVENTS

Public Science Day (Wednesday, February 12, 1997): This year's Public Science Day will bring together thousands of Seattle citizens, especially K-12 students, and local science resources. Participants will enjoy a full day of events that include special programs, activities and field trips that emphasize the importance of science and technology in our daily lives. Students will learn about scientific careers and course selections; they will participate in technologies of the future through workshops and activities conducted by scientists, such as handson science and mathematics experiments. For more information contact: Judy Kass at (202) 326-6667.

American Junior Academy of Science (AJAS): The 1997 AJAS Meeting will be held in conjunction with AMSIE'97. Over the course of four days, the AIAS will showcase the work of promising future scientists from across the country. These premier high school students will share their award-winning work in oral and poster presentations. Students will participate in a host of academic, social and cultural events. The grand finale includes an Awards Banquet where students will be recognized for their accomplishments. For more information contact: Gloria J. Takahashi at (213) 744-3384 or (818) 333-2173 between 7AM and 7PM Pacific Time.

BARRIER-FREE ENVIRONMENT

Accommodations for people with disabilities are provided upon request at all general lectures and other sessions. Services will 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 Room 610 at the Washington State Convention Center. Please make sure to check the special needs box on the registration form. You will be contacted before the conference.

REGISTRATION AND HOTEL FORMS

All information is as of 10/1/96. Changes, additions or deletions received after that date will be included in the next printing of this program.

FOR MORE AMSIE'97 INFORMATION

Mail: AAAS, Meetings Dept., 1200 New York Avenue, NW, Washington, DC 20005 Phone: (202) 326-6450 FAX: (202) 289-4021 Email: amsie97@aaas.org

Web Page: http://www.aaas. org/meetings/meetings.htm

AMSIE'97... Engaging Science -Sustaining Society

SEE PAGES 16 AND 17 FOR

15

fifty United St



AAAS Annual Meeting and Science Innovation Exposition (AMSIE'97) February 13-18, 1997 Washington State Convention Center - Seattle

DEADLINE: December 16, 1996

I. REGISTRANT INFORMATION Please type or print clea	rly; allow 40 characters per line for name and institution
First name	Last name
Institution/Company	
Address	
City/State/Zip	Country
Daytime Phone Number	FAX Number
E-Moil Address	IAAS Membership Number (On your membership card or SCIENCE label): []
What is your PRIMARY discipline (Check Only One) Biological Sciences Chemistry Physics Earth/Environmental Engineering Math/Computer Science Social/Behavioral Sciences Other, please specify:	What is your PRIMARY job function (Check Only One) Basic Research Applied Research Development Corporate Management Purchasing Quality Control/Assurance Manufacturing/Processing Process/Project Engineering Academic Dean/Dept Head Teaching Medical Services Other, please specify
[] Check here if you have special needs due to disability. You will be contacted before the confer To qualify for student or special (postdoc, k-12 teacher, retired) registration fee, please complete th [] Student - Institution Name: [] Postdoc - Chairperson's Name: [] K-12 Teacher - Principal's Name: [] Retired - Year of Retirement:	e appropriate line below: Level: Phone Number: Phone Number:
AAAS Member Non-Member A. AMSIE'97 Passport: Unlimited access to all sessions including General Meeting, Science Innovation, Seminars, plenary/topical lectures, and exhibition hall Registrant § 195 [] \$245 *Special Registrant [] \$150 [] \$180 Student Registrant [] \$110 [] \$130 Note: Seminars and Science Innovation sessions are included in your Passport registration. Please indicate below the program(s) you plan to attend: [] The Planets Seminar [] Science Innovation [] Forum for School Science [] Basic Research/Global Mark B. General Meeting: Entry to all General Meeting sessions, plenary/topical lectures and exhibition	
Registrant [] \$170 [] \$220 *Special Registrant [] \$100 [] \$130 Student Registrant [] \$100 [] \$130 Student Registrant [] \$150 [] \$150 C. Science Innovation: Entry to all Science Innovation sessions, plenary/topical lectures and e All Registrants [] \$115 D. Seminars: Entry to one seminar only. [] \$115 [] \$170 REGISTER NO LATE OR ON-S [] \$115 [] \$170 LATE OR ON-S Forum for School Science [] \$115 [] \$170 S20-S50 Global Marketplace [] \$125 [] \$180 Global Marketplace	W AND SAVE! SITE FEES ARE HIGHER [] Check Enclosed(4) [] MasterCard [] American Express (No other cards accepted)
All Registrants []\$100 []\$155 Please specify day: []\$17i []\$25 F. Career Development Program Only: Includes entry to career workshops, career fair, and hall only. All Registrants []\$10 []\$25 G. Exhibition Only Pass: []\$0 []\$25	Credit Card Number:
Important Notes: (1) Students, postdocs, K-12 teachers, and retired members must complete the verification information to be the special registration rates. (2) Membership dues indicated herein are the 1996 rates. Although dues will increase on January 1, 1997 rates are guaranteed through February 18, 1997 for registration to the annual meeting. S55 of dues plus in postage are allocated to SCIENCE. Please allow up to four weeks for receipt of your first issue. Canadian rat #125488122. (3) Cancellations must be received in writing by January 15, 1997. No refunds will be made for cancellation offer this date. Refunds are subject to a \$25 cancellation charge and will be processed after the meeting. (4) Checks must be in United States currency and must be payable on a United States bank.	Advance registration deadline: December 16, 1996 Fax: (202) 289-4021 (Credit Card payments only. D0 NOT mail hard copy if you register via fax.) Phone: (202) 326-6450 (Credit Card payments only. D0 NOT mail hard copy if you register via fax.) Mail: AAAS, Meetings Dept., P.O. Box 630285, Baltimore, MD 21263 Web Address: http://www.aaas.org/meetings/meetings.htm





AAAS Annual Meeting and Science Innovation Exposition (AMSIE'97) February 13-18, 1997 Washington State Convention Center - Seattle



DEADLINE: December 16, 1996

INSTRUCTIONS: Please complete sections I, II, and III below (if not legible, form will not be processed). To receive the special AAAS convention rate, your reservation must be made by mailing or faxing this form to the AAAS Housing Bureau. NO PHONE REQUESTS WILL BE ACCEPTED. The bureau will acknowledge receipt of your reservation by fax or mail within 2-3 weeks. Confirmation of actual room type will be mailed by the hotel. Acknowledgement and confirmation will be sent to the individual listed below. Reservations must be received by December 16, 1996. After this date, hotel space and convention rates may not be available.

I. ROOM REQUEST Please use a separate form for each room request. This form may be copied.

First name L	1	1		1		1			1	1	<u> </u>	<u> </u>	1	1	1	1	I		٨	ΛL		Ŀ	ast r	name	<u>, Г</u>	I	1	<u> </u>					<u> </u>		1		1	 	<u> </u>	1	1	1	1
Institution [1	1		1	1	I				1	1	1	1	1	1	I		1						I	I		1		L									.	1			_
Address L							<u> </u>	1		1	Ι	I	1	1	I	1	1						<u> </u>	1	1	L		1	1	I	1	1	1	1		1	1		l	L	<u> </u>		Ī
City L	<u> </u>		1			1	I	I	L			1						<u> </u>	Stat	re/Pro	ov .L			L	1	L	1			Г	Zip	L	1	1	I	1	1				I	<u> </u>	
Country L		1	I	1			1	1		I		I	Ι	1	1										<u> </u>			1		I	1	1		I	Ι	1	I	 L_				1	1
Daytime telephon	e num	ber L					1	1	1	1								l	FAX	numb	_{ber} I			L	1	1	1	1			1		I	I		_1		 l	L	L.	I	1	_1
Room request:] 1 be	ed, 1	pers	юп			1 b	ed,	2 pe	eople	;] 2	peds	, 2 p	eopl	e	(□ 2	? bed	s, 3	peop	ole			2 be	ds, 4	1 pec	ople														
Special requests:	N	/heel	chair		essib	ile ro	oom			Non-	smok	ting I	room	ĺ)ther	:_								_													 					_
Arrival Date							A	rrivo	ol Tir	ne_									Depo	arture	Dat	e									_De	epart	ure	lime									_

II. HOTEL PREFERENCE

Hotels	Single	Double	Triple	Quad
 Sheraton/Main Hotel*	\$122	\$142	\$162	\$182
 Sheraton/Club Level	\$163	\$183	\$208	\$233
 Westin Hotel	\$122	\$122	\$172	\$197
 Crowne Plaza/Main Hotel	\$109	\$109	\$129	\$149
 Crowne Plaza/Concierge	\$12 9	\$129	\$149	\$169
 Seattle Hilton	\$115	\$115	\$130	\$145

All hotel rates are subject to 15.2% sales and room tax. Room rates include \$4 per night surcharge to help defray the cost of the Washington State Convention Center.

*Meeting events will take place in the Washington State Convention Center and the Sheraton Seattle.

LIST FULL NAME AND NEW ADDRESS OF ADDITIONAL ROOM OCCUPANTS

1:	Name:	
	Address:	
2:	Name:	

Address:

III. METHOD OF PAYMENT

All reservations must be guaranteed. You may guarantee your reservation by providing the following credit card information, or by mailing a check directly to your assigned hotel after you have received your housing acknowledgement.

Please check or		SA E	🗆 Mastera	ard 🗆	American Express				
		🗆 Dis	cover	🗆 Dine	rs Club				
Credit Card			Π					Exp.Date	

Signature

Changes/cancellations must be made in writing to the Housing Bureau. However, if a change/cancellation occurs within two weeks of the meeting dates, contact your assigned hotel directly.



A Sheraton Seattle Hotel & Towers; B Westin Hotel; C Crowne Plaza Seattle; D Seattle Hilton Hotel

MAILING INSTRUCTIONS

IMPORTANT - Reservations must be received by December 16, 1996. Mail this form by December 11, or Fax by December 16.

Mail or fax this form to:

AAAS Housing Bureau 520 Pike Street, Suite 1300, Seattle, WA 98101 FAX: (206) 461-5853

DO NOT MAIL THIS FORM TO THE HOTELS



American Association for the Advancement of Science



(Partial listing as of press time)

AMSIE'97 Sponsors

Battelle Battelle Memorial Institute (107)

SUBARU. 5 Subaru of America, Inc (329)

NATIONAL SCIENCE & TECHNOLOGY MEDALS FOUNDATION NSTMF (123)

AMSIE'97 Exhibitors

Academia Book Exhibits (301)

American Chemical Society (305)

Association of American University Presses, Inc. (400)

Cornell Theory Center (313)

Dorling Kindersley Family Library (228) Dover Publications, Inc. (324) Ecumenical Roundtable (328) Harvard University Press (307) Howard Hughes Medical Institute (201)

Island Press (401)

John Templeton Foundation (321)

Knight-Ridder Information (117)

NASA - Goddard Space Flight Center (505, 506)

National Library of Medicine (223)

National Sea Grant College Program (311)

Office of Naval Research (106)

Oxford University Press (315)

The Planetary Society (507)

Rutgers University Press (317)

The Scientist (422)

Sigma Xi, The Scientific Research Society (501)

Space Station Team (207)

Other companies exhibiting at AMSIE'97:

American Psychological Association Brinkmann Instruments NASA - Jet Propulsion Laboratory National Institute on Drug Abuse National Library of Medicine/EPA National Science Foundation NOAA - Marine Fisheries Service SARSTEDT, Inc. Union of Concerned Scientists U.S. DOE U.S. EPA

For exhibit information contact:

Global Trade Productions, Inc. Two Skyline Place 5203 Leesburg Pike, Suite 1313 Falls Church, VA 22041 Phone: 703-671-1400 Fax: 703-671-7695

The Collaboratory Workshop: A Tool (and techniques) for Interactive Education and Research

Org by Thom Dunning, Environmental Molecular Sciences Laboratory (EMSL) Saturday and Sunday — February 15, 16 — 3:00 PM - 5:00 PM Exhibition Hall (Battelle Booth #107)

Researchers at Pacific Northwest National Laboratory's *Environmental Molecular Sciences Laboratory* (EMSL) have developed a suite of software and hardware technologies that allows real-time remote collaborations, interactions with EMSL instruments and services, and access to remote data and visualization. The entire system is launched and coordinated using World Wide Web interfaces and it is being developed to support scientific work and to handle large multi-media data sets. The "Collaboratory" is designed to address cross-platform (Mac, PC, UNIX) security and productivity.

The EMSL Collaboratory is a premier facilitator of partnership in research and education covering the full spectrum of science and technology, as well as other fields. Electronic linkages with EMSL have already been established via the Collaboratory, not only with colleges and universities in the U.S. and overseas, but also with high schools and middle schools to support interactions among teachers, students, researchers, and scientific instrumentation and data.

Participants will receive in-depth training and learn how to use this important new research tool to enhance their research and education collaborations with the EMSL. Researchers and developers of these Collaboratory systems and services will provide first-hand demonstrations and answer questions.

Participants must sign up for the workshop at Battelle Booth #107 in the exhibit hall. All attendees are invited to stop by the Battelle Booth #107 to register for the workshop and enter the drawing to win free a desk-top (Mac or PC) camera for Collaboratory video conferencing.



THANKS TO OUR AMSIE'97 SPONSORS



SEE PAGES 16 AND 17 FOR



REGISTRATION AND HOTEL FORMS

1997-98

Applicants must have a Ph.D. or equivalent doctoral level degree at the time of application (January 1997). Applicants with a master's degree in engineering and at least three years of post-degree experience may also apply. All applicants must be U.S. citizens. The programs are designed to provide each Fellow with a unique public policy learning experience; to make practical contributions to the more effective use of scientific and technical knowledge in the U.S. government; and to demonstrate the value of science and technology in solving important societal problems. All Fellows participate in a rigorous orientation on the relevant congressional and executive branch operations and foreign affairs plus a year-long seminar series on issues involving science, technology, and public policy. The Congressional, Diplomacy, Risk Assessment, and Technology Policy programs, begin in September 1997, and the summer Environmental program begins in June 1997. All grant-funded programs are subject to continued support. All applications must be postmarked by January 15, 1997.

For additional information and application instructions, write: Fellowship Programs/Directorate for Science and Policy Programs AAAS 1200 New York Avenue, NW Washington, DC 20005 202/326-6600 Fax: 202/289-4950 Internet: science_policy@aaas.org



American Association for the Advancement of Science

AAAS Fellowships for Scientists and Engineers

CONGRESSIONAL

AAAS CONGRESSIONAL SCIENCE & ENGINEERING FELLOWS PROGRAM

Fellows spend one year on Capitol Hill working with Members of Congress or congressional committees as special assistants in legislative and policy areas requiring scientific and technical input. Two fellowships will be offered, with annual stipends of \$43,000.

DIPLOMACY

AAAS SCIENCE, ENGINEERING, & DIPLOMACY FELLOWS PROGRAM

Fellows work in international affairs on scientific and technical subjects for one year, either in foreign policy at the U.S. Department of State or in international development for the U.S. Agency for International Development. One Fellow will be selected at State and approximately 12 Fellows will be selected at USAID. The annual stipend varies with experience, starting at approximately \$46,000.

RISK ASSESSMENT

AAAS-EPA & AAAS-USDA Risk Assessment Science & Engineering Fellows Programs

Fellows work for one year at either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture as special research consultants, assessing the significance of environmental and/or human health problems through application of risk assessment. Five fellowships will be offered at EPA and at least one at USDA. The annual stipend will be \$41,000.

TECHNOLOGY POLICY

AAAS-CTI SCIENCE & ENGINEERING FELLOWS PROGRAM

Fellows spend one year working at the Rand Critical Technologies Institute, providing expertise in research and development, technology transfer, international competitiveness, and related issues. At least one Fellow will be selected. Applicants must have a minimum of five years industrial experience, as midlevel or senior executives. Stipends are negotiable, depending on qualifications and experience.

ENVIRONMENTAL

AAAS/EPA Environmental Science & Engineering Fellows Program

Fellows work for one year as special research consultants with the U.S. Environmental Protection Agency for 10 weeks in the summer. The detailed, futureoriented research assists EPA in assessing the significance of long-range environmental problems. Ten fellowships will be offered with a weekly stipend of \$950.

PRODUCTS & MATERIALS

Carbon Fiber Potentiostat

A DECEMBER OF A DECEMBER

The MicroC is a carbon fiber potentiostat for in vivo and in vitro electrochemical analysis. Together with carbon fiber electrodes, it measures oxidizable biological compounds such as epinephrine, norepinephrine, dopamine, serotonin, ascorbic acid, and more. This low-noise instrument detects redox currents ranging from 1 pA to 2 μ A while holding the phase surfaces. In addition, the membrane covalently binds proteins, so immobilized protein molecules cannot be washed away from its surface. The membrane is well suited for fabrication into in vitro immunodiagnostic and other assay products ranging from high volume automated systems to single use test kits. **Pall. Circle 140.**



working electrode at a constant voltage. The instrument's rise-time of less than 1 ms is especially useful in the study of neurotransmitter release. An output connector permits direct connection to a chart recorder, oscilloscope, or computer-based data acquisition system. World Precision Instruments. Circle 139.

_

Immobilizing Membrane

The Immunodyne ABC membrane is designed to covalently immobilize polyclonal and monoclonal antibodies, enzymes, peptide antigens (purified or genetically engineered), and aminoterminated oligonucleotides. This nylon membrane provides a greater binding capacity for proteins than traditional nonporous solid

.

DNA Extraction Kit

The SurePure DNA Extraction Kit purifies, concentrates, and desalts single-stranded and double-stranded DNA from agarose gels or solutions. The kit makes use of a silica matrix that reversibly binds DNA that is immediately ready for downstream applications. The kits can also be used to purify DNA from enzymatic reactions such as restriction digestion, ligations, and labeling reactions. **Embi Tec. Circle 141.**

Software Inserts Chromatography Data

ChromKeeper software allows users to insert chromatographic data into word processors, spreadsheets, and database files as object linking and embedding (OLE) objects. The chromatograms can be edited inside reports, presentations, or papers with tools designed for working with the data. For example, while in Microsoft Word and other applications, users can edit graphics simply by double-clicking on the image. The ChromKeeper tools appear and the user can then make the desired changes. OLE saves time because there is no need to convert graphics into another file format before inserting them into a document. **SoftShell. Circle 142.**

Transfection Reagent

LipoTAXI reagent is a novel liposome reagent that offers several advantages for transfection studies. It combines transfection efficiency with minimal cellular toxicity.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.

SCIENCE • VOL. 274 • 1 NOVEMBER 1996

NEN^A DNA Ligation, Cloning & Screening in 24 Hours!

Epicentre's new Fast-Link[™] DNA Ligation & Screening Kit greatly reduces the time necessary to clone DNA fragments and identify recombinants.

- Fast & Easy Ligation. DNA with restriction enzyme-generated cohesive or blunt ends are ligated in just 5 minutes. PCR products with 3' A-overhangs are ligated in 1 hour.
- Fast & Easy Screening. Using the exclusive Fast-Link In-Well Gel Screening reagents & protocol, colonies containing recombinant plasmids can be identified quickly without the need to grow cultures or perform minipreps.
- High Transformation Efficiencies. The Fast-Link Kit yields more transformants with a lower background.

Fast-Link™ Representative Results.								
		% White Colonies	Recombinants per µg DNA					
Overhang	5 min.	93	2.0 x 10 ⁶					
Blunt	5 min.	71	4.4 x 10 ⁵					
PCR product	1 hr.	68	1.2 x 104					

Call for further information on the Fast-Link Kit.

If you are not satisfied with any Epicentre product, we will refund your money.





...when you need to be sure of the quality

Outside of the U.S. contact the distributor in your country, or call 608-258-3080 or fax 608-258-3088. E-mail: techhelp@epicentre.com World Wide Web: http://www.epicentre.com Circle No. 17 on Readers' Service Card

PRODUCTS & MATERIALS

The LipoTAXI reagent yields consistently high transfection efficiencies (>8 in 10 cells), a tenfold increase over calcium phosphate/ diethylaminoethyl mediated transfection in many lines. It has been shown to be effective in more than 20 cell lines and primary cultures. **Stratagene. Circle 143.**

Autofluorescent Proteins

Autofluorescent Proteins are blue, green, or red tools for multiple tagging of fixed or living material for real-time assays of different target proteins. The assays can be performed simultaneously because there is no overlapping between excitation and emission spectra. Quantum Biotechnologies. Circle 144.

Eye and Head Movement Measuring System

The capabilities of the EyeTrace (ober2) system for measurement of rapid, binocular horizontal and vertical eye movement have been improved. The system can now be used in the fields of nuclear magnetic resonance magnets and remote operation is possible with extension cables of up to 50 feet. Special goggles are available for babies, infants, and other primates. It is also available with a low-cost head locator that measures head position, rotation, and tilt. **Permobil Meditech. Circle 145.**

Confocal Imaging System

The Meridian/TR Series is a laser scanning confocal imaging system designed with both an inverted microscope and the optimal efficiency of a single mirror path. With up to



five detectors, in conjunction with up to four simultaneous excitation lines, the series offers outstanding axial resolution and image quality with software based on Windows 95. Meridian Instruments. Circle 146.

Literature

Automated, Sanitary Process Chromatography Systems highlights the K-Prime 40 series of bioseparation systems. They provide flexible operations and built-in scalability with minimum effort for lab development applications and manufacturing. Amicon. Circle 147.

Nucleotide Photoaffinity Probes is a brochure on these products for life science research. Most of the probes are available unlabeled or labeled with ³²P. The purity of each product is determined by spectral analysis, thinlayer chromatography, and actual use in photolabeling applications. **Research Products International. Circle 148.**

Savant Instruments and Accessories is a catalog of vacuum concentration and drying equipment, including deep vacuum pumps, oilfree gel drying equipment, refrigerated vapor condensation traps for vacuum pump protection, equipment for freeze drying samples, and more. Savant Instruments. Circle 149.

Vistra Fluorescence Reagents is a data sheet on reagents for chemifluorescent detection of membrane-bound proteins using either mouse or rabbit alkaline phosphatase conjugates. The sheet includes an explanation of the principles of chemifluorescent detection. **Molecular Dynamics. Circle 150.**



Circle No. 50 on Readers' Service Card

Working with Congress: A Practical Guide for Scientists and Engineers

NEW SECOND EDITION

William G. Wells, Jr.

This new, updated edition of *Working with Congress* helps scientists and engineers communicate more effectively with Members of Congress and their staffs. These days, Congress exerts considerable influence over the future direction of science and technology, yet relatively few Members have any training or background in science and technology. Learn how Congress operates, the 17 cardinal rules for working with Congress, how to influence the legislative process, and how to initiate and maintain communications with Members and staff.

1996; 160 pages; \$15.95 (AAAS member price \$12.76) Purchase /handling \$4.00 per order AAAS Distribution Center PO Box 521 Annapolis Junction, MD 20701 Order by phone (VISA/MasterCard only) call 1-800-222-7809 or fax orders to 301-206-9789.



A SPECIAL ADVERTISING

SUPPLEMENT

In this special supplement, SCIENCE explores what biotechnology and pharmaceutical companies are doing to increase the number of minority scientists in their organizations.

Turn to page 830.



The new standard for manual dispensers: Multipette® plus mit

Combitip plus

Save time in series pipetting – with the Multipette plus

With the **Multipette plus** (US: Repeater TM Plus), Eppendorf has developed a manual dispenser which now sets a new standard even in research labs. This new system saves valuable time when pipetting long series and guarantees utmost reproducibility even for the smallest of volumes.

With its practical features, the Multipette[®] plus helps streamline work in your lab. You simply adjust the volume and can perform up to 100 dispensing steps per filling. Easy volume adjustment with Combitip recognition and an electronic display ensure superior operating convenience.

With the new **Eppendorf Combitips® plus**, a volume range from 1 µl to 10 ml can be pipetted. The positive displacement principle ensures contamination-free work.



Eppendorf - Netheler - Hinz GmbH · 22331 Hamburg · Germany · Tel. (40) 5 38 01-0 Fax (40) 5 38 01-556 · e-mail: eppendrf@eppendorf.com · eppendorf home page: http://www.eppendorf.com/eppendrf Brinkmann Instruments, Inc., One Cantiague Road, P.O. Box 1019, Westbury, NY 11590-0207 · Tel. 800-645-3050, Fax: 516-334-7506 Brinkmann Instruments (Canada) Ltd., 6670 Campobello Road, Mississauga, Ont. L5N 2L8 · Tel. 800-263-8715 · Fax: 905-826-5424

Circle No. 36 on Readers' Service Card



DISPLAY CLASSIFIED ADVERTISEMENTS

Call for rate and deadline information on display classified advertisements Email: science_displayads@aaas.org

> Bren Peters-Minnis **Recruitment Display Advertising** Telephone: (202) 326-6541 FAX: (202) 289-6742 Email: science_displayads@aaas.org

Janis Crowley Recruitment Advertising Manager Telephone: (212) 496-7704 FAX: (202) 289-6742

Debbie Cummings European Recruitment Advertising Telephone: +44 (0) 1223 302067 FAX: +44 (0) 1223 576208

For MEETINGS AND ANNOUNCEMENTS display advertisements, turn to pages 853, 877, and 880

LINE CLASSIFIED ADVERTISEMENTS

How to Submit a Line Classified Ad: Submit double-spaced typewritten copy. Do not include any abbreviations. SCIENCE will edit and typeset ads according to SCIENCE guidelines. Include billing information and desired publication date. Available categories: Positions Open, Meetings, Announcements, Courses and Training, Services. SCIENCE cannot provide proofs of typeset line ads. Line advertisements are not commissionable.

Estimates: SCIENCE will provide a cost estimate for line ads. This is an approximate cost only. Allow for variation between estimated lines and actual typeset lines and resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment.

For line advertising deadlines, call Eric Banks. Telephone: (202) 326-6555; FAX: (202) 289-6742. Email: 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, every classified advertisement submitted for publication in SCIENCE is automatically posted on SCIENCE's on-line classified advertising service, SCIENCE Professional Network, at no additional charge.

http://www.sciencemag.org

Mail, FAX or Email materials to: SCIENCE Classified Advertising 1200 New York Avenue, N.W., Room 911 Washington, DC 20005 FAX: 202-289-6742 Email: science_classifieds@aaas.org (please include your telephone number in Email)

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



A SPECIAL ADVERTISING SUPPLEMENT

In this special supplement, SCIENCE explores what biotechnology and pharmaceutical companies are doing to increase the number of minority scientists in their organizations.

ADVERTISER	PAGE
Argonne National Laboratory	833
Bristol-Myers Squibb Company	835
Chiron Corporation	845
Ernest Orlando Lawrence	
Berkeley National Laboratory	836
FDA	846
Genentech, Inc.	832
Genetics Institute	837
Howard Hughes Medical Institute	844
Pfizer Inc.	839
Roche Bioscience	840
Wyeth-Ayerst	841
Zeneca Pharmaceuticals	843



http://www.sciencemag.org

DIALOGUE ON



Diversity





- Attracting and Retaining a Truly Diverse Work Force in the Sciences
- The 1996 SCIENCE Diversity Career Day
- Diversity Efforts at Bristol-Myers Squibb, Genetics Institute, and the National Institutes of Health
- Redefining Diversity: The University of Colorado Health Sciences Center
- Tips for the Job-Seeker:
 - Preparing for the Interview
 - Negotiating a Job Offer

By John Timpane

n November 14 at the Crystal City Marriott in Arlington, Virginia, *SCIENCE* will sponsor the 1996 Diversity Career Day, at which employers, job-seekers, support organizations, and educators will discuss ways of bringing members of underrepresented groups into science. The morning of Diversity Career Day will consist of a series of career seminars, treating everything from preparing the résumé to negotiating the job offer. The remainder of the day will feature a career fair for employers and job-seekers.

Below, we hear of efforts toward diversity at the National Institutes of Health, the University of Colorado Health Sciences Center, Bristol-Myers Squibb, and Genetics Institute. And we hear of some important career development strategies—good for all scientists, especially for those from underrepresented groups. After decades of dialogue, where diversity is concerned there is still much to say.

continued

John Timpane, PhD, writes frequently on the biotechnology and pharmaceutical industries.



Will the discoverer's gender, race, sexual orientation, age or personal beliefs really matter?

It's the wide variety of scientific skills and talents that have made Genentech a pace setting organization and the only biotech company with five marketed products. If you have a commitment to high performance and the personal drive and ambition to succeed in our entrepreneurial environment, find out how you can contribute to our future growth. See us at the 1996 Diversity Career Day, Arlington, VA, November 14. If unable to attend, send your resume to Genentech, Inc., Human Resources Dept. SCI, 460 Pt. San Bruno Blvd., South San Francisco, CA 94080. If possible, please avoid bold, underline or italic type faces. You may also e-mail your resume indicating Dept. code to jobs@gene.com (ASCII files only, with a maximum line width of 76 characters). Genentech is an Equal Opportunity Employer.

Genentech, Inc. DIVERSITY WORKS.

www.gene.com

957

Argonne's Zero Gradient Synchrotron atom-smasher is authorized



Argonne Braille Machine developed

1987

Argonne develops world's first flexible ceramic superconducting wire

The next 50 are wide open

Argonne's Marie Goeppert-Mayer wins Nobel Prize for Physics

For half a century, Argonne National Laboratory has been home to some of the world's leading scientists – and the site for countless breakthroughs in energy, environmental, engineering and physical research. A key part of the Department of Energy's laboratory system, we provide freedom, support and powerful tools for our research groups as they pursue more than 200 projects of global significance.



Now, we offer you the opportunity to share your expertise with future generations as a member of our diverse and highly respected team. Send your resume to: Walter D. McFall, Box SCI '96, Employment and Placement, Argonne National Laboratory, 9700 S. Cass Avenue, Argonne, IL 60439. TDD: 630/252-7722. Home page: http://www.anl.gov/welcome.html An equal opportunity employer and a GEM employer

1995

First X-rays produced at Argonne's Advanced Photon Source

The Minority Grant Research Program at Bristol-Myers Squibb

on H. Harris, consultant in human resources for Bristol-Myers Squibb (BMS), is part of a large effort to seek out promising candidates from a range of backgrounds. BMS has been



among industry leaders in outreach programs, sending scientists to primary and secondary schools and getting young students to think about becoming scientists. "We've been working with local high schools and teachers for a long time, and that's important for the long run," Harris says. "We need to build up a better basis right from the primary school level - not just with minorities, but with everyone." Harris is also excited about the Minority Research Grant program, a new partnership between BMS and Rutgers University. Funded by a grant from BMS, the program consists of three phases. In the high school phase, the program seeks to identify and encourage promising minority students at local high schools. In the undergraduate phase, overseen by Francine Essien, Carnegie Professor of biochemistry at Rutgers, research laboratories at Rutgers are establishing partnerships with corresponding labs at BMS. In the summer of 1997, five Rutgers undergraduates will work as interns in BMS labs. In the graduate phase, a BMS fellowship will support a PhD candidate in his or her research at Rutgers. "As the program progresses," Harris says, "we'll develop a co-mentorship between BMS and Rutgers, encouraging graduate work in relevant fields, as well as encouraging consultation between scientists at Rutgers and BMS who are interested in similar lines of study."

Where the Minority Research Grant program emphasizes pure discovery research, the clinical route is served by the immensely successful Academic Medicine Fellowship Program for Minority Scientists. Now in its thirteenth year, the program supports clinical research by graduate scientists from a variety of ethnic and socioeconomic backgrounds, as well as those with physical disabilities. Nominated by the deans of 46 medical schools, the Academic Medicine Fellows work closely with BMS mentors. Near the end of the academic year, the Fellows travel to BMS to present their work in a grand symposium. The next symposium is scheduled for March 1997 in Princeton, New Jersey. "This kind of thing has to happen on a national level," Harris says. He believes that to have much hope of national impact, these programs need to be expanded and coordinated in some way: "There are a lot of good programs out there, but they're fractionated and local. If we had some way to bring them together and encourage good ideas, I believe you'd see things change more quickly."

The Culture of Diversity at The National Institutes of Health

George Redmond medical health physicist

vice president Black Scientists Association National Institutes of Health

here has been a concerted effort recently to increase the numbers of minority scientists here. The Black Scientists Association has been working with the division of intramural research at the NIH to look at creative ways of increasing the numbers and improving conditions for minority scientists. We have concentrated our efforts on recruitment, mentoring, and retention.

To improve recruitment, the division of intramural research is considering an educational office to coordinate recruitment efforts at NIH. A new database will help us track minority students, postdocs, senior scientists, and IRTA fellows as they move through their careers. We'll be posting job advertisements on media such as EDNET, the Internet, and the Fedix/ Molis System. We're also pushing for a more systematic way to identify faculty members from state institutions and historically black universities so they can steer people here. We're working to encourage greater collaboration between minority scientists here and those at other institutions. We're also suggesting that all institutes within the NIH provide opportunities for summer internships through programs such as Minority Access to Research Careers and Minority Biomedical Research Support.

Mentoring is a key component in the development of any scientist. To address the mentoring issue, we have suggested that a permanent position be established to develop a viable NIHwide mentoring program. Lab and branch chiefs should be evaluated on the extent to which they recruit, mentor, and retain African American, Native American, and Hispanic American scientists.

We've also been pushing to increase the visibility of minority scientists here. This will show the NIH science community that these scientists are doing credible research and contributing to the NIH mission, and it will attract other underrepresented minorities to come to work here. If minorities see minorities prospering, more will be encouraged to enter science careers.

The NIH is now engaged in a diversity congress initiative, which will address diversity throughout the campus. I think any diversity program should also address the issue of difference. It would be a good thing to focus on the qualities characteristic of different cultures and ethnicities; that would highlight the culture of diversity and broaden the community's awareness of and respect for different cultures.

continued

The Fellowship Program in Academic Medicine for Minority Students

Sponsored by Bristol-Myers Squibb Company Established by The Commonwealth Fund

The Fellowship Program in Academic Medicine for Minority Students provides opportunities for men and women of four underrepresented groups to explore careers in academic medicine and research. Fellows build upon their individual foundations in bio-medical research and join an invaluable professional network and support system.

> If you are approaching your second or third year of medical school and are of African-American, mainland Puerto Rican, Mexican-American or Native American descent, information can be obtained from: National Medical Fellowships Inc., 110 West 32nd St., 8th Floor, New York, NY 10001-3205. (212) 714-0933.



In Recognition of the 1996 Academic Medicine Fellows

Michael D. Alvarado Dartmouth, '98 David J. Brown Harvard, '97 Eric D. Brown UCLA, '98 Kelvin Brown Alabama, Birmingham, '98 Obed M. Cepeda Yale, '98 Frances L. Chavez UC, San Diego, '98 Diane C. Clarke Georgetown, '98 Garvin H. Davis Johns Hopkins, '97 Marco Antonio Diaz UC, San Francisco, '97 Michelle E. Duncan Michigan, '98 Victoria J. Edmond UC, San Diego, '97 Wayne J. Franklin UCLA, '97 W. Jay Gorum, II Hahnemann, '97 Melenda D. Jeter Virginia, '97 Darlene R. Johnson Hahnemann, '97 James C. Justice UC, San Francisco, '98 Richard C. Kelsey, II UNC, Chapel Hill, '98

Karen M. Kennedy SUNY, Syracuse, '97 **Christopher McGilmer** Washington, '98 Ursula D. Norfleet Meharry, '98 Maria A. Palafox Texas, San Antonio, '97 Stacey A. Patterson Temple, '98 Jerome Puryear Marshall, '97 Miguel A. Rivera Nevada, '98 Maria Elena Rodriguez De Lima Texas, Galveston, '98 Christopher J. Scott Howard, '98 Mychelle L. Shegog Stanford, '99 Gary B. Slaughter Meharry, '97 Karen A. Stanford New York, '97 Aaron K. Styer Vanderbilt, '98 Jeaniene A. Talley UCLA, '97 Mwatabu M. Terrell Vanderbilt, '98 Yvonne R. Venzen NYII '98 Jacqueline W. Winkelman Illinois, Chicago, '98

An education opens doors. Experience guides you through the threshold.

LAWRENCE POSTDOCTORAL FELLOWSHIP PROGRAM

LEARNING ABOUT SOME OF SCIENCE'S MOST AWE-INSPIRING ACHIEVEMENTS CAN BE AN AMAZING EXPERIENCE. NOW IMAGINE BEING PART OF THEM. AS A MEMBER OF THE **ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY**, YOU WILL HAVE THE OPPORTUNITY TO ENHANCE YOUR PROFESSIONAL DEVELOPMENT AS AN INTEGRAL MEMBER OF A LABORATORY RESEARCH TEAM IN YOUR FIELD OF EXPERTISE AND WORK WITH PROFESSIONALS FROM THE INTERNATIONAL COMMUNITY. IF YOU'D LIKE TO ENTER A NEW ARENA OF INTELLECTUAL DISCOVERY, WALK THROUGH OUR DOORS. WE ARE CURRENTLY SEEKING CANDIDATES IN THE FOLLOWING MULTIDISCIPLINARY AREAS:

ENERGY SCIENCES

Energy Sciences research at LBNL encompasses a wide spectrum that includes materials sciences, chemistry and earth science. Energy resources, energy conservation, waste disposal and the impact of energy technology on the environment are explored.

BIOSCIENCES

Through the development of biomedical instrumentation, studies of the intricate process of genomics, gene expression, and expanding efforts to link biological structure and function, Biosciences research plays an important role in understanding biological processes and controlling disease.

GENERAL SCIENCES

The General Sciences research programs build on LBNL's historical work in high-energy physics, increasing our fundamental understanding of the nature of matter and providing a scientific and educational base for other fields.

COMPUTATIONAL SCIENCES

The National Energy Research Scientific Computing Center (NERSC) provides high-performance computing services nationally and includes programs in Applied Mathematics, Scientific Computing and Future Technologies.

BERKELEY LAB IS PROUD TO BE AN EQUAL OPPORTUNITY EMPLOYER DEDICATED TO THE DEVELOPMENT OF A DIVERSE WORKFORCE. WE PARTICULARLY INVITE AND ENCOURAGE PROFESSIONALS OF ALL ETHNIC BACKGROUNDS TO CONSIDER MAKING INDIVIDUAL CONTRIBUTIONS TO OUR MULTIDISCIPLINARY RESEARCH ENVIRONMENT.

LOCATED IN THE BERKELEY HILLS, 15 MILES EAST OF SAN FRANCISCO, OUR HIGHLY DESIRABLE LOCATION OFFERS A VARIETY OF OUTDOOR RECREATIONAL ACTIVITIES, AN IDEAL CLIMATE AND EASY ACCESS TO THE DIVERSE, COSMOPOLITAN BAY AREA. FOR MORE INFORMATION ABOUT THESE OPPORTUNITIES AND OTHER RESEARCH AREAS, OR TO REQUEST A FELLOWSHIP APPLICATION PACKAGE, PLEASE E-MAIL US AT LAWRENCE-POSTDOC@LBL.GOV, FILL OUT AN APPLICATION ON OUR WEB SITE AT WWW.LBL.GOV OR SEND US A RESUME AT ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY, STAFFING OFFICE, BOX# SCI-LPF, ONE CYCLOTRON ROAD, MS 938A, BERKELEY, CA 9472O.



Berkeley Lab's primary mission is to perform basic research, develop research relationships with American industry and educate and train future scientists and engineers.



Science is a perfect example of the need for...and the value of...diversity.

By bringing different perspectives, different worlds of experience, different approaches, and different potential solutions to the challenges that face us, diversity helps us achieve success more quickly than uniform, lock-step approaches that prefer consistency to creativity, predictability to discovery.

As a global biopharmaceutical company recognized as a leader in the development of innovative, proteinbased therapeutics, Genetics Institute

recognizes the impressive results that diversity can produce.

But, at GI we don't just talk about it. We're dedicated to building strength through diversity with a highly supportive work environment that encourages individual contribution while fostering a strong spirit of collaboration, communication, and commitment throughout the Company. We take our responsibility to diversity even further with our scholarship, internship and outreach programs offered to schools, and enrichment programs that establish our employees as role models for young people...the scientists of the future. It is our strong desire to ensure that Genetics Institute continually be regarded as employer-of-choice among a wide and equally diverse range of people.

Our areas of involvement include coagulation therapy, genomics, immunology, tissue growth and repair, and small molecule drug discovery. Our portfolio of currently marketed



therapeutics, new product pipeline, and our constant drive to discover promising new products all create a rich diversity of challenges--and an impressive number of opportunities for achievement. Add your unique and valuable perspective on excellence and success to ours by exploring a career with us in one of the following areas:

Discovery Research Preclinical and Clinical Development Drug Formulation Quality Control Process and Product Development Mass Spectrometry

To be considered for current or future job openings, please forward resumes, suitable for scanning (see below), to: Human Resources Department, Genetics Institute, Inc., 87 CambridgePark Drive, Cambridge, MA 02140. Fax: (617) 876-8847.

Scannable resumes should be forwarded on plain white bond paper, using standard types and fonts, and no bold or italic print. When faxing resumes, please also mail an original copy.

Genetics Institute offers competitive salaries and benefits, including comprehensive healthcare, dental and life insurance, three weeks' paid vacation, 401(k), stock purchase plan, relocation assistance, tuition assistance, and an on-site exercise facility.

Genetics Institute is dedicated to building strength through diversity.

GENETICS TINSTITUTE Harnessing the Body's Power to Heal™

CAREER-BUILDING SKILLS FOR



Sharpening Interviewing Skills

Peter Lasky, manager of human resources, Genetics Institute

t's not politically correct to say this, but the minority candidate probably should take advantage of the fact that companies are trying to increase their minority populations. On your CV, put down school, fraternity, and group affiliations that signal your membership in underrepresented groups. Your competition will be playing up their advantages, so it's entirely appropriate that you should, too. In fact, we regard that as a positive.

A successful interview is the product of preparation as well as good on-thespot thinking. You can't have the latter without the former. Here are some tips.

- **Practice.** So many candidates come into interviews without really practicing their presentation skills. Get your peers and your advisors together to fire hard questions at you. If your English skills need work, sharpen them. Remember that you'll probably have to give presentations or seminars on your work to your prospective employers.
- **Be on Time.** Your interviewer is likely to be on a tight schedule. We want to give you the full benefit of the time allotted. If you fail to take advantage of that benefit, the impression is not good.
- **Look Good.** Sometimes people forget that showing up well groomed and well dressed is a plus. Even if the company's actual work environment is quite casual—as it is at Genetics Institute—the expectation at the interview is that you'll put your best self forward.

- Stay on Message. Answer questions succinctly. Don't ramble. Interviewers tend to doze off. Your job is to make sure they don't.
- Have a Short List of High Points. Be ready with the specific accomplishments, credentials, and qualifications that make you a good candidate for this job. Don't have twenty—have the three to five best ones and really harp on them.
- Give Your Interviewer Material to Take Away. Bring your publications. Mark them to show your contributions. Be prepared to guide the interviewer to key passages. It's always impressive if you can back up your claims with concrete evidence of your achievements.
- Ask Informed Questions. Do research on the company. It turns the interviewer off if the candidate really doesn't know anything about us. Ask, not naive questions, but questions arising from your research about the company.
- But Observe the 80/20 Rule. In successful interviews, the candidate drives the session, talking about 80 percent of the time. Make the most of your four fifths. Don't let the interviewer ramble. If you do, the next thing you know, your time is up.
- **Communicate Excitement.** As a company, we feel special, and it turns us off if someone isn't genuinely excited. We interviewed a woman last week who was third in line (in terms of credentials) for the job. But we just got so excited because she was excited. The hiring manager said, "I want her here. She'll be a great asset to our lab. She'll make it fun to come to work." You want people you want to work with.

Negotiating the Job Offer

Aundrie Botts, associate director, human resources, Bristol-Myers Squibb

s negotiating a job offer any different for people from underrepresented backgrounds? "In fact," says Aundrie Botts, "it has been our experience that people from certain backgrounds are not as familiar with what you might call 'the culture of interviewing.' They're not sure what's allowed. They may be less likely to do preparatory research, ask questions during the interview, or call us later. Most of all, they're less likely to be savvy about networking."

Less networked candidates may assume that it is somehow bad form to get information about the company before the interview. "Nothing could be further from the truth," Botts says. "In addition to finding out information on the company through public sources, job-seekers should try to network. Find people currently working for the company; that's the only way to get really good information. Ask them what it's like to work there, what the salary structure is, and how often you get reviewed. You'd be surprised how freely people will share this information."

Another myth is that the interview is your last chance to communicate with your interviewers. On the contrary, candidates routinely make follow-up calls to ask further questions and give further information. "We're quite familiar and comfortable with that," Botts says. "We can tell when a candidate has been asking insiders the right questions and now is coming back, challenging us (politely) continued Pfizer. It's a name recognized by anyone who's anyone in the scientific community. And while it's a name reputed for being one of the most productive and stable health care companies in the world, there's so much more you probably don't know about Pfizer.

> Since our founding in 1849, we've been building on a foundation of innovative research. Our dedication to R&D is one of the largest commitments made by any company in the health care industry. Since 1990, we've invested a total of \$5.8 billion in R&D, with 1996 expenditures expected to near \$1.7 billion. As a result, we've introduced six major new drugs in the U.S. in the last six years and have 63 drug candidates in various stages of development in our pipeline today. Our strength lies not only in these unprecedented numbers, but also in the unrivaled caliber of people we hire, the collegial, supportive environment we foster, and the constant array of challenges we empower our creative, energetic researchers to meet.

> > So while you know that Pfizer has secured the competitive edge in the global search for innovative, value-added solutions to unmet health care needs, we know that our supportive research environment is one in which you can develop your scientific and personal skills. Join us at Pfizer and get to know what it's like to be part of the cure. We have a variety of opportunities available in the following areas:

 Discovery
 Development
 Clinical Development
 Animal Health

In addition to on-site educational programs that shape our environment of constant learning, we provide competitive salaries, comprehensive flexible benefits, an accredited child care facility near our site, and generous relocation support. For immediate consideration, please forward resume suitable for electronic scanning (i.e., eliminate italics, bullets, bolds, underlines and staples) to: Employee Resources, Job Code #2018, Pfizer Inc, Central Research Division, Eastern Point Road, Groton, CT 06340. For more information, on current career opportunities at Pfizer Central Research, please visit our Web site: http://www.pfizer.com. We are an equal opportunity employer M/F/D/V.

of the

cure.



We're part

You've Heard Of Us. Now Get To Know Us.

Bioscienc

the future happens here first

Roche Bioscience offers an exciting environment of innovation in human pharmaceutical research. Situated in one of California's most vital technological regions, our Palo Alto campus presents a unique setting that combines the synergy of science and business to produce research that delivers results. Join our research-based enterprise as we discover important new medical therapies and create a future of industry firsts.

As an equal opportunity employer, we are committed to workforce diversity. We proudly offer ongoing career opportunities for Research Associates & Scientists in most areas of modern biology and chemistry, including these featured positions:

research scientists I/II

Inflammation & Immunomodulation

A Level I position is available for a Scientist to evaluate and generate new disease models, *in vivo*, related to inflammation and immunomodulation. Working toward the development of new animal models relevant to human inflammatory diseases, you will apply your broad-based expertise in physiology and biochemistry to characterize the mechanisms of observed pathology and therapeutics. Candidates should have a PhD and 2-4 years of relevant postdoctoral experience, including demonstrated proficiency in new animal model development. Degree emphasis in Pharmacology, Immunology, Physiology or Biochemistry preferred. Job# SCI1101KH-C

High Throughput Screening

This Level I position will support HTS activities, including the development and adaptation of new assays and HTS methods, using the latest available techniques. This will involve performing robot/pipetting station-based assays and reporting results in a timely manner. Candidates will have a PhD in Biochemistry with 2-4 years of relevant postdoctoral/industrial experience. Familiarity with setting up and running cell-free and cell-based assays is a must. PC/Mac proficiency is also required. Previous high throughput assay experience and knowledge of robotics are preferred. Job# SCI1101KH-B

Chemical Development

You will design, conduct and report research to solve synthetic organic chemical problems related to process development and scale-up. Additional duties will include: supervising others engaged in these activities; leading teams involved in the production of drug substances needed for proof of concept; conducting necessary literature searches; and writing pilot plant procedures, following GMPs. Candidates will need a BS/MS or equivalent in Chemistry with 10+ years of experience (Level I candidates) or 15+ years of experience (Level II candidates). Job# SCI1101KH-A

research associates I/II

Chemistry

You will prepare, purify and characterize organic compounds, analyzing data and experiment results to propose solutions and appropriate technology. You will also carry out synthetic procedures for target compounds, perform literature searches, and generate written reports. You will need a BS/MS degree or equivalent in Organic Chemistry with 0-3 years of relevant experience (Level I candidates) or a BS/MS with 3-5 years' experience (Level II candidates). Candidates must have a good knowledge of literature searches and should be familiar with all relevant synthetic and analytical techniques. Job# SCI1101KH-D

stop by our booth during the 1996 diversity career day

Located in the San Francisco Bay Area—close to Stanford University and near scores of biotechnology companies—Roche Bioscience offers a highly attractive salary, bonus plans, a full benefits package, including relocation assistance, plus a unique environment that rewards new ideas and courageous decision-making. If you would like to explore our opportunities firsthand, apply today by sending your resume to: Roche Bioscience, (indicate Job Number), 3401 Hillview Avenue, Palo Alto, CA 94304. Fax 415/424-8159.

you may also see us on the www at: http://www.roche.com/bioscience.
Our world of innovation, breakthrough science... and research possibilities without limit.

Leadingthe Way for a Healthier World

Wyeth-Ayerst Research is a major division of American Home Products Corporation, a Fortune 150 pharmaceutical research and development company, and a global pharmaceutical leader with expanded products, markets and research.

As we move into the twenty-first century, Wyeth-Ayerst Research is positioned to explore new technologies, innovative molecular approaches and evolving formulations that will give women and mankind a wide range of state-of-the-art pharmaceuticals and products to maximize efficacy, minimize side effect profiles and enhance ease of use.

We invite Discovery Research Scientists from B.S./M.S. to Ph.D. levels to join our world-class team conducting discovery research in areas such as Bioinformatics, Women's Health Care, Cardiovascular/Metabolic Diseases, CNS, Oncology/Immunology and Infectious Diseases.

We also encourage inquiries in Clinical R&D, Drug Safety and Metabolism, Pharmaceutical Science & Chemical Development, Regulatory Affairs, Biostatistics and Molecular Genetics, Computer Services and Information Management.

Join our efforts. Our four Discovery Research Centers of Excellence are located in Radnor, Pennsylvania, Princeton, New Jersey, Pearl River, New York, and Chazy, New York.

Contact: Wyeth-Ayerst Research, Human Resources Dept., Position #OPSCI-1196, P.O. Box 7886, Philadelphia, PA 19101-7886. FAX: (fine mode) 610-989-4854. e-mail: jobs@RAMAIL1.wyeth.com (ASCII format, no attachments, subject: resume). Principals Only. Equal Opportunity Employer, M/F/D/V.





because they now have inside information. Again, that's perfectly acceptable."

Minority candidates, like everyone else, want to know: What's appropriate? At your first (often your only) interview with human resource officers, it is common to ask about the structure of the department ("Ask to be shown a structural chart," Botts says), the career ladder, your place in that structure, the frequency of written reviews, and general information about pay (does the company provide stock options or bonuses? is the pay the same for all entry-level people at this level, or does that vary, and if so, what are the variables?). "Definitely ask about benefits," Botts says, "including whether there is a waiting period before benefits kick in. Ask about relocation reimbursements-especially if you're moving from far away."

Job and salary offers usually arrive by telephone, followed next day by a written offer sheet. Companies that still give a second interview use it to make the offer. In both cases, the first question to ask is, "How much time do I have to think about it?" There is no industry standard—although if you need to request more than 48 hours, you had better have a good, concrete reason. "Also tell the employer how long you'll need to come on board," Botts says. "Many people cannot get to a new job in the conventional two weeks. Let the interviewer know if that's the case."

If you're interviewing with other companies, say so. "Then they'll know up front that they'll have to compete to get you," Botts says, "which can work to your advantage." It is also appropriate to ask about the specific team or work group you'll be working with if you don't already know. Ask about pre-employment tests such as physical examinations and drug screenings.

So to the big question: Can you bargain? Many candidates do. Botts says that the most credible negotiations are based on one of two situations:

- you have an equal or higher offer from another company (make sure you have a FAX or copy of the offer sheet);
- you are moving from a low-cost-ofliving area to a higher one, and your research indicates that the offer would not be equal to your needs.

Networking also can create negotiating opportunities, Botts says: It is completely appropriate to ask, 'I know you've offered X dollars to a person at the same level recently. Can you explain why I'm not getting the same offer?' " Negotiation, even aggressive negotiation, rarely results in offers being withdrawn. "The very worst case," Botts says, "is that the company would come back and say, 'We're not prepared to increase the offer.'"

Botts returns to her first point: Create a strong network of associates, professors, referrals, and company contacts. Don't be afraid to ask questions or to negotiate. Become part of the culture.

A New Face for Diversity: The University of Colorado Health Sciences Center

rthur Gutierrez-Hartmann, director of the medical scientist training program and professor of medicine, biochemistry, biophysics, and genetics at the University of Colorado Health Sciences Center (UCHSC), says that "we've begun to take a broader, more inclusive view of the word *disadvantaged*. Besides the people we've always thought of, we now include



the rural student, the first-generation college student, and other groups." The point: "To find the qualified individuals who might never consider going into the sciences." Like other institutions, UCHSC is looking in its own backyard (Texas, New Mexico, Utah, and Colorado), contacting Native American, African American, Hispanic, and rural populations, looking for excellent students in local four-year colleges.

Is it really still that different for the minority scientist? Gutierrez-Hartmann, speaking from personal experience, assures us that it still can be. Many such scientists are very family- and locale-oriented. "It's hard enough to be the first in your family ever to go to college," Gutierrez-Hartmann says, "let alone go off to Harvard if you've never even been to summer camp." In families for whom money has never been plentiful, fear of debt may militate against a graduate career. Similar attitudes may explain why successful minority scientists choose medical and professional schools rather than graduate science programs. "Whoever has lived a life of lacking will see professional schools as ways to get out of their situation," Gutierrez-Hartmann says. "Convincing them to go to grad school or into an MD/PhD program is tough."

What can interested students do to help themselves? Seek out the best labs doing the science you want to do. Network. Gutierrez-Hartmann believes that minority and disadvantaged students are often not part of the networked culture. "Become involved as soon as possible with science clubs and other organizations that deal with the health and science professions," he says. "Visit colleges and universities in your area. Contact graduate students and faculty members. I certainly did."

The idea is not to cajole the less-than-qualified into a career for which they are not suited, but to identify individuals with both talent and enthusiasm. Grades often are not the best indicators of success. "We've seen some people get to med school here and take off like a rocket," Gutierrez-Hartman says, "and those are the people we're looking for—the people who become stars because they have the excitement, the fire." We are searching for the brightest and best scientists to join our international research team. These scientists will devote themselves to the discovery and development of innovative products to conquer currently unmet medical challenges.

Opportunities available in:

Bioinformatics, Genomics, Molecular & Cellular Biology, Combinatorial Chemical Technology, Medicinal Chemistry, Pharmacology, Information Technology

If you want to explore unparalleled scientific and technical opportunities, enjoy greater individual responsibility and flexibility with new scientific disciplines, and be an integral part of an outward-looking team with a leading, dynamic international bioscience company, please contact us now.

Together, we can bring ideas to life.

Join Our Innovative Pharmaceutical Research Team



Contact us at: Zeneca Pharmaceuticals 1800 Concord Pike Wilmington, DE 19850-5437 USA Attn: Darla F. Wilson Human Resources Department

Zeneca Pharmaceuticals Mereside Alderley Park Macclesfield, Cheshire U.K. SK104TG Attn: Simon A. King Human Resources Department



Zeneca is an equal opportunity employer.

Howard Hughes Medical Institute

Fellowships for Biological and Biomedical Sciences

The Howard Hughes Medical Institute announces the 1997 competitions for fellowship programs that support training in fundamental biological and biomedical research. Awards, based on international competitions, focus on research directed to understanding basic biological processes and disease mechanisms. Fellowships may be held at academic or nonprofit research institutions.

Predoctoral Fellowships in Biological Sciences

Up to five years of support for full-time graduate study toward a Ph.D. degree in biostatistics, cell biology, epidemiology, genetics, immunology, neuroscience, or structural biology. Applicants must not have completed the first year of postbaccalaureate graduate study in biology. *Application deadline: mid-November*.

Postdoctoral Research Fellowships for Physicians

Three years of support for training in fundamental research subsequent to at least two years of postgraduate clinical training and no more than two years of postdoctoral research training. *Application deadline: mid-December*.

Research Training Fellowships for Medical Students

An opportunity for medical students in the United States to explore a burgeoning interest in fundamental research. Support is awarded for one year of full-time fundamental research in a laboratory at the student's medical school or another institution (except NIH in Bethesda, Maryland). *Application deadline: early December*.

Research Scholars at the National Institutes of Health

Under this joint HHMI–NIH program, medical students in the United States spend an intensive year in research in the intramural program at NIH in Bethesda, Maryland. Residence is provided at the Cloister on the NIH campus. *Application deadline: early January*.

1997 Program Announcements and Applications

For Predoctoral Fellowships: Hughes Fellowship Program The Fellowship Office National Research Council 2101 Constitution Avenue Washington, DC 20418 United States of America Telephone (202) 334-2872 Fax (202) 334-3419 E-mail <infofell@nas.edu> http://www.nas.edu/fo/index.html For Other Programs: Howard Hughes Medical Institute Office of Grants and Special Programs Department AL97 4000 Jones Bridge Road Chevy Chase MD 20815-6789 United States of America Telephone (301) 215-8889 Fax (301) 215-8888 E-mail <fellows@hq.hhmi.org> http://www.hhmi.org/grants/graduate/start.htm

The Howard Hughes Medical Institute, an Equal Opportunity Employer, welcomes applications from all qualified candidates and encourages women and members of minority groups to apply.

Expanding Minds

mproving Bodies

We are currently recruiting for the following divisions:

- * Diagnostics
- * Therapeutics
- * Ophthalmics
- * Vaccines
- * Technologies

We have an immediate need for the following positions:

Director, QA/QC Regulatory Affairs & QA Box#1553 Director, Research Toxicology & Pharmokinetics

Box#1666

Associate Director, Clinical Box#1865 Associate Director, Development Box#1999 Associate Director, Methods Development & QC Box#1777

Associate Director, Research Box#2071 Prinicipal Scientist, Immunodiagnostics Box#96-041



"What if . . . ?"

Every cure known to man started with this simple question. Answering it is precisely how Chiron has pioneered one exciting biotechnology breakthrough after another.

Since 1981, our mission to end human suffering has placed us at the forefront of genetic engineering, diagnostic, therapeutic, vaccine and ophthalmic development. Nearly 7,000 employees worldwide are behind these and other remarkable accomplishments: bloodscreening products to prevent the transmission of disease, cancer treatments, the first effective treatment for multiple sclerosis and products to help physicians work with patients with vision disorders.

Are you ready to step into a challenging and intense environment? To team up with great scientific, business and marketing minds to develop innovative methods of detection, treatment and prevention of such major diseases as HIV, cancer, herpes and hepatitis? Then join us at Chiron, where creative, energized professionals thrive — and where our commitment is matched by an unyielding dedication to quality. Because lives depend on it.

The Time is now.

For individuals with experience in:

- * Research & Development
- * Information Systems
- * Engineering * QA/QC

Scientist, Development Analytical Chemistry Box#95288-1129 Specialist, Development Analytical Chemistry Box#1661 Specialist, Development Immuno Bioassay Development Box#2003 Associate Operator, Purification Box#2064 Bioinformatics Associate Box#2026 Biostatsistician Box#1909 Clinical System Administrator Box#1748

If you'd like to explore career opportunities with us, please send your resume, indicating Box #, to: Chiron Corporation, Human Resources, 4560 Horton Street, Emeryville, CA 94608. We are an equal opportunity employer.

BIOMEDICAL EMPLOYMENT OPPORTUNITIES

The Centers for Biologics and Drug Evaluation and Research are searching for outstanding physicians and scientists interested in a challenge by participating in the development and approval process for new biological and drug products. Physicians and scientists serve on multidisciplinary scientific teams of highly skilled professionals. Duties may include reviewing and evaluating investigational new drug applications and biological product license or new drug applications; reviewing proposed labeling; evaluating adequacy of the methods; facilities and controls used for approval or non-approval of applications. Some positions offer the unique opportunity to conduct biomedical research in combination with review responsibilities. These positions have a high degree of independence and involve complex medical, scientific, and regulatory issues. Opportunities for professional development may include further training, attendance at scientific meetings and conferences, and clinical activities.

QUALIFICATIONS: Physicians must have completed all requirements for a Doctor of Medicine or osteopathy degree from an accredited institution. Graduates of foreign medical schools must submit a copy of their permanent Educational Commission for Foreign Medical Graduates (ECFMG) certification. Physicians should be board eligible or certified in a primary specialty or have completed at least 4 years' residency training or possess equivalent experience. A background combining research experience with clinical medicine is preferred, along with specialty training and expertise in one or more of the following areas: oncology, infectious diseases, hematology, rheumatology, epidemiology, pediatrics, pulmonary diseases, allergy, immunology, parasitic diseases, pathology, pediatrics, pulmonary, gastroenterology, or related disciplines. For **scientists**, doctoral level degrees in biological or physical sciences, pharmacology, toxicology, or related disciplines, along with advanced training and/or experience in the development, manufacture, or testing of biologics, drugs and/or antibiotics, is desirable.

For all candidates, experience in the pharmaceutical industry along with computer applications would be desirable. In addition, candidates should have highly developed analytical, written, and oral skills, as well as the ability to research problems and issues and to use mature judgment in problem solving.

Candidates for Civil Service or Commissioned Corps appointments must be U.S. citizens. Candidates for Fellowships may be either U.S. citizens or resident aliens eligible for citizenship within four years.

LOCATION: Offices and laboratories are strategically located on the National Institutes of Health campus in Bethesda, Maryland, or in several locations throughout the Rockville, Maryland area.

SALARY: For **physicians**, Civil Service salary range for GS-13 through GS-15 is \$61,490 to \$95,531. Physicians may also be eligible for either a Physicians Comparability Allowance of \$4000 to \$20,000 per annum, or Physician Special Pay up to \$148,400 based on experience, qualifications, and medical specialty. For **scientists** (other than M.D.), Civil Service salary range for GS-11 through GS-15 is \$37,094 to \$95,531. Salary, benefits, research support, and level of responsibility are commensurate with education and experience. Also, positions may be filled by appointment in the U.S. Public Health Service, Commissioned Corps, or in the Fellowship Program, with commensurate salary and benefits.

HOW TO APPLY: Interested candidates should send a resume or C.V. with a letter of interest and a statement of regulatory/research interest to:

FDA/Center for Biologics Evaluation and Research 1401 Rockville Pike Suite 200N, HFM-121 Rockville, MD 20852-1448 ATTN: Recruitment (96026) FDA/Center for Drugs Evaluation and Research Metro Park North I, HFD-64 7500 Standish Place Rockville, MD 20855 ATTN: Recruitment (96004)

FDA is an equal opportunity employer and has a smoke-free environment.

R&D Research Scientist Nucleic Acid Chemistry

Promega Corporation, an established world leader in biotechnology and consistently recognized as one of the country's most progressive employers, has an immediate opening for an experienced R&D Research Scientist in Nucleic Acid Chemistry. This position will conceptualize and develop new products for the isolation of nucleic acids.

Candidates should have experience with experimental design and analysis of data necessary for developing and troubleshooting new protocols and experience presenting results to peers and professional societies.

Additional requirements for this position include an M. S. degree in the life sciences with 4-6 years experience in a clinical research or diagnostics lab; extensive experience with routine molecular biology methods including nucleic acid isolation (RNA and DNA), library construction, nucleic acid amplification techniques, hybridization and probe labeling systems.

Preference will be given to candidates with experience in the isolation of genomic DNA and RNA from clinical samples including saliva, sputum, stool, urine, and with experience in use of molecular techniques for diagnosis of cancer and infectious disease.

Promega, recently cited as one of "The Best Companies To Work For In Dane County" by In Business magazine and designated "Top 100 Companies for Working Mothers" by Working Mother magazine, strives to provide a rewarding work experience for our employees and unparalleled excellence, quality and prosperity in our business. We seek to preserve a balance between work and life activities, reflected in our on-site fitness and daycare facilities and comprehensive benefit package. To apply, please send a resume with salary requirements to: Promega Corporation, Human Resources (1100CS), P.O. Box 7879, Madison, WI 53707-7879. EOE

To hear about current employment opportunities, please call our Career Opportunities Line at (800) 356-9526 or visit our home page at www.promega.com



Many innovators with a single focus: developing tomorrow's diagnostic and blood screening tools.

Ortho Diagnostic Systems Inc., a Johnson & Johnson company, provides laboratories with complete solutions to meet their diagnostic and blood screening needs. Our products and services play a key role in global health initiatives and disease prevention efforts. We measure success by the number of lives we save.

As a result of rapid growth in the demand for the diagnostic systems that help prevent the spread of debilitating diseases and protect the safety of the world's blood supply, we now have a number of openings — at levels from Associate and Assistant Scientists to Group Leaders and Managers — in the Research and Development Department of our AIDS/Hepatitis and Infectious Diseases Business Unit.

We are looking for gifted professionals with a background in one of the following areas of specialization:

- Peptide Chemistry
- Biochemistry
- Assay Development
- Infectious Disease
- Project Management

At ODSI, we encourage a team approach and expect you to be comfortable in an open environment where ideas are shared, contributions are expected and outstanding performance is rewarded. Depending on your experience, a BS, MS or PhD is essential, and the ability to communicate in a multidisciplinary environment is also key to success.

Located in scenic central New Jersey, ODSI offers easy access to a broad range of cultural, recreational and educational opportunities in nearby Princeton as well as Manhattan and Philadelphia. In addition, we provide competitive salaries and comprehensive benefits, including medical/dental insurance, 401(k) plan, tuition reimbursement and our LIVE FOR LIFE Wellness Program with on-site fitness center. You'll also enjoy the unique advantages of a career with a company that understands the importance of balancing work and family, and has consistently been named by Working Mother magazine as one of the top places to work. We are also a proud recipient of the 1996 National Medal of Technology, the nation's highest technology honor.

To apply or for additional information, please forward a copy of your resume to: Dept. 992, P.O. Box 16597, New Brunswick, NJ 08906-6597. We are an equal opportunity employer and support diversity in the workplace.

Ortho Diagnostic Systems Inc. A Johmon Johmon COMPANY

1996 National Medal of Technology Winner

COLLEGE OF ENGINEERING UNIVERSITY OF WASHINGTON Scattle, Washington

Department of Materials Science and Engineering

The Department of Materials Science and Engineering at the University of Washington seeks to fill a tenured **FULL PROFESSOR** position, with the expectation that the successful candidate will also accept an appointment to serve as Chair of the Department, effective July 1, 1997. We are a broad-based materials department with undergraduate and graduate degree programs and a faculty of 15. The Search Committee is open to outstanding candidates in any field of materials science and engineering. A strong record in research and a strong interest in education is essential; previous administrative experience is not essential. Candidates should send a curriculum vitae, a list of publications, and a list of references to:

Professor J. W. Rogers, Jr., Scarch Committee Chair Department of Chemical Engineering University of Washington Box 351750 Scattle, WA 98195-1750

The search will be initiated as applications are received and screening of candidates will continue until the position is filled.

The University of Washington is building a culturally diverse facility and strongly encourages applications from female and minority candidates. The University is an Equal Opportunity/Affirmative Action Employer.

VERTEBRATE NUTRITIONAL PHYSIOLOGIST/ECOLOGIST

The Department of Biology and Wildlife and the Institute of Arctic Biology, University of Alaska Fairbanks, seek a tenure-track faculty member at the ASSISTANT PRO-FESSOR level. Candidates are expected to have an earned doctorate, expertise in both laboratory and field research. and interest in working at levels from molecular to the whole animal. The successful candidate will be expected to develop a strong externally funded research program, mentor graduate students, and teach two courses per year, including Nutritional and Physiological Ecology of Wildlife. Extensive facilities are available: captive herds of muskox and caribou, field station north of Arctic Circle, vivarium, and DNA sequencing facility. We encourage candidates with the potential to form collaborative research programs with applied resource agencies and existing faculty having interests in physiological and ecological adaptation to northern environments, molecular biology, and rumi-nant physiological ecology. The possibility exists for a shared tenure-track position for candidates with spouses Preference will be given to candidates with postdoctoral and university teaching experience, and a strong publication record. To apply send curriculum vitae, statements of research interests and teaching philosophy, and copies of pertinent reprints, and have three letters of reference sent by 15 December 1996 to: James Sedinger, Search Chair, Institute of Arctic Biology, University of Alaska Fairbanks, Fairbanks, AK 99775.

THE JOHNS HOPKINS UNIVERSITY BIOPHYSICS

As part of a programmed expansion, the Thomas C. Jenkins Department of Biophysics plans to appoint a faculty member, most likely at the **ASSISTANT PROFES-SOR** level, with research interests involving the experimental biophysics of macromolecules. Training emphasizing a quantitative approach to problems of biological interest is an important qualification.

Possible research areas include, but are not limited to: spectroscopy; membrane biophysics; macromolecular structure; kinetics and energetics; and mechanotransduction.

To apply, please send curriculum vitae, a brief description of your research plans, and the names of three references to:

> Eaton Lattman, Chair T. C. Jenkins Department of Biophysics Johns Hopkins University 3400 North Charles Street Baltimore, MD 21218 Telephone: 410-516-7245

Additional information can be obtained from Eaton Lattman, Email: Ed.Lattman@qmail.bs.jhu.edu. Applications should be received by November 30, 1996.

Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer and actively encourages applications from minorities and women.

POSITIONS OPEN

Zoologist. The Department of Biological Sciences, Southern Illinois University at Edwardsville (SIUE), invites applications for a tenure-track po sition in zoology at the ASSISTANT PROFES-SOR level. We seek applicants with broad training in zoology and with a research interest in the inter actions between animals and their environment. We particularly seek candidates who will have a strong commitment and continuing interest in teaching zoology at the introductory level. Teaching responsibility will include first-year zoology, participation in general education courses, and de velopment of courses in the candidate's research area. Candidates should exhibit potential for independent and innovative research and teaching of undergraduate and Master's students. Qualifications: a Ph.D. in zoology, biology, or related discipline; teaching and postdoctoral experience strongpreferred. To apply, send a letter of application with a statement of your teaching and research interests, curriculum vitae, university transcripts, names and addresses of three persons who will serve as references, and reprints of no more than three publications to: Chair, Zoology Search Committee, Department of Biological Sciences, Box 1651s, SIUE, Edwardsville, IL 62026-1651. Review of applications will begin January 1, 1997 As an Affirmative Action Employer, SIUE offers Equal Employment Opportunity without regard to race, color, creed or religion, age, sex, national origin or disability.

The Department of Chemistry, University of Louisville, is seeking highly qualified applicants for a tenure-track position in the area of biochemistry. The position will be at the ASSISTANT PROFESSOR level. It is anticipated that the individual will establish a competitive research program in any of the following areas: structural biology, biocatalysis, biomaterials, or bioanalytical chemistry. Research interests should complement established research within the Departments of Chemistry and Biochemistry, which include chemical catalysis, peptide chemistry, X-ray crystallography, biophysical and bioinorganic chemistry, and molecular biology. Principal teaching responsibilities will be in graduate and undergraduate biochemistry courses taught jointly by the Chemistry and Biochemistry Departments. The University of Louisville is a major metro-politan university with 22,000 students. The Chemistry Department is located on the Belknap campus and offers B.S., M.S., and Ph.D. degrees. The Biochemistry Department is nearby in the University's medical school, which has made a strong financial commitment to research excellence. This position has a starting date of August 1997 with evaluation of applications beginning on December 15, 1996. Applicants must have a Ph.D. by start date and should arrange for a curriculum vitae, an official transcript of doctoral studies, a description of research plans, and three letters of recommendation to be sent to: Faculty Search Committee, Department of Chemistry, University of Louisville, Louisville, KY 40292. Information regarding the department is available at our web site: ww w.louisville.edu/a-s/chemistry or by Telephone: 502-852-6798. African-Americans, women, and other minorities are especially encouraged to apply.

UNIVERSITY OF UTAH Department of Biochemistry

A tenure-track position is available for autumn 1997 in the general areas of structural or mechanistic biochemistry. We are looking for strength and originality in the characterization of biological macromolecules and elucidation of their mechanisms of action. Applicants should hold a doctoral degree and have a strong record of research accomplishment. Preference will be given to applicants at the level of **ASSISTANT PROFESSOR**, but candidates at more senior ranks may also be considered. The successful candidate will join an interactive and diverse faculty, and will participate in campus-wide training programs.

Send curriculum vitae, a statement of research background and interest, and three letters of recommendation to: Dr. Dana Carroll, Faculty Search Committee, Department of Biochemistry, University of Utah School of Medicine, Salt Lake City, UT 84132 U.S.A. Deadline for applications is December 15, 1996; late applications will be considered if an opening is still available. *The University of Utah is an Equal Opportunity/Affiniative Action Employer, and seeks to provide equal access to its programs, services and activities to people with disabilities.*

POSITIONS OPEN

FACULTY POSITIONS IN BIOLOGY

The Department of Biology, College of Charleston, invites applications for four tenure-track positions at the **ASSISTANT PROFESSOR** level to begin August 1997. Candidates must possess a Ph.D. and a strong commitment to teaching and research. The College of Charleston is a public liberal arts institution of 10,000 students. The College's primary aims are teaching and research excellence. The Department of Biology offers programs leading to the B.A. in biology or the B.S. in biology or marine biology, the M.S. in marine biology, and the M.S. in environmental studies. Information on the Department can be found at http://www.cofc.edu/~biology/biology.htm. The positions and potential teaching responsibilities are: Plant Physiologist (plant physiology, general botany, general biology), 1chthyologist (biology of fishes, evolution); Developmental biologist (vertebrate embryology, developmental biologist (general biology); Vascular Plant Evolutionary Biologist (general botany, plant taxonomy, plant anatomy). Applicants for this position must have research interests at the whole-plant level.

Applicants should submit a curriculum vitae, statement of teaching and research interests, copies of relevant publications, and three letters of reference to: **Chair, Department of Biology**, (position title) **Search Committee, College of Charleston, Charleston, SC 29424**. All application materials should be received by January 3, 1997. The College of Charleston is an Equal Opportunity/Affinative Action Employer and encourages applications from women and minoities.

ASSISTANT/ASSOCIATE PROFESSOR BEHAVIORAL NEUROSCIENCE

FACULTY opening in the Department of Behavioral Neuroscience, School of Medicine, Oregon Health Sciences University (OHSU). The appointee would join the faculty at OHSU and affiliated faculty colleagues at the Portland VA Medical Center in offering Ph.D. and postdoctoral training in biopsychology and neuroscience supported by NIH training grants and individual research grants. Candidates should have a Ph.D. degree, postdoetoral experience, and demonstrated ability to conduct independent research in an area complementary to current faculty interests. The specific area of expertise is open, but of particular interest is someone studying learning and memory, behavioral endocrinology, and/or development. This is a non-tenure-track position that would require the appointee to eventually provide a portion of his or her own salary support. Candidates should send curriculum vitae and statement of research interests, and should arrange to have three letters of recommendation should alrange to have infect effets of recommendation sent to: Tamara Phillips, Ph.D., c/o Ginger Ash-worth, Department of Behavioral Neuroscience L470, Oregon Health Sciences University, 3181 SW Sam Jackson Park Road, Portland, OR 97201-3098, Website: http://www.ohsu.edu/somBehNeuro/ Interviews will begin in mid-January 1997. OHSU is an Affirmative Action/Equal Opportunity Employer.

NORTHWESTERN UNIVERSITY Molecular Pharmacology and Biological Chemistry Faculty Position

The successful candidate will have demonstrated expertise in protein X-ray crystallography and outstanding potential as an independent scholar. Preference will be given to candidates whose programs complement existing strengths in the Department and the University. Research interests may include, but are not restricted to, the use of structure-based approaches in the area of signal transduction and drug discovery. This full-time, tenure-eligible position is expected to be filled at the ASSISTANT **PROFESSOR** level, but highly qualified candidates at a more senior level will be considered. The proposed starting date for this position is September 1, 1997. In order to ensure full consideration, applications must be received by December 15, 1996.

Applicants should send a curriculum vitae, a one-page summary of previous research, a two-page summary of planned research, and copies of their most significant publications. Also, please arrange for five letters of reference, at least two of which are from individuals without a collaborative or mentor relationship, to be sent to: **Wayne F.** Anderson, Search Committee Chair, Department of Molecular Pharmacology and Biological Chemistry, Northwestern University, 303 East Chicago Avenue, Chicago, IL 60611-3008.

Northwestern University is an Equal Opportunity/Affirmative Action Employer. Hiring is contingent upon eligibility to work in the United States. Women and minorities are encouraged to apply.



Support facilities at this institution are exceptional, and the research environment is highly interactive, both within the Research Hospital (including the Department of Developmental Neurobiology) and at the nearby UT Medical School. This position will provide an outstanding opportunity for training in molecular neurobiology.

This position is available immediately, and interested candidates should send a curriculum vitae and 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 38101. e-mail: peter.mckinnon@stjude.org AA/EOE

RESEARCH OPPORTUNITIES

Arngen, the world's largest biotechnology company, currently has the following exciting opportunities within its **Boulder**, **Colorado** facility.

Research Scientist

Working in a multi-disciplinary team you will work on cell and tissue events related to the inflammatory process. Will study the mechanism of drug action, screening, lead compound evaluation, cytokine regulation, and signal transaction pathways. You will also develop and lead novel mechanism-based drug discovery projects. The requirements for this position include a Ph.D. in Life Science (pharmacology, molecular biology, physiology, cell biology or biochemistry), and typically 5 years related research experience in a laboratory setting. The successful applicant will have experience with small molecule drug discovery, molecular mechanism of drug action, anti-inflammatory drug experience, and industrial experience. Proven leadership skills are a must. Job Code: BPSC-8698

Laboratory Head

This is a leadership position in the Molecular Biology Research group for the following: identification, cloning, expression, and mutation of genes involved in the inflammatory process; considerable emphasis on identification of new tragets for small molecule drug discovery; signal transduction; endothelial cell and macrophage activation; differential expression and yeast 2-hybrid technology. The requirements for this position includes a Ph.D. in Molecular Biology or related field, and typically 7+ years of related work in a research or laboratory setting. Must have have strong supervisory and project leadership skills, and proven technical expression in the areas listed above. Job Code: BPSC-8697

Research Associate

This position will be responsible for synthesis and purification of small organic molecules, interfacing with solid phase synthesis, and scaling up to multigram quantities. The requirements include a Bachelor's Degree in Chemistry or related filed, with a Master's Degree preferred, and 4 or more years related experience. The successful applicant will possess strong organic and synthetic skills. Job Code: BPSC-8656

Research Associate

You will conduct experiments, organize data, analyze results, and be involved in establishing pre-clinical models of Rheumatoid Arthritis. To qualify you'll need a Bachelor's Degree in Immunology, Microbiology or related field, with a Master's in Immunology strongly preferred, and 5 or more years related post-graduate research experience. Required skills/experience include: pre-clinical models; ELISA; tissue/cell cultures, and molecular biology (ie. isolation of RNA/DNA). Experience with transgenics or knockouts is a plus. Job Code: BPSC-5443

Research Associate

Working in a multi-disciplinary team you will work on cell and tissue events related to the inflammatory process and study the mechanism of drug action, screening, lead compound evaluation, cytokine regulation, and signal transaction pathways. Will assist in the development of novel mechanism-based drug discovery projects. The requirements for this position include a Bachelor's Degree in Life Sciences (pharmacology, molecular biology, physiology, cell biology or biochemistry), and typically 4 years related research experience in a laboratory setting. The successful applicant will have experience with small molecule drug discovery, molecular mechanism of drug action, anti-inflammatory drug experience, and industrial experience. Proven leadership skills essential. Job Code: BPSC-8671

Research Associate

You will be responsible for the day-to-day preparation of a GMP cell banking facility including preparing and testing of microbial cell banks, documentation, stability testing, and support of manufacturing, process development, process validation, and regulatory. Requirements for this position include a Bachelor's Degree or equivalent in a Biological Science. Familiarity with aseptic technique and strong organizational skills with an emphasis on record keeping, attention to detail, and time management are required. One to four years of experience in microbiology highly preferred. Familiarity with GMP operations (Manufacturing, QA or QC) would be a plus. Some experience using computerized databases is also desired. Job Code: BPSC-10028

We recognize that diverse perspectives are a key factor in the process of discovery.

At Amgen, you'll find our approach as rewarding as it is effective. We offer a highly competitive compensation and benefits package. Please mail your resume to: Amgen, Boulder, Human Resources, Job Code:_____, P.O. Box 19409, Boulder, CO 80308-2409. Please consult our on-line Job Bulletin Board at http://www.bio.com or call our Job Hotline at 800-446-4007 for information on other career opportunities available at Amgen. Principals only, please.

EEO/AA Employer M/F/D/V.



VERTEBRATE BIOLOGIST AND AQUATIC ECOLOGIST

The Department of Biology at Middlebury College invites applications for two entry-level TENURE-TRACK positions, the first definite and the second possible, beginning September 1997. These positions are for 1) a vertebrate biologist who has interests in behavioral physiology and could teach courses in animal behavior, animal physiology, and vertebrate biology, and 2) an aquatic field ecologist (pending approval of position) who could teach courses in general and advanced ecology. Appointments will be made at the rank of Assistant Professor. Candidates should provide evidence of commitment to excellence in teaching and scholarship. Send letter of application that includes a statement of both teaching and research interests, curriculum vitae, copies of undergraduate and graduate transcripts, samples of scholarly work, and three current letters of recommendation (under separate covers) to either: Dr. Thomas Root, Chair of the Vertebrate Biology Search Committee, or Dr. Stephen C. Trombulak, Chair of the Aquatic Ecology Search Committee, Department of Biology, Middlebury College, Middlebury, VT 05753. Review of applications will begin 15 December 1996. *Middlebury College is an Equal Opportunity* Employer, and it encourages applications from women and members of minority groups.

ASSISTANT OR ASSOCIATE SCIENTIST SILVICULTURE, FOREST ECOLOGY Joseph W. Jones Ecological Research Center Ichauway

The Joseph W. Jones Ecological Research Center at Ichauway invites applications for the position of **ASSIST-ANT** or **ASSOCIATE SCIENTIST** in Silviculture and Forest Ecology (available May 1, 1997). Responsibilities include research for understanding ecological controls with the management of coastal plain forests and related multidisciplinary research efforts (60 to 70%) and participation in education programs of the Center (30 to 40%). Qualifications include a Ph.D. in forest resources, ecology, or a related field.

Compensation package is competitive and commensurate with experience. Letters of application, résumé, and names of three references should be mailed by January 15, 1997 to: Dr. Robert J. Mitchell, Search Committee Chair, Jones Ecological Research Center, Ichauway, Route 2, Box 2324, Newton, GA 31770. Telephone: 912-734-4706; FAX: 912-734-4707.

ASSISTANT OR ASSOCIATE SCIENTIST WILDLIFE ECOLOGY Joseph W. Jones Ecological Research Center Newton, Georgia

The Jones Ecological Research Center invites applications for **ASSISTANT** or **ASSOCIATE SCIENTIST** in Wildlife Ecology (available May 1, 1997). Responsibilities include research for non-game and game wildlife species (60 to 70%) and conservation, education, and service (30 to 40%). Qualifications include a Ph.D. in wildlife biology/ecology, population or community ecology, or related field.

Compensation package is competitive and commensurate with experience. An application letter, résumé, and names of three references should be mailed by January 15, 1997 to: Dr. William Michener, Search Committee Chair, Jones Ecological Research Center, Route 2, Box 2324, Newton, GA 31770. FAX: 912-734-4707; Telephone: 912-734-4706.

FIELD BIOLOGIST/ANIMAL ECOLOGIST

The Department of Biology at the University of Richmond, a highly selective, private liberal arts institution, invites applications for a tenure-track ASSISTANT PROFESSOR position to begin August 1997. We seek Ph.D. applicants with broad interests in areas such as conservation biology, population ecology, or behavioral ecology. Primary teaching responsibilities include courses in the biology core program and in the specialty area. Development of a research program that actively engages both undergraduates and Master's students is expected. Applicants should submit a curriculum vitae, statements of teaching philosophy and research interests, copies of graduate and undergraduate transcripts, and a sample of writings, and have three letters of recommendation sent directly to: Dr. Valerie M. Kish, Department of Biology, University of Richmond, VA 23173-9998. FAX: 804-289-8233; Email: Kish@urvax.urich.edu. To ensure full consideration, applications should be received by December 6, 1996. The University of Richmond is an Equal Opportunity/ Affirmative Action Employer and strongly encourages women and minorities to apply for its positions.

POSITIONS OPEN

Biology Educator. The Department of Biological Sciences, Southern Illinois University at Edwardsville (SIUE), invites applications for a tenure-track position in biology education at the AS-SISTANT PROFESSOR level. The Department and SIUE are committed to quality undergraduate education and to creative scholarship. Duties include shared responsibility for a science education course, a methods course in secondary biology, advisement of biology secondary education majors, and supervision of student teachers. Candidates should have teaching and research experience and should exhibit the potential for independent and innovative research in biology education. The successful candidate will work with faculty in the Office of Science and Math Education to improve pre-college education. Qualifications: a Ph.D. in biology with substantive credentials in education or a doctoral degree in education and an M.S., or the equivalent, in some area of biology. To apply, send a letter of application with a statement of your teaching and research interests; curriculum vitae; university transcripts; and names, addresses, and telephone numbers of three references to: Chair, Biology Educator Search Committee, Department of Biological Sciences, Box 1651s, Southern Illinois University Edwardsville, Edwardsville, IL 62026-1651 Review of applications will begin January 1, 1997 As an Affirmative Action Employer, SIUE offers Equal Employment Opportunity without regard to race, color, creed or religion, age, sex, national origin or disability.

FACULTY POSITIONS Department of Microbiology

The Department of Microbiology at the University of Colorado Health Sciences Center invites applications for one or more ASSISTANT, ASSOCIATE, or FULL **PROFESSOR** positions available July 1, 1997, in the molecular biology and pathogenesis of bacterial, viral, or other microbial infections. Major responsibilities include development of excellent independent research programs and team teaching of courses for medical, dental, and graduate students. Candidates for senior positions must have an established record of research productivity and funding. Research environment and start-up support are excellent. Faculty rank, tenured/tenure-track status, and salary are commensurate with training and experience. Minimal requirements include a doctoral degree (Ph.D., M.D., or equivalent) and at least two years of postdoctoral experience. Submit curriculum vitae, bibliography, description of research interests, summary of active and pending research grants, copies of major publications, and names of three professional references 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 begins December 1, 1996, and will 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.

The Gene Therapy Center at the University of North Carolina at Chapel Hill, with support from the Lucille P. Markey Foundation, is seeking to recruit into tenure-track positions at the ASSISTANT PROFESSOR level. The individuals will join a multidisciplinary group of scientists interested in problems involved in molecular medicine that include, but are not limited to, genetic diseases of bone marrow, liver, lung, and brain, including AIDS and cancer. The Gene Therapy Center has both active basic research and clinical research components. Individuals at a Ph.D. and/or M.D. level and with strong backgrounds in DNA recombination, artificial chromosomes, cellular differentiation, and gene expression are particularly encouraged to apply. Successful candidates will be expected to establish an independent extramurally funded research program and to interact with members of the Gene Therapy Program. Interested applicants are asked to submit a curriculum vitae, descriptive of research interests, and names of three references. Please respond to: Dr. Jude Samulski, Gene Therapy Center, CB7352, University of North Carolina at Chapel Hill, School of Medicine, Chapel Hill, NC 27599-7352. Applications accepted up to time of actual selection. The University of North Carolina at Chapel Hill is an Equal Opportunity Affirmative Action Employer. Women and minorities are encouraged to apply.

POSITIONS OPEN

PHYSIOLOGIST

The Department of Physiological Sciences, College of Veterinary Medicine, University of Florida, is seeking ap-plications for a tenure-track, ASSISTANT PROFES-SOR level position in systemic physiology. Instructional activities will include developing course materials and teaching systemic physiology in D.V.M. curriculum and graduate courses. The successful candidate will participate in graduate and/or postdoctoral training programs as appropriate. This person is expected to develop a productive, extramurally funded program of research. A Ph.D. degree with postdoctoral experience is required. D.V.M. degree or equivalent is desirable. Individuals with re-search expertise in exercise physiology, cardiopulmonary physiology, or muscle physiology are preferred. Interest-ed individuals should send a letter of application, their curriculum vitae, and names and addresses of three individuals who may serve as references to: Dr. Paul Davenport, Search Committee Chairman, Department of Physiological Sciences, College of Veterinary Medi-cine, P.O. Box 100144, University of Florida, Gainesville, FL 32610-0144. The deadline for applications is December 15, 1996, with an anticipated start date of July 1, 1997.

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

ASSISTANT PROFESSORS GENETICS MICROBIOLOGY

TENURE-TRACK (Ph.D.) beginning August 1997, contingent upon funding. More information about the department: http://www.wiu.edu/users/mibiol/. 1) Bacterial Physiologist with a research program in fermenpartment: tation who will teach introductory microbiology, a fermentation laboratory course, bacteriology, microbial ecology, physiology, and biology. microbial general 2) Geneticist with a research program in ecological or developmental genetics who will teach introductory genetics, molecular biology, and general biology, and will develop course(s) in area of expertise. Preference will be given to persons with a research program in plant genetics. Appli-cants for both positions will be directing M.S. candidates and must demonstrate successful teaching at the undergraduate level. Deadline for applications: December 16, 1996. Send transcripts, curriculum vitae, publications, statements of teaching/research interests, and three reference letters to: Dr. L. M. O'Flaherty, Chair of Biological Sciences, Western Illinois University, 1 University Circle, Ma-comb, IL 61455-1390. FAX: 309-298-2270; Email: LM-OFlaherty@wiu.edu. Western Illinois University is an Affirmative Action/Equal Opportunity Employer.

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 membrane biology or cell signaling. Integrative biology research using cell and molecular biological approaches to investigate higher order physiological systems is also of interest. However, the excellence of the successful candidate is more important than the particular area of research. These positions are part of the continuing growth of this dynamic Department. Applicants should submit a curriculum vitae and a brief statement of research plans, and should 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.

Biology—Tenure-track, **ASSISTANT PROFESSOR**, in plant biology, to teach undergraduate courses in several of the following areas: introductory biology, botany, genetics, ecology/field biology, and area of expertise. Other duties include directing undergraduate research, academic advising, and developing interdisciplinary teaching and research programs. Preference given to candidates with a commitment to undergraduate education and research interests compatible with student involvement. Ph.D. in appropriate field required.

Send letter of application, curriculum vitae, official transcripts, and three letters of reference by December 2, 1996, to: Dr. John S. Chandler, Biology Search Committee, University of Pittsburgh at Bradford, Bradford, Bradford, PA 16701-2898. Affirmative Action/Equal Opportunity Employer.

Bayer area

Pharmaceutical Division

Bayer Corporation, Pharmaceutical Division, located near Raleigh, NC is seeking to establish new research teams specializing in Process Research and Development to meet the needs of our expanding Biological Products business. Several scientific openings exist.

PROCESS RESEARCH SCIENTISTS

These positions will be dedicated to accelerated design and development of processes for new therapeutical proteins from human plasma. Positions require either an M.S. or Ph.D. in Biochemistry, Chemical Engineering, or a related field, with different experimental requirements as posted below. Successful candidates will have demonstrated their expertise as team-oriented scientists in state-of-the-art **protein purification** technologies in a GMP/GLP environment. Candidates will be responsible for the manufacture of experimental materials for pre-clinical and Phase I safety evaluation. Significant collaborations with academic research laboratories are anticipated in addition to a strong intramural program.

Position 96-74: Senior Research Scientist. Lead scientist to focus on process research including unit operation identification, process definition, and integration of new affinity separation and viral inactivation technologies. Will coordinate activities between Process Research, Pilot Plant, and other R&D scientists. Requires a PHD with 6 or more years of relevant experience in protein purification and characterization. Experience is required in two or more areas of state-of-the-art protein purification; affinity separations, filtration technologies, or protein characterization. The incumbent must have documented accomplishments (for example: patents, publications, or launched products) for developing biological therapeutics. Supervisory experience required.

Position 96-75: Research Scientist. This scientist will take a lead role in process development of protein therapeutics. Requires a Ph.D. with a minimum of 4 years of relevant experience in pharmaceutical GMP/GLP bioprocessing in a team environment. The candidate must have experience designing and developing processes for biological therapeutics. Experience is required in two or more areas of state-of-the-art protein purification: affinity separations, filtration technologies, or protein characterization.

Position 96-76 and 96-133: Senior Associate Research Scientists. These scientists will integrate new affinity separation and viral inactivation technologies, optimize unit operations, and implement GLP/GMP processing of protein therapeutics. Requires an M.S. in Biochemistry or a related field and 2-4 years of relevant experience.

These positions offer an attractive compensation package commensurate with qualifications. Send resume with position number clearly identified to: Human Resources Manager, Bayer Corp., PO Box 507, Clayton, NC, 27520.

An Equal Opportunity Employer M/F/D/V.

St.Jude Children's **Research Hospital** ALSAC • Danny Thomas, Founder **Career Opportunities** at St. Jude Children's **Research Hospital** St. Jude Children's Research Hospital, a premier research center for biomedical research, offers postdoctoral fellowship opportunities in the basic and clinical sciences. Recent M.D., Ph.D., D.V.M, or Pharm.D. fellows are eligible to train with leading scientists in several basic biomedical research laboratories including biochemistry, experimental oncology, genetics, experimental hematology, immunology, molecular pharmacology/ structural biology/tumor cell biology and virology/molecular biology. Additional opportunities are also available in the clinical sciences, including infectious diseases, hematology/oncology, pharmaceutical sciences, pathology and laboratory medicine, radiation oncology, surgery, international outreach and diagnostic imaging. An interdisciplinary effort in cell and gene therapy has been initiated. SJCRH currently has 185 postdoctoral fellows funded from peer-reviewed grants, outside fellowships and institutional sources. Ten named fellowships are also offered.

Fellowship awards are given for up to three years and are based on merit, recommendation and the promise of a productive career in biomedical research. Stipends are highly competitive.

Applicants should provide a curriculum vitae, including a brief description of their research interests, and three references. These should be forwarded to: Academic Programs, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105. Ph: 901-495-2750. SJCRH is an Affirmative Action/ Equal Opportunity Employer.

THE UNIVERSITY OF TOLEDO COLLEGE OF ENGINEERING DEPARTMENT OF BIOENGINEERING The McMaster/Gardner Endowed Chair and Research Professor of Orthopaedic Biomedical Engineering

The University of Toledo College of Engineering seeks qualified applicants to fill the McMaster/Gardner Endowed Chair of Orthopaedic Biomedical Éngineering in the newly formed Department of Bioengineering. The Endowed Chair will be held by a **RESEARCH PRO-**FESSOR who will also be the DIRECTOR of the Biomedical and Orthopaedic Research Center at the University. Candidates for the Endowed Chair must have a Ph.D. in engineering or the sciences, or an M.D., with expertise in orthopaedic biomechanics, and must be able to teach, supervise graduate student research, and assist with the growth and development of the department. Candidates should also have a distinguished academic record and demonstrate exceptional potential for estab-lishing and maintaining a creative and externally funded research program. Applicants for this position should submit a curriculum vitae, reprints of selected publications, a narrative describing research plans and goals, and at least three letters of recommendation. Full consideration of applications will begin on November 1, 1996 and will continue until the position is filled. Other areas of research interest in Bioengineering include cellular engineering, medical imaging, neuralscience, and intelligent medical systems, and faculty positions are also available in these other areas of interest. All application materials should be submitted to: Professor Ronald L. Fournier, Chair of the McMaster/Gardner Endowed Chair Search Committee, Department of Bioengineering, The University of Toledo, Toledo, OH 43606. The University of Toledo is an Affirmative Action Employer. Women and minorities are encouraged to apply.

DIRECTOR ANIMAL CARE FACILITY MEHARRY MEDICAL COLLEGE

Meharry Medical College, a private institution dedicated to educating health care professionals and biomedical scientists, is seeking a **DIRECTOR** of the Animal Care Facility. The College, located in Nashville, Tennessee, includes the Schools of Medicine, Dentistry, Graduate Studies and Research, and Allied Health Professions. The Director has direct responsibility for managing an AAALAC-accredited program of laboratory animal care and use that complies with all federal, state, and local animal welfare regulations and has the responsibility for the development, recommendation, and implementation of policies regarding the care and management of research animals.

It is anticipated that the successful candidate will possess a doctorate in veterinary medicine and be ACLAMcertified/eligible. The Director will hold an academic appointment at Assistant/Associate Professor level and participate in the selected department's teaching programs. Candidates with the potential to develop an active research program will be given preference.

Applicants should submit a letter of interest, a curriculum vitae, and the names (with addresses and telephone numbers) of three references to: Dr. Hubert K. Rucker, Chairperson Search Committee for Director, Animal Care Facility, Mcharry Medical College, 1005 Dr. D. B. Todd Boulevard, Nashville, TN 37208.

Meharry Medical College is an Equal Oppertunity/Affirmative Action Employer and does not discriminate on the basis of gender, age, race, religion, color, national origin, handicap, veteran or immigrant status in its admissions, employment, and education programs or activities.

ECOLOGIST

The Department of Biology at William Jewell College invites applications for a field-oriented ecologist, preferably in vertebrate ecology. The position is at the rank of **ASSISTANT PROFESSOR** for a three-year term beginning August 1997, and may become tenure-track after the term. Teaching responsibilities include introductory biology, ecology, and general education. An active research program that mentors undergraduate students is essential. Postdoctoral experience preferred. For further information, contact: Dr. Judith A. Dilts, Professor and Chair, Department of Biology, William Jewell College, Liberty, MO 64068. Email: diltsj@william. jewell.edu; http://www.jewell.edu/. Review of applications begins November 22, 1996. *Women and minorities are encounaged to apply*.

POSITIONS OPEN

TENURE-TRACK ASSISTANT PROFESSOR POSITION Boyer Center for Molecular Medicine Yale University School of Medicine

The research program may involve any area of biology, must emphasize molecular or genetic approaches, and must have potential relevance to human diseases, although it may focus on either unicellular or multicellular organisms as model systems.

The candidate must hold an M.D. and/or a Ph.D. degree(s), and will receive a faculty appointment in one of the Departments of the Yale School of Medicine.

Curriculum vitae and a brief statement of current and future research should be submitted by January 1, 1997. The application should include the names of three individuals who have agreed to send recommendation letters independently.

Applications and recommendation letters should be sent to:

Pietro De Camilli, M.D. Chair, Molecular and Cell Biology Scarch Committee Boyer Center for Molecular Medicine Yale University School of Medicine 295 Congress Avenue Post Office Box 9812 New Haven, CT 06536-0812

Yale University is an Equal Opportunity/Affirmative Action Employer.

MOLECULAR EVOLUTIONIST

The Department of Biology at Occidental College invites applications for a tenure-track, ASSISTANT PROFES SOR position in Molecular Evolution. Applicants should have a strong commitment to educating undergraduate students, to maintaining a research program, and to linking education with research. The successful candidate is expected to develop a rigorous research program in the area of molecular evolution involving undergraduates and will teach two of the following three classes per year: Introduc-tory Cell and Molecular Biology, Biochemistry, or an upper-level course in molecular evolution. The new faculty member will have the opportunity to participate in the interdisciplinary program in biochemistry, in the development of new interdisciplinary courses, and in the College's general education program. Occidental College is a nation-ally ranked college of the liberal arts and sciences with a diverse student body of 1600 undergraduates and a faculty of 138, of whom 10 are in the biological sciences. Occidental has recently received a major Undergraduate Program award from the Howard Hughes Medical Institute. Applicants should submit a curriculum vitae, separate statements of professional goals in teaching and research, copies of significant publications, and three letters of reference (arrange to have these sent to search committee to coincide with receipt of application). All materials should be sent to: Dr. John C. Hafner, Scarch Committee Chair, Department of Biology, Occidental College, 1600 Campus Road, Los Angeles, CA 90041, and should be received no later than 2 December 1996. Occidental College is an Equal Employment Opportunity Employer, and does not discriminate against employees or applicants because of race, color, religion, ancestry, national origin, age, gender, marital status, pregnancy, sexual orientation, or disability

ANTHROPOLOGICAL GENETICIST

The Department of Anthropology, Stanford University, seeks an anthropological geneticist with a demonstrated research interest in human evolution, and especially in the relationships between genetics, linguistics, and cultural diversity. We particularly solicit applications from candidates who are interested in the origins and dispersal of human populations. The position is for a tenure-track **ASSISTANT PROFESSOR** in Anthropology in the departmental program in human bio-cultural evolution. The Ph.D. must be in hand by September 1, 1997.

Send curriculum vitae, letter describing qualifications and interests, one example of written work, and names and addresses of three references to: Chair, HBE Search Committee, Department of Anthropology, Stanford, CA 94305-2145. The deadline for applications is January 15, 1997.

Stanford University is an Affirmative Action/Equal Opportunity Employer. We strongly encourage applications from women and minorities.

POSITIONS OPEN

CALIFORNIA STATE UNIVERSITY FULLERTON, DEPARTMENT OF BIOLOGICAL SCIENCE

Seeking Seeking applicants for full-time tenure-track positions as ASSISTANT PROFESSOR OF BIOLOGY with expertise in Molecular Biology of Eukaryotes and a second position in Field-Oriented Terrestrial Vertebrate Biology to begin 25 August 1997. Molecular Biology applicants must have at least two years of postdoctoral experience, a strong background in molecular biology of eukaryotes, and an ability to teach a core course in molecular biology and genetics and upper-division and Master's level elective courses in area of expertise. Vertebrate Biology candidates specializing in field conservation biology, chemical ecology, or evolutionary biology with post-doctoral experience and the ability to teach a core course in organismic biology and upper-division and Master's level elective courses in area of expertise are encouraged to apply. Candidates for both positions must have a Ph.D. and be committed to excellence in teaching at both the undergraduate and Master's levels and to the development of a productive research program involving students at both levels. Send curriculum vitae (including a history of grant support), research plans, at least three reprints, a summary of teaching philosophy (including teaching experience and elective course preferences), and three letters of recommendation to either Vertebrate Biology Scarch or Molecular Biology Search, Department of Biological Science, California State University, Fullerton, P.O. Box 6850, Fullerton, CA 92834-6850. (http:// biology.fullerton.edu/)

Review of applications will begin 10 January 1997 and continue until suitable candidates are appointed. Affinative Action/Equal Employment Opportunity/ADA Employer. Women and minority candidates are particularly encouraged to apply.

ASSISTANT PROFESSOR

The Department of Biology invites applications for TWO TENURE-TRACK Assistant Professor positions. 1) Evolutionary Quantitative Geneticist. 2) Vertebrate Systematist emphasizing morphological approaches. A Ph.D. is re-quired and the successful applicants will be expected to develop externally funded research programs. Teaching responsibilities may include advanced and introductory courses. The position assignment will be approximately 50% teaching and 50% research. Evidence of proficiency in both will be used as selection criteria. Preference will be given to applicants whose research interests complement existing departmental research programs. Utah State University is a Carnegie I Research Institution. For additional information on the Department and University, contact www.biology-.usu.edu. Applicants should submit a curriculum vitae, a statement of research and teaching interests, and representative reprints, and should have three letters of recommendation sent to: Dr. Keith A. Mott, Chair, Vertebrate Systematist Scarch Committee, Email: kmott@biology. usu.cdu; Telephone: 801-797-3563; or Dr. Paul G. Wolf, Chair, Quantitative Geneticist Search Committcc, Email: wolf@biology.usu.edu; Telephone: 801-797-4034; Department of Biology, Utah State Univer-sity, Logan, UT 84322-5305. FAX: 801-797-0532. Review of applications will begin 2 December 1996 and will continue until the position is filled. Electronically submitted applications will not be accepted. Utah State University is an Equal Opportunity/Affirmative Action Employer; women and minorities are especially encouraged to apply.

VERTEBRATE PHYSIOLOGY

Tenure-cligible position, at the level of ASSISTANT PROFESSOR, starting August 1997. The candidate should have a Ph.D., and will teach and direct student research in vertebrate physiology, teach vertebrate anatomy, and contribute to the instruction of introductory biology. Send curriculum vitae and three letters of recommendation that address both teaching and research potential by December 31, 1996 to: Biology Search Committee, Biology Department, Ithaca College, Ithaca, NY 14850-7278. Email: Cameron@ithaca.edu. Ithaca College is an Affirmative Action/Equal Opportunity Employer.

INSTRUCTOR, University of Nebraska Medical Center. The Department of Pathology and Microbiology is seeking an individual at the Instructor level to pursue research on mapping, isolation, and characterization of the Usher syndrome type IIa gene on human chromosome 1q41. Curriculum vitae to: Janos Sumegi, M.D., Ph.D., Professor, Path/Micro, UNMC, 600 South 42nd Street, Omaha, NE 68198-3135. An Affirmative Action/Equal Opportunity Employer.

ANNOUNCING THE UNCF•MERCK SCIENCE RESEARCH FELLOWSHIPS

GRADUATE SCIENCE RESEARCH DISSERTATION FELLOWSHIPS

12 awards will be made in 1997. Each award consists of

FELLOWSHIP STIPEND UP TO \$25,000 DEPARTMENT GRANT UP TO \$15,000

Applicants must be:

- African American
- Enrolled full time in a Ph.D. or equivalent doctoral program in the life or physical sciences
- A third- or fourth-year graduate student in the academic year 1997-98
- A U.S. Citizen or permanent resident.

POSTDOCTORAL SCIENCE RESEARCH FELLOWSHIPS

10 awards will be made in 1997. Each award consists of

- FELLOWSHIP STIPEND UP TO \$40,000
- **INSTITUTIONAL GRANT UP TO \$15,000**

Applicants must be:

- African American
- Appointed as a postdoctoral fellow during the 1997 calendar year at an academic or a non-academic research institution (private industrial laboratories are excluded).
- A U.S. Citizen or permanent resident.

For application packets, contact: Jerry L. Bryant, Ph.D., The College Fund/UNCF, 1-800-331-2244 Applications must be postmarked by January 15, 1997

"A mind is a terrible thing to waste."

ANNOUNCEMENT

The Charles A. Dana Foundation Salutes The 1996 Winners of

The Charles A. Dana Award for Pioneering Achievement in Health

The \$50,000 Award to each recipient honors discoveries in neuroscience that will lead or have already led to significant advances in the diagnosis, prevention, or treatment of human health problems. By making these Awards, the Charles A. Dana Foundation wishes to highlight the significant impact that research in neuroscience can have on problems that cause incalculable human suffering, demonstrate the essential interrelationship between basic research and clinical progress, and set forth the urgency of further work.

Michael I. Posner, Ph.D.

University of Oregon

Marcus E. Raichle, M.D.

Washington University School of Medicine

For multidisciplinary research developing the field of functional brain imaging as a powerful tool to unlock the secrets of the human brain in illness and in health.

The Charles A. Dana Foundation David Mahoney, Chairman

Nominations for the 1997 Awards are now being solicited from the neuroscience community; the deadline for submission of the nominations is January 10, 1997. Information and application packets can be obtained from The Charles A. Dana Awards for Pioneering Achievements in Health, Nominating Committee - Box S, c/o Ann Blanchard, Volen Center for Complex Systems, Brandeis University, Waltham, MA 02254; telephone (617) 736-3141, fax (617) 736-3142, email: Ann@eliza.cc.brandeis.edu

CHAIRPERSON Microbiology and Genetics at Rutgers

The newly formed Department of Microbiology and Genetics at Rurgers University is pleased to amounce the search for a chairperson with a distinguished research career related to manimalian genetics (including human genetics) or genomics. We seek an outstanding individual who will provide dynamic leadership in exploring the use of animal models, such as the mouse, for the study of human monogenic and polygenic diseases and/or the genetic basis of host response to infectious disease.

The present Department consists of 13 members, and it is expected that the new chairperson will have the primary role in developing the Department's future direction and focus. It is hoped that this new initiative will complement and extend existing research strengths in molecular and developmental genetics at Rutgers, The State University, and the neighboring Robert Wood Johnson Medical School.

Candidates for this position should direct a cover letter, curriculum vitae, and any other supporting documents by January 31, 1997 to: Dr. Joachim Messing, Waksman Institute, Rutgers University, P.O. Box 759, Piscataway, NJ 08855-0759. Rutgers University is an Affirmative Action/Equal Opportunity Employer.

CELL BIOLOGIST/PHYSIOLOGIST

Lvon College seeks to fill the Willie D. Bryan Profes sorship in Biology at the ASSOCIATE or FULL PRO-FESSOR level. The successful candidate will show evidence of excellence in teaching, and will have an estab lished research program with external grant support and publications. Teaching duties will include lectures and laboratories in cell biology and either comparative physiology or introductory biology. The person will maintain a research program that addresses significant questions suitable for involvement of undergraduate students. Experience directing undergraduate research required. Prehealth professional advising and experience at a small liberal arts college desired. Lyon College is an independent, four-year liberal arts college affiliated with the Presbyterian Church (U.S.A.) with a \$46 million endowment and a strong academic reputation. Send nomination or letter of application, curriculum vitae, outline of undergraduate research, a statement of interest in teaching at a small liberal arts college, and three letters of support with names and telephone numbers of references to: Professor Roberta Bustin, Chair, Biology Search Committee, Lyon College, P.O. Box 2317, Batesville, AR 72503-2317. Email: facsearch@lyon.edu. Consideration of applications will begin on December 1, 1996 and continue until the position is filled. An Equal Opportunity Employer.

PLANT SYSTEMATIC BIOLOGIST

The Department of Botany, North Carolina State University (NCSU), invites applications for a 12-month tenure-track position as ASSISTANT PROFESSOR, available 1 July 1997. We are seeking an individual to establish an innovative, competitively funded research program in vascular plant systematics, with complementary teaching activities. Responsibilities will include supervision of graduate students and academic advising of undergraduates. The incumbent will also be responsible for curating the NCSU Herbarium. Excellent interpersonal and communication skills and the ability to participate in interdis-ciplinary research are required. Postdoctoral experience is preferred. Send résumé, statements of teaching and research interests, and three letters of recommendation to: W. F. Thompson and T. R. Wentworth, Co-Chairs, Plant Systematist Search Committee, Department of Botany, Box 7612, North Carolina State University, Raleigh, NC 27695-7612. Applications received prior to 1 January 1997 will be assured of full consideration North Carolina State University is an Affirmative Action/Equal Opportunity Employer.

MOLECULAR BIOLOGIST

Pacific University has an entry-level **TENURE-TRACK** position to begin August 1997, to teach Molecular Biology, Genetics and Evolution, a General Biology course (cell biology), specialty courses, and non-major courses. A broad background in biology, evidence of successful college teaching, and a Ph.D. required. Nucleic acid research projects with undergraduate students expected. Send curriculum vitae, transcripts, a statement of teaching and research philosophies, and three reference letters by December 13, 1996 to: Chairman, Department of Biology, Pacific University, Forest Grove, OR 97116.

POSITIONS OPEN

ASSISTANT PROFESSOR

The Department of Biology at New Mexico State University seeks to fill a TENURE-TRACK ASSISTANT PROFESSOR position. The successful candidate will establish an independently funded research program in 1) the evolution of prokaryotes, 2) population/community genetics of prokaryotes, or 3) use of prokaryotes as models of fundamental evolutionary and ecological processes to complement existing departmental strengths in microbiology, evolution, and ecology. Candidates must hold an earned doctorate in an appropriate field. Postdoctoral experience strongly preferred. Teaching responsibilities will include General or Public Health Microbiology, Microbial Physiology, or Microbial Genetics, and participation in the department's introductory biology sequence. The department offers B.S. degrees in biology and microbiology as well as M.S. and Ph.D.'s and participates in the Molecular Biology Graduate Program. For more infor-mation on the department see http://www.cs.nmsu. edu/~biology/. Submit curriculum vitae; concise statements of research and teaching interests; and the names, addresses, and telephone numbers of at least three refer ences to: Dr. Peter Herman, Microbiology Search Committee, Department of Biology, New Mexico State University, Box 30001, Department 3AF, Las Cruces, NM 88003. Review of applications will begin 2 December 1996 and continue until the position is filled. New Mexico State University is an Equal Employment Opportu-nity/Affirmative Action Employer. Offer of employment contingent upon verification of individual's eligibility for employment in the United States

CHAIRPERSON DEPARTMENT OF CHEMISTRY WESTERN MICHIGAN UNIVERSITY

Western Michigan University (WMU) seeks applications for the position of **CHAIR** of the Chemistry De-partment. WMU is a Carnegie Doctoral I Institution with a strong record of excellence in undergraduate education and a rapidly expanding commitment to graduate re-search and education. The Chair will be expected to guide the department through the continuing process of start-ing a Ph.D. program, shape the future direction of the department through the hiring of additional faculty, and set an example of research and scholarly activity for junior faculty. Candidates should have demonstrated the ability to direct a well-funded, nationally competitive research program (or equivalent industrial experience), demonstrated excellence in teaching, and possess leadership skills appropriate to an administrative position. Interested applicants should send a letter of application, curriculum vitae, statement of research plans, and a description of start-up requirements, and should arrange to have three letters of reference sent to. Dr. Michael McCarville, Department of Chemistry, Western Michigan Univer-sity, Kalamazoo, MI 49008-3842. FAX: 616-387-2909; Internet: McCarville@wmich.edu. For more information, visit our web site at http://www.wmich. cdu/chemistry. Review of applications will begin December 1, 1996 and continue until the position is filled. WMU is an Equal Employment Opportunity/Affirmative Action Employer.

INSTRUCTOR position available immediately to study the role of T cell clones in neoplasia in AIDS patients. Applicants should have Ph.D. or M.D. degree and three to five years of postdoctoral experience in molecular biology and cellular immunology of HIV-1, and experience in establishing long-term T cell clones from HIV-1 positive and negative PBMC.

Direct inquiries, including curriculum vitae and names of three references, to: Dr. David J. Volsky, Molecular Virology Laboratory, St. Luke's-Roosevelt Hospital Center and College of Physicians and Surgeons, Columbia University, 432 West 58th Street, New York, NY 10019. Telephone: 212-582-4451; FAX: 212-582-5027. Columbia University is an Equal Opportunity/ Affinative Action Employer.

FACULTY POSITIONS National Yang-Ming University

National Yang-Ming University (NYMU) invites applications for ASSOCIATE PROFESSOR/PROFES-SOR positions starting August 1, 1997. Applicants having postdoctoral experience and disciplines in hematology, blood bank, vaccinology, or clinical microscopy will be preferred. Send a curriculum vitae and a summary of research and teaching interests to: Dr. T-C Mong, Chairman, Faculty of Medical Technology, National Yang-Ming University, Shih-Pai, Taipei 112, Taiwan.

POSITIONS OPEN

FACULTY POSITIONS ASSISTANT OR ASSOCIATE PROFESSOR

Openings exist for tenure-track **ASSISTANT** or **AS-SOCIATE PROFESSORS** in the Department of Cell Biology and Anatomy. Teaching duties will include participation in one or more of the following team-taught courses: Embryology, Gross Anatomy, Histology, and Molecular Cell Biology. Successful candidates will have an active and vigorous research program in cell biology. Current departmental research includes: extracellular matrix and membrane trafficking, connective tissue disorders, pharmacology of GABAergic systems, retinal neurobiology, molecular biology, and myogenesis. Expected start date is July 1997.

The Chicago Medical School (CMS) is located north of Chicago is an attractive suburban setting. Send letter of interest, curriculum vitae, and names of referees to:

> Dr. David McCandless Department of Cell Biology and Anatomy Finch University of Health Sciences/ The Chicago Medical School 3333 Green Bay Road North Chicago, IL 60064

Finds University of Health Sciences/CMS is an Equal Oppornunity Employer.

PATHOGENIC MICROBIOLOGY POSITION

The Department of Botany and Microbiology in the College of Arts and Sciences, The University of Oklahoma, is seeking a Microbiologist to fill a tenure-track position at the ASSISTANT PROFESSOR level. Primary responsibilities will be an undergraduate lecture/laboratory course in pathogenic microbiology and developing a research program in this area, which will be nationally competitive for funding and will complement existing strong programs in molecular biology and/or environmental microbiology. See http://www.ou.edu/cas/ botany-micro for additional information about the department. A Ph.D. in microbiology or a related field and postdoctoral experience are required. A curriculum vitae, a concise description of research and teaching interests, and three confidential letters of recommendation must be sent directly to: Dr. John Lancaster, Chair, Search Committee, Department of Botany and Microbiolo-gy, University of Oklahoma, 770 Van Vleet Oval, Norman, OK 73019-0245. Screening will begin January I, 1997 and continue until the position is filled. The University of Oklahoma is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply. The University has a policy of being responsive to the needs of dual-career comples

The Toxicology Program at the University of New Mexico invites applications for two 12-month TEN-URE-TRACK FACULTY positions in molecular toxicology/pharmacology: one at the Assistant/Associate rank, the other at the Assistant Professor rank. Successful candidates will be expected to establish extramurally funded research programs and to provide instruction to professional and graduate students. Minimum requirements are a Ph.D. in toxicology/pharmacology or closely related discipline; postdoctoral experience; a record of research productivity; and evidence of instructional ability. Applications will be accepted until December 10, 1996 or until the positions are filled. To receive complete information and/or apply, interested persons should forward a curriculum vitae, letter of intent describing career goals, outline of future research plans, and the names and addresses of at least three references to: Dr. Craig Marcus, Chair, Pharmacology/Toxicology Faculty Search Committee, College of Pharmacy, University of New Mexico, Albuquerque, NM 87131. Email: cbmarcus@unm.edu.

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

Barnard College of Columbia University seeks an AS-SISTANT PROFESSOR for the Department of Psychology in the area of behavioral neuroscience/biopsychology, broadly defined. Candidates should provide evidence of excellence in research and teaching. Teaching responsibilities are four courses per year, and will include undergraduate lecture and laboratory courses in biopsychology. Laboratory facilities will be renovated to fit research program. Applicants should send curriculum vitae; a research plan; a description of teaching philosophy, experience, and preferences; and three letters of reference to: Search Committee, Department of Psychology, Barnard College, 3009 Broadway, New York, NY 10027. Deadline: January 6, 1997. Equal Opportunity Employer.

THE ROCKEFELLER UNIVERSITY HOSPITAL CLINICAL SCHOLARS

The Clinical Research Center at the Rockefeller University is seeking M.D.'s or M.D./Ph.D.'s who wish to develop a commitment to patient-oriented research in the biomedical sciences. The opportunity will be provided to work in one of 16 major laboratories now actively using the Hospital. Clinical Scholars will participate in current clinical research, develop independent clinical programs and acquire laboratory skills to enable their development as independent investigators. The Hospital provides an unequalled opportunity for intensive clinical investigation, devoid of any clinical responsibilities other than those required for research subjects. Applications are now being considered from licensed physicians for appointments as early as July of this year.

PARTICIPATING LABORATORIES

J.L. Breslow — Atherosclerosis P.A. Cole — Hypertension R. Darnell — Paraneoplastic Syndromes J. Friedman — Obesity D. Ho — HIV/AIDS A. Kappas — Genetic Liver Diseases M. Karayiorgou — Schizophrenia M.J. Kreek — Addiction J. Krueger — Dermatology R.L. Leibel — Obesity M. Nussenzweig — Human Immunodeficiencies J.V. Ravetch — Immunology T.P. Sakmar — Signal Transduction Defects R. Steinman — Immunology/AIDS M. Stoffel — Diabetes Mellitus I.B. Zabriskie — Multiple Sclerosis

Please send curriculum vitae and a letter describing clinical investigative interests directly to appropriate participating laboratories at:

The Rockefeller University 1230 York Avenue New York, NY 10021-6399

The Rockefeller University is an equal opportunity employer and has an affirmative action program to increase the employment of women and members of protected groups at all job levels.



MOLECULAR PHARMACOLOGY

Mayo Medical School invites applications for a senior faculty position in the Department of Pharmacology, available immediately. The Department of Pharmacology provides a diverse, intense, and collaborative environment for basic research. The institution has recently also launched major initiatives in the areas of molecular medicine, broadly defined, and cancer biology, providing great opportunities for synergism. The ideal candidate for the position in pharmacology will have a cutting edge research program with clear relevance to the molecular actions of drugs. Special consideration will be given to individuals working on rational drug design, gene therapy, novel approaches to cancer treatment, receptor biology, or pharmacology of the central nervous system. The precise area of interest remains open, however, and candidates pursuing other pharmacologically relevant research topics may be welcome. Mayo will provide the successful candidate with generous space and significant hard money support in addition to an attractive salary and benefits package. Academic rank will be determined on the basis of qualifications. Established investigators are preferred, but younger scientists with outstanding promise should also apply. Applications from women and underrepresented minorities are encouraged.

Please submit a curriculum vitae along with names and addresses of three or more references to **Stephen Brimijoin**, **Ph.D.**, **Professor and Chair**, **Department of Pharmacology**, **Mayo Medical School**, **200** First St. Southwest, **Rochester**, **MN 55905**. There is no specific deadline, but applications received before January 1 are more likely to be competitive.

Mayo Foundation is an affirmative action and equal opportunity educator and employer.



EVOLUTIONARY PLANT BIOLOGY

Applications are invited for a tenure-track position at the **ASSISTANT PROFESSOR** level beginning September 1997. We seek a plant evolutionary biologist, knowledgable in California flora, who is committed to combining quality teaching and externally funded research at an ethnically and culturally diverse campus. We are interested in candidates with a broad view of plant biology who apply molecular techniques to problems in evolutionary biology, systematics, quantitative or population genetics, or conservation biology. Teaching responsibilities include evolutionary biology and field and laboratory courses in plant biology as well as undergraduate and M.S. courses in one or more specialties. A Ph.D. is required; postdoctoral research and teaching experience are preferred. Send curriculum vitae, statement of research and teaching interests, transcripts, copies of recent publications, and three letters of recommendation to: Evolutionary Plant Biologist Search Committee, Department of Biological Sciences, California State University, Hayward, CA 94542. Application review begins December 16, 1996. California State University, Hayward is an Equal Opportunity Employer and does not discriminate on the basis of age, race, color, national origin, sex, sexual orientation, or disability.

TENURE-TRACK ASSISTANT PROFESSOR MOLECULAR BIOLOGIST TUFTS UNIVERSITY

The Department of Biology invites applications for a position to begin September 1997. A doctoral degree, postdoctoral experience, and a record of research productivity are required. Teaching responsibilities include courses in molecular biology at the undergraduate and graduate levels and contributions to team-taught courses in the department. The successful candidate will be expected to establish and maintain an active research program with extramural funding involving graduate and undergraduate students. Candidates with successful experience teaching and mentoring students from under-represented racial/ethnic groups and women are encouraged to apply. Applicants should submit a curriculum vitae, three recent publications, and statements of research interests and teaching experience, and should have three letters of reference sent to: Chair, Molecular Biology Search Committee, Department of Biology, Tufts University, Medford, MA 02155. Review of applications begins December 20, 1996. Tufts University is an Equal Opportunity/Affirmative Action Employer, Members of under-represented groups tpeople of color, persons with disabilities, Vietnam veterans, and women) are strongly encouraged to apply.

TULANE UNIVERSITY DEPARTMENT OF TROPICAL MEDICINE

Applications are requested for a TENURE-TRACK position in the Department of Tropical Medicine. Areas of particular interest include, but are not restricted to: basic science studies of microbial pathogens in the tropics, clinical and basic aspects of helminthology and protozoology, immunology and cell biology of infection and the host-response, and molecular strategies for the study of host and parasite populations. The successful candidate must have the ability to contribute to the departmental teaching program in areas of his or her expertise. Antici-pated starting date is July 1, 1997. Please submit curriculum vitae and the names and addresses of three referees to: Dr. Mark A. James, Chair, Search Committee, Department of Tropical Medicine, SL 29, 1501 Canal Street, New Orleans, LA 70112. Deadline for submis-sion of material is January 3, 1997. Tulane University is an Affirmative Action/Equal Opportunity Employer. Applications are sought and encouraged from women and members of minority groups.

ASSISTANT PROFESSOR IN BIOLOGY

Pending budgetary approval, the Department of Biology at Vanderbilt University invites applications for a non-tenure-track position at the level of ASSISTANT **PROFESSOR** with full-time teaching responsibility. Teaching will include Introductory Biology, Introductory Zoology, and courses in the candidate's area of specialization. For more specific information, see our Web page: http://www.vanderbilt.edu/AnS/Biology/biodept. htm. Applicants should submit a curriculum vitae, description of research interests, and teaching experience, and should arrange to have three letters of recommendation sent by December 31, 1996 to: Biology Search Committee, Department of Biology, Box 1812-B, Vanderbilt University, Nashville, TN 37235. Landerbilt University is an Equal Opportunity/Affinantic Action Employer.

856

POSITIONS OPEN

MONELL CHEMICAL SENSES CENTER NEUROSCIENCE/CNS

The Monell Chemical Senses Center is a non-profit, multidisciplinary scientific institute, comprising approximately fifty doctoral-level scientists, that is devoted to basic research on mechanisms and functions of taste, smell, and chemosensory irritation. To expand the Center's efforts in neuroscience research, we are seeking an individual for appointment at the ASSISTANT or AS-**SOCIATE** level who has an ongoing research program relevant to the scope of the Center's interests. This research should focus on the mammalian central nervous system and should take an integrative approach with a functional emphasis (e.g., development, nutrition, behavior, physiology). Applicants should have a Ph.D. or equivalent, postdoctoral experience, and the desire and ability to work independently in a highly interactive, interdisciplinary environment. To apply, send a letter of application: curriculum vitae: summary of research plans: extramural support history; copies of representative publications; and the names, addresses, and telephone numbers of three references to: Dr. Gary Beauchamp, Director, Monell Chemical Senses Center, 3500 Market Street, Philadelphia, PA 19104-3308, U.S.A. The Monell Chemical Senses Center is an Equal Opportunity Employer and encourages applications from women and minorities.

CHAPMAN UNIVERSITY

Tenure-track position in Microbiology and Immunology at an independent, comprehensive university located 30 miles south of Los Angeles in a culturally diverse com-munity. Effective fall 1997. Subject to final funding approval. ASSISTANT/ASSOCIATE PROFESSOR. alary commensurate with qualifications and experience. Ph.D. in microbiology or immunology, demonstrated excellence in teaching and scholarship, and commitment to working with students and developing collaborative re-search required. Demonstrated ability or potential to acquire extramural funding and interest and ability to teach in interdisciplinary core courses highly desirable. Primary teaching responsibilities: lectures/laboratories in microbiology, food microbiology, and immunology and labo-ratories for general biology. Modest start-up funding for research available. Submit cover letter, résumé, evidence of qualifications, statement of teaching philosophy, teaching evaluations, list of references with addresses and telephone numbers, and three letters of reference to: Virginia Carson, Chapman University, Orange, CA 92866. Deadline: January 10, 1997.

Chapman University is an Equal Opportunity Employer commined to providing career opportunities to all people, without regard to race, color, religion, gender, age, national origin, or disability.

Biology-Two positions are available beginning August 1997. One is a TENURE-TRACK position in cell biology. Teaching duties include participation in introductory biology, an upper-level course in cell biology, a junior seminar in some aspect of cell biology, a non-majors course, and directing student research projects. The second is a three-year position, with the possibility of renewal, in plant biology. Teaching duties include participation in introductory plant biology, an upper-level course in plant physiology, a junior seminar that includes physiological approaches to plant biology, a non-majors course, and directing student research projects. While these are primarily teaching positions, development of an active research program involving undergraduates is expected. Excellent research and teaching facilities are available, as are start-up funds. We seek individuals with demonstrated excellence in teaching and research, and a commitment to liberal arts education. Send curriculum vitae, statements of teaching and research interests, and three reference letters to: Dr. Glen Wurst, Chair, Biology Department, Allegheny College, Meadville, PA 16335 by December 2, 1996 (Cell Biologist) or December 16, 1996 (Plant Biology). Women and minorities are strongly encouraged to apply. Allegheny is an Equal Opportunity Employer.

CELL/MOLECULAR BIOLOGIST

Department of Anatomy, Indiana University, seeks to fill a **TENURE-TRACK** position (Assistant/Associate level). Must be funded in area that complements existing research interests, but prefer neurobiology (see http:// anatomy.iupui.edu/ for research interests). Teaching: gross anatomy or histology preferred. Send curriculum vitae, research statement, and names and addresses of three references to: Dr. David Burr, Chairman, Department of Anatomy, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, IN 46202. *Alfimatice Action/Equal Opportunity Einployer.*

SCIENCE • VOL. 274 • 1 NOVEMBER 1996

POSITIONS OPEN

FACULTY POSITION IN CANCER RESEARCH

The Eppley Institute for Research in Cancer, University of Nebraska Medical Center (UNMC), is seeking applicants for a tenure-leading **ASSISTANT/ASSOCIATE PROFES-SOR** position. Possible research areas include chromatin structure, cancer genetics, and cell cycle regulation. However, outstanding candidates in all areas of molecular and cellular biology of cancer are encouraged to apply. The 24 members of the Eppley Institute faculty are well-funded and involved in multidisciplinary efforts focused on basic research in cancer. The Eppley Institute is an integral unit in the NCI-designated UNMC/Eppley Cancer Center. In addition to directing an independent research program, the successful applicant is expected to interact with other faculty, and to be involved in the training of graduate students and post-doctoral fellows through the Eppley Institute's NCI-supported Cancer Research Training Program.

Applicants should send their résumé, three reference letters, and a letter detailing their research goals to: Dr. Raymond Ruddon, Director, Eppley Institute, University of Nebraska Medical Center, 600 South 42nd Street, Omaha, NE 68198-6805.

The University of Nebraska Medical Center is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS YALE UNIVERSITY Department of Molecular Biophysics and Biochemistry

The Department of Molecular Biophysics and Biochemistry seeks applicants for positions at the **ASSISTANT PRO-FESSOR** level. Our department, which is located in both the Faculty of Arts and Sciences and the School of Medicine of the University, spans a broad range of arcas including biochemistry, biophysical chemistry, structural biology, molecular biology, and molecular genetics. Applications should include a curriculum vitae, a statement of research interests, three letters of reference, and reprints or preprints. Completed applications should be sent to: Faculty Search Committee, Department of Molecular Biophysics and Biochemistry, Yale University, 260 Whitney Avenue, P.O. Box 208114, New Haven, CT 06520-8114. Telephone: 203-432-5593. Application deadline: December 1, 1996.

Yale University is an Affirmative Action/Equal Opportunity Employer. Applications from women and members of minority groups are encouraged.

HEAD OF EMBRYONIC STEM CELL FACILITY

A position as **HEAD** of an embryonic stem (ES) cell facility is available immediately at the National Jewish Center for Immunology and Respiratory Medicine, located in Denver, Colorado. Responsibilities include maintenance of germ-line competent ES cell lines, generation of transfectants, and working with others for the design of gene targeting vectors. The successful applicant must have excellent people skills and the ability to instruct other scientists. Minimum requirements are a Bachelor's degree in biological science with expertise in tissue culture and molecular biology, and preferably experience in maintenance and derivation of ES cells. We offer excellent salary and benefits. Interested parties should send their curriculum vitae and three letters of reference to:

Dr. Gordon Keller Department of Medicine National Jewish Center for Immunology and Respiratory Medicine 1400 Jackson Street—Room K501 Denver, CO 80206

THE UNIVERSITY OF MONTANA ASSOCIATE DEAN, BIOLOGICAL SCIENCES

ASSOCIATE DEAN and PROFESSOR to lead the Division of Biological Sciences. The Division offers undergraduate degrees in a variety of biological disciplines and the M.S. and Ph.D. in two programs (Organismal Biology/Ecology, Biochemistry/Microbiology). The 40 faculty are committed to excellence in teaching and research. The applicant must have a doctoral degree in a biological science, strong administration and communication skills, evidence of successful research, and teaching experience. The applicant must also have the vision, leadership, and desire and ability to lead the Division to new academic heights and recognition. Send curriculum vitae (include Email), statement of career goals, and names and addresses of five references by 31 December 1996 to: Chair, Associate Dean Search Committee, Division of Biological Sciences, The University of Montana, Missoula, MT 59812. For more information on this career opportunity, Email: bact@selvay.umt.edu. Alfinnative Action/Equal Opportunity Employer.



Minority Traineeships in Oceanography

The Woods Hole Oceanographic Institution offers special educational opportunities in oceanography for minority undergraduate U.S. citizens or permanent residents. These awards are designed to provide training and research experience in Woods Hole for students who have completed at least two semesters of undergraduate study in physical or natural science, mathematics, or engineering and have an interest in marine sciences, oceanographic engineering, or marine policy.

Traineeships may be awarded for a ten to twelve week period in the summer or for a semester during the academic year and may be renewed the following year. The Trainee is paid a stipend of \$325 per week, plus a round trip travel allowance to Woods Hole. This program is conducted with support from and in cooperation with the Northeast Fisheries Science Center, National Marine Fisheries Service, NOAA and the Marine and Coastal Geology Program, Woods Hole Field Center, U.S. Geological Survey and with support from the Office of Naval Research.

Application deadline for Summer 1997 is March 3, 1997.

WOODS HOLE OCEANOGRAPHIC INSTITUTION

Write for application forms to: Education Office, MS #31 Woods Hole Oceanographic Institution 360 Woods Hole Road Woods Hole, MA 02543-1541 or call (508) 289-2219 or email: education@whoi.edu , INSTITUT

1930

An equal opportunity employer. WHOI is a smoke free workplace.



ASSISTANT PROFESSOR Department of Molecular and Cell Biology University of Connecticut

The Department of Molecular and Cell Biology invites applications for a tenure-track position at the ASSISTANT PROFESSOR level. The position will be filled beginning September 1997. The successful candidate will have a Ph.D in microbiology or a closely related area, postdoctoral experience, and a strong research record. Preference will be given to well-rounded individuals who use state-of-the-art approaches to study environmental, marine, ecological, physiological microbiology. He or she will be expected to develop a vigorous research program supported by extramural funds. Teaching responsibilities will include an undergraduate course in introductory microbiology and participation in graduate courses. Excellence in research and teaching are highly valued by the Department and University. The Storrs campus, situated in rural northeastern Connecticut, is the main campus of the University of Connecticut. A curriculum vitae, a brief outline of planned research, and three letters of recommendation should be sent to: Professor David R. Benson, Chairman, Microbiology Search Committee, Department of Molecular and Cell Biology, U-44, University of Connecticut, Storrs, CT 06269-3044. Review of applications will begin after publication of this notice and continue until the position is filled. We encourage applications from under-represented groups induding minorities, women, and people with disabilities

DEPARTMENT OF MOLECULAR BIOLOGY PRINCETON UNIVERSITY

The Department of Molecular Biology at Princeton University is seeking an outstanding candidate to join the faculty. We encourage applications from highly motivated scientists who will develop an independent research program at Princeton in any area within the broad context of molecular biology. Send letter of application, statement of research interests, and three letters of recommendation to:

Scarch Committee Chair 317 Schultz Laboratory Department of Molecular Biology Princeton University Princeton, NJ 08544

The search will close December 20, 1996. An Equal Opportunity Employer committed to workforce diversity.

LECTURERS/RESEARCH ASSOCIATES BIOLOGY

Pending budgetary approval, the Department of Biology at Vanderbilt University invites applications for two non-tenure-track positions with time divided between teaching and research in the laboratory of one of the permanent faculty. Teaching will include either Introductory Biology or Introductory Zoology and a course in the cantion, see our Web page: http://www.vanderbilt.edu/ AnS/Biology/biodept.htm. Applicants should submit a curriculum vitae, description of research interests, and teaching experience, and should arrange to have three letters of recommendation sent by December 31, 1996 to: Biology Search Committee, Department of Biology, Box 1812-B, Vanderbilt University, Nashville, TN 37235. Equal Opportunity/Affinative Action Employer.

The Section of Cardiology, Department of Internal Medicine at Yale University, seeks an M.D. or M.D./Ph.D. investigator at the ASSISTANT/ASSOCIATE PROFESS SOR level in the area of vascular biology oriented to gene therapy. Demonstrable research experience and successful funding efforts necessary. The main responsibility of this individual will be to expand the fundamental vascular biology efforts at Yale and develop a cardiovascular gene therapy research program. Interested candidates, please send currieulum vitae and three letters of reference to: Barry Zaret M.D., Chief of Cardiology, c/o Jacqueline McKim, Yale Department of Internal Medicine, 135 College Street, New Haven, CT 06510-2483 by December 1, 1996. *Yale is an Affimative Action/Equal Opportunity Employer. Applications*

RESEARCH ASSOCIATE for computational molecular biology project. Must have Ph.D. in biology or computer science. Working knowledge of Excel spreadsheet and statistical analysis required. Familiarity with DNA sequence software (UWGCG) and FORTRAN programming would be helpful. Please submit curriculum vitae and the names and addresses of three references to: Dr. William Seffens, Department of Biological Sciences, Clark Atlanta University, James P. Brawley Drive at Fair Street, SW, Atlanta, GA 30314.

POSITIONS OPEN

TWO FACULTY POSITIONS PLANT BIOTECHNOLOGY Kansas State University

Two 12-month positions will be available July 1, 1997 at Kansas State University, in the Department of Plant Pathology and affiliated with the Plant Biotechnology Center (established in 1996; Center designation is pending approval from the Board of Regents.)

ASSISTANT PROFESSOR, Plant Molecular Biologist. Tenure-track, 90% research, 10% teaching. Establish a strong, extramurally funded research program in plant biotechnology, with an emphasis on the molecular biology of crop plants, primarily wheat; participate in Center activities, including interdepartmental collaborative research; develop and teach a course in a related area; and advise graduate students. Qualifications: Ph.D. and research experience in molecular biology; demonstrated excellence in research; and ability and desire to teach and to guide graduate students and postdoctoral fellows. Relevant postdoctoral experience preferred.

RÉSEARCH ASSISTANT PROFESSOR, Plant Transformation Specialist. Non-tenure-track, 100% research. Establish a strong, extramurally funded research program in crop plant transformation, with an emphasis on wheat; participate in Center activities, including broad interdepartmental collaborative research. Qualifications: Ph.D. in a plant science or related area; research experience in plant transformation, preferably cereal crops; demonstrated excellence in research; and ability and desire to guide postdoctoral fellows. Relevant postdoctoral experience preferred.

For either position, send application, including transcripts, résumé, copies of relevant publications, and a summary of research interests, and have three letters of reference sent, to: Fred W. Schwenk, Head, Department of Plant Pathology, Throckmorton Hall, Kansas State University, Manhattan, KS 66506. See also http://www.ksu.edu/plantpath/plantbiotech. Applications will be reviewed beginning January 2, 1997. Kansas State University is an Equal Opportunity, Affirmatire Action Employer.

PLANT MOLECULAR BIOLOGIST ASSISTANT PROFESSOR

The Department of Biological Science at Florida State University seeks applications for a TENURE-TRACK faculty appointment. We are seeking a person of outstanding promise who uses molecular and genetic apto investigate fundamental problems in plant proaches biology. The successful candidate will join several new faculty representing the department's expanding presence in cellular/molecular biology. Opportunities include competitive salary and start-up funds and well-equipped departmental core facilities. Responsibilities include development of an extramurally funded research program and instruction at the undergraduate and graduate levels in a broad-based biology department. Send curriculum vitae, research plan, and three letters of recommendation to: Dr. George W. Bates, Search Committee Chair, Department of Biological Science, Florida State University, Tallahassee, FL 32306-3015. Applications will be reviewed after December 12, 1996. Visit http://www. fsu.edu/~biology for more information.

Florida State University is an Affirmative Action, Equal Opportunity Employer.

ASSISTANT PROFESSOR BIOCHEMISTRY/MOLECULAR BIOLOGY

The Department of Biochemistry in the MCP+Hahnemann School of Medicine, Allegheny University of the Health Sciences, invites applications for a tenure-track faculty position at the rank of ASSISTANT PROFESSOR. The emphasis is on, but not restricted to, the broad area of cardiovascular biology and/or structure-function relationships of related proteins. Individuals with a strong commitment to research and expertise in molecular biology are encouraged to apply. In addition to establishing and maintaining a competitive research program, successful candidates will be expected to participate in teaching medical and graduate biochemistry courses. Send a curriculum vitae, a summary of research interests, and three letters of reference to: Dr. Michael C. Phillips, Department of Biochemistry, MCP+Hahnemann School of Medicine, Allegheny University of the Health Sciences, 2900 Queen Lane, Philadelphia, PA 19129. FAX: 215-843-8849; Email: Phillips@ allegheny.edu. For full consideration, applications should be received by January 1, 1997. Allegheny University of the Health Sciences is an Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

UNIVERSITY OF MASSACHUSETTS AMHERST Department of Microbiology

Applications are invited for a tenure-track position in Microbial Molecular Genetics to begin September 1997. This appointment is expected to be at the **ASSISTANT PROFESSOR** level; however, appointment at a higher rank will be considered for highly qualified individuals.

Applicants should have strong research accomplishments; capability of establishing a vigorous, extramurally funded research program; and a serious commitment to education at the graduate and undergraduate levels. Candidates must have a Ph.D. plus at least two years' postdoctoral experience. Interest in the functional diversity of prokaryotic organisms would be a valued asset.

Please provide your curriculum vitae; names, addresses, and telephone numbers of three references; and a brief outline of research interests to: Genetics Search Committee, Department of Microbiology, University of Massachusetts, Amherst, MA 01003-5720. FAX: 413-545-1578; Internet address: microbio-dept@ microbio.umass.edu. Salary commensurate with qualifieations and experience. Priority deadline is January 3, 1997. Search will remain open until filled.

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

ECOLOGIST/INVERTEBRATE ZOOLOGIST

The Trinity College Department of Biology invites applications for a tenure-track position at the level of ASSISTANT PROFESSOR to begin in the fall term, 1997. Applicants must have a Ph.D. (postdoctoral experience is preferred, but not required) and should have a record of teaching and scholarship appropriate to the position. Teaching duties include an annual course in invertebrate zoology, an ecology course in alternating years, and participation in a team-taught introductory biology course; in addition, it is expected that an advanced course in the area of the applicant's interest or a course for nonmajors will be offered in alternate years. The candidate should pursue a program of research appropriate to the participation of undergraduate students. Excellent facilities and start-up funds are available. Please have forwarded three letters of recommendation and send curriculum vitae (including statements on approach to teaching and of current research interests) along with graduate and undergraduate transcripts to: Richard B. Crawford, Chairman, Department of Biology, Trinity College, Hart-ford, CT 06106. Evaluation of applicants will begin 6 January 1997 and continue until the position is filled. Trinity College is an Equal Opportunity/Affirmative Action Employer and actively seeks applications from minorities and women.

RUTGERS UNIVERSITY-NEWARK GENETICS

Applications are invited for a **TENURE-TRACK FAUCLTY** position in genetics in the Department of Biological Sciences. Our research-oriented department is particularly interested in candidates using molecular genetic approaches to investigate problems in cellular and developmental biology. The successful candidate is expected to develop and maintain an active research program and to teach on the graduate and undergraduate levels. Applications will be reviewed beginning December 15, 1996. Send curriculum vitae and three letters of recommendation to: Dr. Edward G. Kirby, Chairman, Department of Biological Sciences, Rutgers University, 101 Warren Street, University Heights, Newark, NJ 07102. http: //silk.rutgers.edu/ Rutgers University is an Equal Opportumity Employer.

PHYSIOLOGIST

The Department of Zoology at the University of Maryland, College Park, is expanding its physiology faculty over the next several years. We are now hiring a tenuretrack **ASSISTANT PROFESSOR**. Research area and organism of study are flexible, but the candidate must establish an externally funded research program in an area that complements our current programs in cellular physiology, neurophysiology, and developmental biology. The successful applicant is expected to teach upper-level undergraduate vertebrate physiology and a course in area of interest. For best consideration, submit application by November 30, 1996. http://www.life.umd.edu for details. Send curriculum vitae, letter of future research plans and teaching interests, sample reprints, and names and addresses of three references to: Dr. Avis H. Cohen, Department of Zoology, University of Maryland, College Park, MD 20742.

Graduate and Postdoctoral Studies Molecular Toxicology **Department of Environmental Health College of Medicine** University of Cincinnati **Challenge...** To understand the complex environmental and genetic interactions that produce adverse health effects **Opportunity...**To become an independent scientist and leader in Environmental Toxicology through advanced training **Resources...**Scholarships with competitive stipends and postdoctoral traineeships funded by NIH: National Institute of Environmental Health Sciences, Center for Environmental Genetics, and over 30 other research grants Environment...The Department of Environmental Health State-of-the-art laboratories Modern electronic classrooms Multi-disciplinary faculty of over 20 biomedical scientists Consistent top-five ranking in external research funding Rated as Outstanding by 1995 Ohio Board of Regents' Review · Academic, industrial, and government collaborative projects A training environment supportive of personal growth Mechanism...Send inquiries to: Jean Malone, Graduate Studies Office, Department of Environmental Health, University of Cincinnati, P.O. Box 670056, Cincinnati, OH 45267-0056, Telephone 513-558-5704

DIRECTOR OF PLANT MOLECULAR BIOLOGY AND BIOTECHNOLOGY



The Ohio State University invites applications for the position of Director of Plant Molecular Biology and Biotechnology (PMBB). The PMBB group includes faculty involved in research and teaching in plant molecular biology and biotechnology at The Ohio State University; its mission centers on studies of basic molecular mechanisms in plant development, plant productivity, and plant-microbial interactions. Currently, there are twentythree faculty involved in basic and applied research in PMBB on the main campus in Columbus and at the Ohio Agricultural Research and Development Center in Wooster. The Director will become a tenured Professor in one of the participating departments and will be a pre-eminent scientist who will be expected to maintain a world-class, extramurally supported research program. In addition, the Director will serve as a liaison between the PMBB group and the University administration, will promote interdisciplinary and individual research efforts, and will lead initiatives to involve state agencies and industry and commodityoriented groups in the PMBB mission. The Director will lead efforts to recruit several additional faculty over the next three years. An attractive start-up package, competitive salary, and an excellent research laboratory suite will be provided. Applications will be considered after December 15 and will be evaluated until the position is filled.

Applications, curriculum vitae, and the names of four references should be sent to: F. Robert Tabita, Head of the PMBB Search Committee, Office of the Dean, College of Biological Sciences, The Ohio State University, Rm. 148A BioSci, 484 West 12th Avenue, Columbus, Ohio 43210-1292. The Ohio State University is an Equal Opportunity/Affirmative Action Employer. Qualified women, minorities, Vietnam-era veterans, disabled veterans, and individuals with disabilities are encouraged to apply.

Novo Nordisk Biotech, Inc. Postdoctoral Position in Recombination

Novo Nordisk A/S is the world's largest producer of industrial enzymes. Headquartered in Denmark, Novo Nordisk has operating facilities in over 50 countries worldwide. Novo Nordisk Biotech, Inc., located in Davis, CA, is a wholly owned R & D subsidiary of Novo Nordisk and is focused on the cloning, expression, mutagenesis, and characteriza-

tion of industrial enzymes. Postdoctoral Position - Molecular Genomics



The Company currently has a postdoctoral position available to study genetic recombination and repair in filamentous fungi. The research will focus on the isolation and characterization of genes that are associated with the organism's recombination/repair pathways. Applicants should have experience in fungi/yeast systems and a strong background in molecular biology.

If you are interested in a challenging research position with the world's leading producer of industrial enzymes and meet the above criteria, please send your C.V. with a list of three references for consideration to: **Novo Nordisk Biotech, Inc., Department of Human Resources, 1445 Drew Avenue, Davis, CA 95616. Please reference Job PD96.** *An Equal Opportunity Employer*



University of Pennsylvania School of Medicine Faculty Positions in Physiology

The Department of Physiology seeks to fill tenuretrack positions, at the Assistant or Associate Professor level, with researchers who use modern biophysical and/or molecular biology techniques in the study of basic signaling mechanisms in cell physiology, such as stimulus-secretion coupling, stimulus-contraction coupling of cardiac or smooth muscle cells, membrane/cytoskeleton and membrane/extracellular matrix interactions, regulation of membrane cycling, control of intracellular calcium stores, G proteincoupled signal transduction, or sensory transduction.

Please send a curriculum vitae, a statement of research interests, two reprints or preprints, and the names of three persons prepared to send letters of reference to:

Search Committee

Department of Physiology

University of Pennsylvania

Philadelphia, PA 19104-6085

Applications from female and minority candidates are particularly encouraged.

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

CORNELL UNIVERSITY

Graduate School of Medical Sciences announces a



Summer Internship Program for Minority College Students

The Cornell University Graduate School of Medical Sciences, composed of faculty drawn from Cornell University Medical College and the Sloan-Kettering Institute, has established a summer internship program for training under-represented minority college students in the biomedical sciences. The aim of the program is to awaken and foster an interest in biomedical research and education. Students will gain hands-on research experience under the guidance of a faculty member. This program is open to students who are interested in getting a Ph.D. degree and who have excelled in their freshmen, sophomore, or junior years in college.

The program will consist of semi-independent research projects carried out in laboratories at either Cornell University Medical College or Sloan-Kettering Institute, a seminar course on opportunities and career tracks for doctorates in the biomedical sciences, and a journal club. Dates for the program are: June 9 to August 1, 1997. Deadline for applying is February 1, 1997.

Subsidized housing, a modest food allowance, and a stipend of \$3,000 will be provided for the 8-week program. Students must have medical insurance for the period involved. Applicants must be U.S. citizens or have permanent visa status.

This program is supported by:

- The Avon Products Foundation, Inc.
- A training grant from the National Institutes of Health, National Heart, Lung, and Blood Institute.

To receive additional information and an application form, call or write to: Ms. Francoise Freyre, Program Administrator

Cornell University Graduate School of Medical Sciences 445 East 69th Street, New York, NY 10021 Phone: 212-746-6120 Fax: 212-746-8906

FELLOWSHIP PROGRAMS IN MICROBIOLOGY

Sponsored by the American Society for Microbiology

Undergraduate

ASM/Sustaining Member Undergraduate Research Fellowship (Web Site: http://www.asmusa.org/ edusrc/edu23a.htm)

ASM/NIGMS Minority Undergraduate Research Fellowship (Web Site: http://www.asmusa.org/edusrc/ edu23b.htm)

Graduate

Robert D. Watkins Minority Graduate Research Fellowship (Web Site: http://www.asmusa.org/ edusrc/edu23c.htm)

Faculty

ASM Faculty Fellowship Program (Web Site: http:// www.asmusa.org/edusrc/edu23f.htm) For information, Email: fellowships-careerinformation@ asmusa.org or Fax: 202-942-9329

Placement and Career Services

ASM Career Placement Service (Web Site: http:// www.asmusa.org/mbrsrc/mbr5.htm) For information, Phone: 202-942-9343 or Fax: 202-942-9346

Penn State College of Medicine

Graduate Studies and Postdoctoral Training



Biochemistry and Molecular Biology

Areas of research interest include: Regulation of gene expression and enzyme activity; Protein structure and interactions; RNA processing, ribozymes; Genetic recombination and genome organization; Cell surface glycoconjugates, proteins, and proteases; Mechanism of carcinogenesis, anesthesia, diabetes, and heart disease

College of Medicine Programs Anatomy

Biochemistry and Molecular Biology Cell and Molecular Biology Microbiology and Immunology

Inter-College Programs Bioengineering Genetics Nutrition Neuroscience Pharmacology MD/PhD Program PhD/MBA Program

Physiology Integrative Biosciences

For more detailed information and to apply visit our WWW site at http://www.hmc.psu.edu or contact

Assistant Dean for Graduate Education, Penn State College of Medicine, Hershey, PA 17033-0850, Telephone: (717) 531-8892 Fax: (717) 531-4582; E-mail: grad-hmc@psu.edu

PENNSTATE



College of Medicine University Hospital Children's Hospital The Milton S. Hershey Medical Center

Penn State is an affirmative action, equal opportunity university,

Medicine At The Core Of Life

Few biotechnology companies can offer you the promise and excitement of Gilead Sciences. We are a leader in the discovery and development of a new class of broad-spectrum antiviral therapeutics that may provide powerful new treatments for CMV retinitis, HIV and other viruses. Here, you'll be a part of a company that takes pride in its achievements, knowing that patients may benefit from the products we create.

We are proud to foster a diverse workforce and invite candidates to explore ongoing opportunities in the following areas: Regulatory Affairs, Analytical/Organic/Process Chemistry, Clinical Development, Toxicology, and Formulation.

GILEAD

At Gilead, we are committed to developing important treatments for a wide range of viral diseases, including AIDS. As you will discover, we are as committed to opportunity as we are to scientific achievement. Please send or fax your resume to: Human Resources, Gilead Sciences, 353 Lakeside Drive, Job Code SCI1101, Foster City, CA 94404, fax (415) 573-4800. We are proud to be an equal opportunity employer.



The Science of Agricultural Genetics

SENIOR RESEARCH ASSOCIATE Protein Biochemistry - Kit Development (lob #AB-704)

The successful candidate will: develop and produce immunochemical kits for the analysis of proteins; transfer technology and analytical methods to field research stations; complete assigned technology development projects; summarize data, organize projects, and prepare reports. The successful candidate will be working closely with the protein assay development, validation and applications groups. MS degree plus 4 years experience OR a BS degree plus 6 years experience in microbiology, biochemistry or molecular biology is required. Applicants should have specialized skills in applied immunochemistry and protein kit development. Experience in conducting product development, validation and scale-up under commercial conditions is highly desirable. Good communication skills are essential. Familiarity with computers and statistical analysis is important. Exposure to plant breeding and genetics would also be of value.

Pioneer Hi-Bred International, Inc. offers competitive salaries and excellent, comprehensive benefits. Des Moines is a prospering heartland city that ranks well above the national averages in affordability and education. Our location provides a mix of beautiful open spaces and city life advantages. For confidential consideration send 3 copies of your current resume and cover letter indicating job number by November 15, 1996 to: Pioneer Hi-Bred International, Inc., Attn: PERSONNEL (Job # AB-704), P.O. Box 1004, Johnston, IA 50131-1004.

Pioneer Hi-Bred International, Inc., is the world leader in agricultural genetics. Founded in 1926, we are a publicly held company that invests more than \$115 million in research and product development. Pioneer® brand products are grown in almost every cropproducing continent in the world. At our headquarters in Des Moines, Iowa, we're adding to our Research team.



PIONEER HI-BRED INTERNATIONAL, INC. An Equal Opportunity Employer



and marketing the health care products that will make a significant impact on generations to come. The Pharmaceutical Products Division of Abbott Laboratories, a worldwide leader in the development of healthcare products, has an immediate opening in the Protein Crystallography Laboratory.

MACROMOLECULAR CRYSTALLOGRAPHER

The Structural Biology group is looking for a new member of its Protein Crystallography Laboratory to support Discovery Projects within the Pharmaceutical Products Division. The Protein Crystallography Laboratory is dedicated to providing valuable structural information for applications in the areas of Rational Drug Design and Protein Engineering. Close interaction with the molecular modeling group, NMR spectroscopists, protein biochemists, medicinal chemists, and molecular biologists provides the appropriate milieu for creative and challenging research. We are looking for a candidate who is self-driven, imaginative, dedicated and enthusiastic. Such an individual can look forward to a gratifying career in the application of structural methodology to drug design.

Macromolecular Cystallographers with a Ph.D. and several years of post-doctoral experience are encouraged to apply. They should be strongly self-motivated individuals, able to conduct independent research using the techniques and methodology of macromolecular crystallography to solve problems of biomedical interest. The research will involve elucidating the three-dimensional structure of protein and protein/inhibitor complexes of interest as therapeutic targets in biomedical areas such as anti-infectives, neurosciences, immunosciences and degenerative diseases.

Our Protein Cystallography Laboratory is equipped with two Rigaku 12 Kw rotating anode x-ray generators, a Rigaku RAXIS IIC image plate and a MARRESEARCH area detector. Abbott is a participating member of the Industrial Macromolecular Crystallography Association (IMCA) which is actively pursuing the construction of two synchrotron beamlines for macromolecular crystallography in the Advanced Photon Source at Argonne National Laboratory. Commisioning of the beamlines for routine operation is planned for early in 1997. Our computing and graphics facilities are state-of-the-art.

With over 50,000 employees worldwide and more than \$10 billion in annual sales, we've established ourselves as a respected global business and innovative leader in the changing health care industry. For consideration, please send your resume with salary history to: Abbott Laboratories, Job #96-NCW-2808, Dept. D583, AP-6B, 100 Abbott Park Rd., Abbott Park, IL 60064. Abbott is an Affirmative Action Employer/Smoke-Free Environment.



William G. Allyn Chair in Medical Optics

The Institute of Optics University of Rochester **Endowed Professorship in Medical Optics**

The Institute of Optics invites nominations and applications for a new endowed professorship in medical optics. The successful candidate will be expected to have achieved international prominence in some aspect of medical optics, and to merit appointment at the level of full professor. He or she will be expected to conduct a vigorous program of research and to participate actively in the Institute's undergraduate and graduate teaching programs in optical science and engineering. The Institute of Optics, an academic department offering B.S., M.S., and Ph.D. degrees in optics, has approximately 120 undergraduate students and 85 graduate students in residence. The University's Medical Center and Center for Visual Science offer significant opportunities for collaborative research projects that involve the application of optical science, engineering, and technology to important areas of modern medicine. Each application should include a letter describing teaching and research interests, a curriculum vitae, and the names of three references. Nominations and applications should be sent to Professor Dennis G. Hall, Director, The Institute of Optics, University of Rochester, Rochester, New York 14627. The University of Rochester is an Affirmative Action/Equal Opportunity Employer.

The University of Medicine and Dentistry of New Jersey-New Jersey Dental School, Dental Research Center welcomes applications for the following Tenure **Track Research positions:**

ASSOCIATE PROFESSOR LEVEL

The position requires a person who has an independently funded pro-gram. Applicants who work in the area of microbiology and immunology will be considered. Preference will be given to applicants who have dem-onstrated expertise in microbial pathogenesis at the molecular level and have shown success as an independent investigator. This position repre-sents an outstanding academic research opportunity for a mid-career/or outstanding less senior investigator. outstanding less senior investigator.

ASSISTANT PROFESSOR LEVEL (2)

Researchers who work in the area of microbiology and immunology will be considered. Preference will be given to applicants who have demonstrated expertise in the techniques of microbiology and molecular biology and have shown success as an independent investigator. These positions represent outstanding academic research opportunities for junior or midcareer investigators

Periodontal disease(s) is a ubiquitous disease that effects over 60% of the population. This group of diseases results from an infection that is caused by bacteria that colonize the teeth, co-aggregate with other oral bacteria, eventually dominate their habitat and overcome the local host defense system. The focus of the Denial Research Center will be in the area of bacterial-bacterial, host-bacterial interactions employing methods in mod-ern molecular biology to study the pathogenesis of periodontal diseases. We wish to develop a program that create and implements novel approaches to the study of these areas.

Applicants must have a Ph.D., a minimum of two years of relevant postdoctoral experience and training or an interest in pursuing the area of molecular pathogenesis. Salary, fringe benefits, and start-up packages are more than competitive, and are commensurate with qualifications and experience. Starting time for the Assistant Professor positions are flexible to accommodate applicants. To apply send curriculum vitae, indicating position of interest; reprints; statements of research and teaching interest; and names and addresses, telephone and FAX numbers, and E-mail addresses of three persons who may be contacted as references to Dr. D. Fine, Director, Dental Research Center, University of Medicine and Dentistry of New Jersey(UMDNJ), NJDS, The Dental Research Center, Room C-813, 110 Bergen Street, Nerrack W 10 Z102 or a mail to fined/formdai edge

JERSEY

Newark, NJ 07103 or e-mail to finedh@umdnj.edu. UMDNJ is an Equal Opportunity Employer and operates under an Aff Action Policy. The University strongly encourages all qualified applicants

Program for **Minority Research Training in** Psychiatry

The American Psychiatric Association and the National Institute of Mental Health announce the availability of funds to support minority psychiatrists pursuing a career in psychiatric research.

- · The program provides medical students and psychiatric residents with funding for stipends, travel expenses, and tuition for an elective or summer experience in a research environment
- Stipends are also available for one-or twoyear post-residency fellowships for minority psychiatrists.

Training takes place at research-oriented departments of psychiatry in major U.S. medical schools and other appropriate sites nationwide. A research mentor at the training site oversees the research training experience.

Application Deadlines

- December 1 for residents seeking a year or more of training and for post-residency fellows:
- April 1 for Summer medical students who will start their training by June 30;
- or three months before training is to begin for medical students and other residents.

For more information about the PMRTP, call the toll-free number, 1-800-852-1390 or (202) 682-6225, or write:

Ernesto A. Guerra Office of Research American Psychiatric Association 1400 K Street, NW Washington, DC 20005

Postdoctoral Fellow

Department of Medicine

Mount Sinai School of Medicine seeks a researcher to study the interaction between sex steroids



human prostatic dis-Mount ease. We require a Ph.D. in Molecular Biology, with а strong background in molecular biology.

and growth factors in

Faculty position. Salary commensurate with experience. Please send curriculum vitae and cover letter indicating experience, curresearch work and rent names/phone numbers of three references to: Dr. Alice C. Levine, 1055, Box Division of Endocrinology of the Department of Medicine, The Mount Sinai Medical Center, One Gustave L. Levy Place, New York, NY 10029-6574. An Equal Opportunity Employer.

The Mount Sinai Medical Center of New York

Deputy Director of Basic Research The University of California, Davis, Cancer Center is seeking a full-time academic Deputy Director for Basic Research of the Cancer Center. Candidates must have a doctoral degree with credentials suitable for appointment with tenure at the rank of Associate Professor or Professor in a basic science department of UC Davis. Candidates should have significant and recognized scientific accomplishments in the molecular biology of cancer and demonstrated administrative ability to develop and focus research programs in cancer biology. UCD Cancer Center is a priority program for UCD and intends to fulfill NCI requirements for a designated cancer center. Because of strong emphasis on academic productivity as a factor for promotions at the University of California, candidates should have established a record of publications and a substantial past and current level of extramural research funding. Please forward the following: 1) letter describing research, teaching, and administrative background; 2) curriculum vitae; and 3) names and addresses of five references to Ralph deVere White, M.D., Chair, Search Committee for Deputy Director, UCD Cancer Center, 4501 X Street, Room #3003, Sacramento, CA 95817. This position will be "Open Until Filled;" for full consideration, applications should be received by February 15, 1997. The University of California is an Affirmative Action/Equal **Opportunity Employer.**



The National Institutes of Health has introduced a new web site. Now, the latest news about clinical and research training opportunities at NIH can be accessed by visiting us at http://helix.nih.gov;8001/oe/

At the site, you can quickly obtain information regarding clinical and postdoctoral training. Review the NIH tenure-track openings. Take a look at the NIH Postdoctoral Research Fellowship Opportunities Catalog which chronicles research being conducted in all NIH laboratories. You can even apply electronically for positions. All from the convenience of your keyboard.

Plus, the web site links to all NIH institute and laboratory home pages, provides a calendar of events, and offers links to many other areas.

We used to ask you to call us or send your *curriculum vitae*. Now, the best way to find out about world class opportunities at NIH is through the world wide web.



lational Institutes (Of Health

Office Of Education http://helix.nih.gov:8001/0e/

The NIH is an Equal Opportunity Employer

The

Richness of

Diversity

(P) PARKE-DAVIS

The Freedom to Discover.

Postdoctoral Fellowship

At Parke-Davis Pharmaceutical Research Division of Warner-Lambert Company, inspired science and a strategy of innovation has made us an international leader in the pharmaceutical industry. We currently have a Postdoctoral Fellowship available in our Immunopathology Department at our headquarters in Ann Arbor, Ml.

The selected individual will examine the immunoregulatory roles of T cells and cytokines in animal models of arthritis. A Ph.D. along with experience in Pharmacology or Cellular Immunology and experience or interest in working with animal models are required. Some molecular experience is preferred.

Members of our world-class pharmaceutical team enjoy competitive salaries, benefits and career growth potential. Candidates should send, fax or e-mail a resume to: Parke-Davis Pharmaceutical Research, Human Resources Department, BOX: CJM-963164, 2800 Plymouth Road, Ann Arbor, MI 48105. Fax: (313) 998-3394. E-mail: resume@aa.wl.com.

Equal opportunity in action. Smoke-free work environment

... strengthens the partnership between the company and its employees at Otsuka America Pharmaceutical, Inc. Here we value diversity of backgrounds and thought-the very core of originality and innovation that drives our success.

OAPI funds academic and clinical research in health care throughout North America. The major responsibility of the research facility located in Rockville, Maryland is in the area of applied clinical research which supports the exciting, ground breaking compounds already in clinical development.

In a corporate culture that develops, rewards and retains talented people, Otsuka employees work to create new products for better health and a better quality of human life worldwide. OTSUKA AMERICA PHARMACEUTICAL INC., 2440 Research Boulevard, Rockville, MD 20850.



COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES University of California, Davis

Inquiries are invited from qualified applicants for faculty positions currently available.

Positions are 9-month tenure track appointments unless otherwise indicated.* Eleven-month term employment will be offered and continued based upon academic personnel review.

*Assistant Cooperative Extension Specialist and Assistant Weed Ecologist (11-month, career track position). Conduct a mission-oriented research and extension program on weed biology and management. Position to be located in Salinas Valley. Apply to: W. Thomas Lanini, Dept. of Vegetable Crops or e-mail lanini@vegmail.ucdavis.edu. For additional information, see the departmental homepage at http:// veghome.ucdavis.edu. Position is open until filled; to ensure consideration, applications should be received by December 1, 1996.

Assistant Professor of Enology, Assistant Microbiologist in the Experiment Station. Conduct research in wine microbiology, with some emphasis in lactic acid bacteria. Establish a basic research program and teach in Enology. Must have a Ph.D. in Microbiology, outstanding academic record, commitment to high quality graduate/undergraduate education, and ability to develop a research program of international recognition. Apply to: Dr. Linda F. Bisson, Department of Viticulture and Enology. Position is open until filled; to ensure consideration, applications should be received by January 15, 1997.

Assistant/Associate Professor/Agricultural Economist specializing in Economic Development and/or International Trade. Position is open until filled: to ensure consideration, applications should be received by December 10, 1996. For information, contact: L.S.Jarvis, Search Chair, Dept. of Agr. & Res. Economics, e-mail lsjarvis@ucdavis.edu

Associate Professor and Associate Food Safety Microbiologist. Teaching in undergraduate and part of core graduate course in food microbiology. Applied and fundamental research on microorganisms or microbiological problems of importance to food safety. Apply to: David Ogrydziak, Dept. of Food Science and Technology. Position is open until filled; to ensure consideration, applications should be received by January 1, 1997.

Assistant Professor and Assistant Watershed Hydrologist. Teach an undergraduate field course in hydrology, an undergraduate course in watershed hydrology, and a graduate course in experimental hydrology. Develop a quantitative field-experimental research program in watershed hydrology emphasizing processes that may include land-atmosphere interactions, precipitation and runoff, surface water and groundwater interaction, and chemical cycling in watershed. Apply to: J.W. Hopmans, Hydrology Program, Dept. of Land, Air and Water Resources. For additional information, see the departmental homepage at http://hydrosci.ucdavis.edu. Position is open until filled; to ensure consideration, applications should be received by January 31, 1997.

Professorial positions have responsibilities for teaching, advising, and research (in the Agricultural Experiment Station) and require teaching and research experience. Cooperative Extension positions have responsibilities for applied research and outreach. Candidates must have a Ph.D. in an appropriate field. Applicants should submit resume, transcripts (if within five years of graduation), statement of research and teaching experience, list and reprints of publications, and the names and addresses of at least three persons familiar with the applicant's qualifications, to individual and department as noted for position (department name), **University of California, Davis, CA 95616**. Please indicate the position(s) in which you are interested. *The University of California is an Affirmative Action/Equal Opportunity Employer*.



ASSISTANT/ASSOCIATE MEMBER

The Molecular Pharmacology and Therapeutics Program at Memorial Sloan-Kettering Cancer Center invites applicants for a position at the Assistant or Associate Member level. The candidate should have a Ph.D. and/or M.D. degree and significant postdoctoral experience. We seek independent investigators with a background of scientific accomplishment who will use forefront molecular and biochemical techniques for the development of new cancer therapies. Start-up support will be provided. Candidates should send their curriculum vitae along with a description of career goals, research objectives, and names of three references by January 1, 1997 to:

Joseph R. Bertino, M.D. Program Chairman Molecular Pharmacology and Therapeutics Program Memorial Sloan-Kettering Cancer Center, Box 78 1275 York Avenue New York, NY 10021 Memorial Sloan-Kettering Cancer Center is an affirmative

action, equal opportunity employer.

Minority Fellowships in Neuroscience Doctoral Fellowships Postdoctoral Fellowships Summer Training at the Marine Biological Laboratory

Benefits

- Financial support for a period of up to three years (doctoral) or two years (postdoctoral)
- · Travel to prospective training sites
- Partial travel support to the Society for Neuroscience meeting
- Summer Program in Neuroscience, Ethics and Survival (SPINES) 97 at the Marine Biological Laboratory in Woods Hole, MA

Eligibility Requirements

- American citizenship or permanent visa residency; and
- Enrollment in a full-time doctoral program in neuroscience

An additional important factor for selection is that the applicant be a member of an under-represented minority group, including but not limited to African Americans, Alaskan Natives, American Indians, Mexican Americans, Pacific Islanders, and Puerto Ricans.

Application

For the doctoral program, applications are now being accepted and must be received by January 15, 1997. For the postdoctoral program, applications are also due January 15, 1997. Funding is provided by the National Institute of Mental Health. This program is administered by the American Psychological Association and the Association of Neuroscience Departments and Programs.

For information write: The American Psychological Association Minority Fellowship Program/Neuroscience 750 First Street, N.E. Washington, D.C. 20002-4242 (202) 336-6027 Internet: mfp@apa.org

CHAIRMAN/ DIRECTOR HUMAN GENETICS

The University of Chicago

The Division of the Biological Sciences at the University of Chicago, which includes the Pritzker School of Medicine, is seeking a Chairman of the Department of Human Genetics. It is expected that this newly-created department will have a total of 10 faculty with broad interests in clinical and basic human genetics. The Chairman reports to the Dean of the Division and is responsible for providing academic administrative leadership in research and the teaching of undergraduate, graduate, postgraduate and medical students. The successful applicant will have an outstanding record of scientific accomplishment and demonstrated teaching and administrative abilities which will qualify him or her for the rank of Professor. Among the resources available to the new department and its chair is the Center for Human Genetics within the University's new Jules F. Knapp Medical Research Building. The Center will incorporate 10,000 net square feet of newly constructed research space. Please send curriculum vitae and the name of three individuals familiar with your work to: Godfrey S. Getz, M.D., Ph.D., Chair, Search Committee for Human Genetics, c/o Nola Roth, The University of Chicago, 5841 South Maryland Avenue, MC 1000, Chicago, IL 60637-1470. Applications should be submitted by December 31, 1996.



An Affirmative Action/ Equal Opportunity Employer. The transition from theory to practical application transforms molecules to medicines.

PHARMACEUTICAL DEVELOPMENT AT SCHERING-PLOUGH

At Schering-Plough's Pharmaceutical Development Facilities, scientists skillfully develop innovative formulations, and drug delivery systems to bring quality pharmaceutical products to market. In this technologically advanced environment, you will provide the vital link between research and manufacturing.

Postdoctoral Fellows

FORMULATION RESEARCH AND DRUG DELIVERY

You will be part of a professional team screening drug candidates using *in vitro/in vivo* techniques to assess potential for oral absorption and identify the mechanisms associated with the transport through biological membranes. The emphasis will be on the use of CaCo-2 cell monolayer permeability as an *in vitro* screening tool. To qualify, you will need to be an independent self starter with a PhD in Pharmaceutical Sciences, Biophysics, Biochemistry, Pharmacology or a related discipline. A background in cell culture and/or membrane transport is highly desirable. To be considered for this position, please reference Dept. TM-PHA-JW.

NOVEL DRUG DELIVERY SYSTEMS

You will conduct research in the area of novel carriers for the delivery of biologics ranging from DNA to proteins and emphasis will be placed on non-viral vectors for gene delivery. To qualify, you will need a PhD in Pharmaceutical Sciences, Biophysics, Biochemistry, Pharmacology or a related discipline and a strong background in the characterization of lipids and polyelectrolytes as related to drug delivery. Experience with structure-property relationships and solubility predictions is a plus. To be considered for this position, please reference Dept. TM-PHB-JW.

We offer an excellent compensation package including a competitive salary and comprehensive benefits. For prompt, confidential consideration, we invite you to forward a resume indicating the Dept. Code for your position of interest to: Human Resources-JW, Schering-Plough Research Institute, MS # 1255, 2015 Galloping Hill Road, Kenilworth, NJ 07033-0539. 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.



FACULTY POSITION IN MOLECULAR NEUROSCIENCE

WASHINGTON UNIVERSITY Department of Anatomy and Neurobiology

We seek an individual taking innovative approaches to fundamental questions in molecular, cellular, or developmental neuroscience for a tenure track faculty position in the Department of Anatomy and Neurobiology at Washington University School of Medicine. The department houses 21 active research labs in neurobiology, and it is part of a much larger interdepartmental neuroscience program. The department has state-of-the art facilities for automated DNA sequencing, confocal microscopy, image processing, and a transgenic mouse facility. Both the department and the neuroscience program offer numerous opportunities for scientific interactions and collaborations. Our focus is on an appointment at the Assistant Professor level, but an appointment at the Assistant Professor level will also be considered.

Applicants should send a curriculum vitae, synopsis of research interests, and names (incl. addresses, phone/fax/ email) of three references to: Dr. David Van Essen, Head, Anatomy and Neurobiology, Box 8108, Search Committee A, Washington University School of Medicine, 660 S. Euclid Ave., St. Louis, MO 63110, by January 1, 1997. Affirmative Action/Equal Opportunity Employer. Applications from minorities and women are encouraged.

FACULTY POSITION IN SYSTEMS NEUROSCIENCE

WASHINGTON UNIVERSITY Department of Anatomy and Neurobiology

We seek an individual whose research focusses on non-human primates and who is taking innovative approaches to important questions in systems neuroscience for a tenure track faculty position in the Department of Anatomy & Neurobiology at Washington University School of Medicine. We are particularly interested in applicants working on sensory processing, motor control, or cognitive function and whose research includes a strong computational aspect. Excellent laboratory space is available in a new state-of-theart primate facility. Our emphasis is on an Assistant Professor appointment, but we will also consider an appointment at a more senior level. The department houses 21 faculty who are actively involved in neurobiological research, and it is part of a much larger interdepartmental neuroscience program. The new primate facility is in close proximity to a new Imaging Center containing superb PET and MRI research facilities. Both the department and the neuroscience program offer numerous opportunities for scientific interactions and collaborations.

Applicants should send a curriculum vitae, synopsis of research interests, and names (incl. addresses, phone/fax/ email) of three references to: Dr. David Van Essen, Head, Anatomy and Neurobiology, Box 8108, Search Committee B, Washington University Sch Med, 660 S. Euclid Ave., St. Louis, MO 63110, by January 1, 1997. Affirmative Action/Equal Opportunity Employer. Applications from minorities and women encouraged.

Associate Staff Scientist Job Ref.: FLO1096 Cell Biologist/Cellular Pharmacologist

We are seeking an Associate Staff Scientist to join our cyclic nucleotide phosphodiesterase (PED) program. This individual will design and execute experiments to elucidate the role of cyclic nucleotides and PDEs in a variety of cellular processes. Cell types of interest include endothelial cells, neurons, adipocytes, lymphhocytes, and smooth muscle cells. In addition, this individual will manage the PDE antibody library and coordinate the production and characterization of novel antibodies.

A Ph.D. in cell biology, pharmacology, physiology, or related field is preferred. The successful candidate will possess the ability to develop and lead projects that connect information about the properties and localization of PDEs with their role in cellular functions. The successful candidate will be skilled in the isolation of mammalian cells and optimization of culture conditions, and will have experience in obtaining biochemical readouts from cell-based assays. A sound basic understanding of signal transduction, as well as excellent communication skills and enthusiasm for highly collaborative work, is essential.

Please send resume to: ICOS Corporation Human Resources Job Ref.: FLO1096 22021 20th Ave. SE Bothell, WA 98021

www.bio.com/companies/ICOS.html





The Biology Department of St. Lawrence University invites applications for the following:

Animal Physiologist: A one-year position as a visiting assistant professor to begin Fall of 1997. We are seeking an animal physiologist with a demonstrated competence to teach laboratory courses in introductory and advanced animal physiology along with two other courses within the successful candidate's area of expertise. A Ph.D. is required along with a commitment to teaching at the undergraduate liberal arts level. Candidates should submit a curriculum vitae, a statement of teaching philosophy and interest, a statement of current research interests, and should have three letters of recommendation forwarded to: Dr. David Hornung, Biology Department, St. Lawrence University, Canton, NY 13617. The search committee will review applications beginning December 15, 1996.

Ecologist/Botanist: A one-year position, with the possibility of renewal, as a visiting assistant professor to begin Fall of 1997. We are seeking an ecologist/botanist with a demonstrated competence to teach laboratory courses in ecology and botany along with two other courses within the successful candidate's area of expertise. A Ph.D. is required along with a commitment to teaching at the undergraduate liberal arts level. Candidates should submit a curriculum vitae, a statement of teaching philosophy and interest, a statement of current research interests, and should have three letters of recommendation forwarded to: Dr. Karl McKnipht, Biology Department, St. Lawrence University, Canton, NY 13617. The search committee will review applications beginning December 15, 1996.

St. Lawrence University, chartered in 1856, is the oldest continuously coeducational institution of higher learning in New York State. An independent, private university firmly committed to undergraduate liberal arts education and cross-cultural opportunities, St. Lawrence University offers a unique learning environment. The University's 1900 students come from most U.S. states and more than two dozen other countries. Canton, the St. Lawrence River valley, the nearby Adirondack State Park, and the cities of Ottawa and Montreal provide the University community many social, cultural, and outdoor recreational activities. SLU's homepage is at http://www.stlawu.edu. St. Lawrence University is an Affirmative, veterans, and persons with disabilities are encouraged to apply.



Institute for Medicine and Engineering

The School of Engineering and Applied Science and the School of Medicine have defined biomedical engineering as a strategic commitment for the 21st Century. The Schools of Medicine and Engineering have jointly established the Institute for Medicine and Engineering (IME) to enhance interdisciplinary research and academic programs at the interface of medicine and engineering. The IME will be located in the new Vagelos Research Laboratory Building in the Institute for Advanced Science and Technology complex adjacent to both schools.

Major new research and educational initiatives are planned with several tenure track faculty appointments to be made over the next three years in the Department of Bioengineering in association with the IME, starting with two positions with an expected start date of mid-1997.

Candidates will be qualified in an area of research in bioengineering. Principal criteria for selection will include evidence of creative, fundamental research at the interface between engineering and medicine and a strong indication of research funding potential or record commensurate with the level of appointment. Some appointments will be made at the starting Assistant Professor level. Candidates will be expected to establish new research activities to complement and strengthen existing research areas, and to teach and supervise undergraduate and graduate bioengineering students and participate in interdisciplinary academic programs.

Current priorities of the Department of Bioengineering and IME include strengthening our research and educational programs in their aspects of tissue, cellular, and molecular engineering. The Department and IME have major strengths and interests in the following areas: Biomaterials ;Biomechanics with applications in trauma at the system, organ, and cellular levels; Cardiovascular mechano signaling; Cellular and molecular engineering with applications in cell transformations and protein interactions; Neuroengineering with applications in vision; Neural function and rehabilitation; Neurotrauma, Respiratory system dynamics; and Tissue engineering.

Applicants should send a full curriculum vitae, names and addresses of 3 references, a statement of research interests, and 3 copies of recent publications to: Chair, Faculty Search Committee, University of Pennsylvania, Department of Bioengineering, Hayden Hall, 3320 Smith Walk, Philadelphia, PA 19104-6392. Consideration of candidates wil begin November 1, 1996 and continue until positions are filled.

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

Ecotoxicologist THE COLLEGE OF WILLIAM AND MARY VIRGINIA INSTITUTE OF MARINE SCIENCE SCHOOL OF MARINE SCIENCE

The School of Marine Science and the Virginia Institute of Marine Science, The College of William and Mary, invites applications for a Tenure Track Position in Ecotoxicology at the Associate or Full Professor rank, with specialization in environmental risk assessment for coastal and estuarine systems.

WILLIAM

& MARY

Applicants possessing the Ph.D. degree with demonstrated capabilities and experience in teaching and research are sought. Research experience should focus on coastal ecology and environmental risk assessment and include application of risk models. Appointment will be in the Department of Environmental Sciences where opportunities for collaboration exist with programs in environmental chemistry and microbiology, organismal and sub-organismal toxicology, immunology, and pathobiology.

The successful applicant will be expected to develop an extramurally funded research program in ecotoxicology and environmental risk assessment, to teach and mentor graduate students, and to participate to advise agencies of the Commonwealth. Interactive experience with regulatory agencies is desirable.

Salary dependent upon qualifications. Send curriculum vita, statement of research and teaching interests, and a list of at least three references (name, address, telephone and e-mail) to:

Dr. Morris H. Roberts, Jr. Department of Environmental Sciences Virginia Institute of Marine Science and School of Marine Science The College of William and Mary P.O. Box 1346 Gloucester Point, VA 23062

Review will begin on 15 January 1997 and will continue until an appointment is made.

The College of William and Mary is an equal opportunity, affirmative action employer. Members of under represented groups (including people of color, persons with disabilities, Vietnam Veterans and women) are strongly encouraged to apply.

Astra Merck... A new kind of company

t Astra Merck, we're revolutionizing the pharmaceutical industry by partnering with our customers to develop and deliver customized healthcare solutions. Our organizational structure is designed to effectively market current products and to expedite the development and introduction of new products in the United States. Astra Merck is committed to attracting and training outstanding people to join our empowered, cross-functional business teams. Ideal applicants will have advanced degrees (M.B.A.s, Ph.D.s, Pharm.D.s, M.D.s) in various disciplines (Business, Marketing, Human Resources, Computer or Information Sciences, the Sciences) and prior experience within the pharmaceutical industry. For consideration for both field and headquarter positions, please forward your resume to Human Resources Department, Astra Merck, 725 Chesterbrook Boulevard, Wayne, PA 19087. We are an equal opportunity employer, M/F/D/V.



Customer focused, technologically enabled.





MEDICAL SCIENCES Graduate Study Toward the Ph.D. or M.D.-Ph.D Degree in the Biomedical Sciences

CORNELL UNIVERSITY

GRADUATE SCHOOL OF

The Cornell University Graduate School of Medical Sciences, composed of faculty drawn from Cornell University Medical College and the Sloan-Kettering Institute for Cancer Research, provides opportunities for graduate study leading to the Ph.D. or combined M.D.-Ph.D. degree in various fields of biomedical sciences. Programs of study include biochemistry and structural biology; cell biology and genetics; immunology; molecular biology; neuroscience; pharmacology; and physiology and biophysics. Special funding is available for interdisciplinary training in molecular medicine.

Successful applicants will be awarded full graduate fellowships covering living expenses and tuition. Subsidized university housing is available for all students, and the student health plan provides ambulatory care and hospitalization for all registered students.

The Cornell University Graduate School of Medical Sciences is part of the New York City Campus of Cornell University at Ithaca, New York. It is a component of a large biomedical research complex extending along York Avenue on Manhattan's East Side, including Cornell University Medical College, The New York Hospital, Memorial Sloan-Kettering Cancer Center, The Hospital for Special Surgery, and Rockefeller University. These institutions constitute one of the world's outstanding centers for biomedical research and education, as well as for medical diagnosis and treatment.

The Cornell University Graduate School of Medical Sciences is committed to the successful recruitment and training of qualified women and members of under-represented minority groups, including, but not limited to, African Americans, Alaskan Natives, American Indians, Hispanic Americans, and Pacific Islanders.

Cornell University is an Equal Opportunity/Affirmative Action Employer. To receive additional information and an application kit, call or write to:

Cornell University Graduate School of Medical Sciences 445 East 69th Street, New York, NY 10021 tel: 212-746-6565; fax: 212-746-8906

FACULTY POSITION IN PHARMACOLOGY UNIVERSITY OF CALIFORNIA, IRVINE

The Department of Pharmacology at University of California, Irvine (UCI) invites applications for a tenuretrack faculty position at the level of **ASSISTANT PRO-FESSOR**. We seek a scholar with a proven record of research accomplishment in molecular biology who has an interest in the function of brain neurotransmitters and receptors. Special consideration will be given to candidates with expertise and publications in gene "knockout" procedures. Other qualifications include an M.D. and/or Ph.D. in pharmacology or a related field and an interest and talent for teaching. Curriculum vitae, references, and a summary of research interests should be sent to: **Prof. O. Civelli, Chair Search Committee, Department of Pharmacology, College of Medicine, University of California, Irvine, Irvine, CA 92697-4625.** *UCI is an Affinnative Action/Equal Opportunity Employer.*

CHAIR Department of Biology and Chemistry

The University of Montevallo is seeking to fill the position of CHAIR of the Biology–Chemistry Department. A Ph.D. in biology is required, preference will be given to a zoologist capable of teaching comparative vertebrate anatomy. Qualified candidates with backgrounds in other areas will be considered. Teaching experience and a strong dedication to undergraduate teaching and research are required. Prior administrative experience is desirable. Send curriculum vitae and three letters of recommendation to: Dr. Davinderjit Bagga, Department of Biology and Chemistry, Station 6480, The University of Montevallo, AL 35115. Review of the applications begins immediately and will continue until the position is filled. The University of Montevallo is an Affinnative Action/Equal Opportunity/AD.4 Employer.

INDUSTRIAL HYGIENE FACULTY POSITION

Full-time faculty position in Industrial Hygiene at the ASSISTANT or ASSOCIATE PROFESSOR level. Applicant must possess a doctoral degree in an appropriate subspecialty of public health, engineering, or chemistry, but with a demonstrated professional commitment and competence in industrial hygiene. Candidate should have demonstrated experience in research. Responsibilities include developing an extramurally funded research program in exposure assessment and teaching. Send curriculum vitae and the names of five references to: Marc B. Schenker, M.D., M.P.H., Chair, Department of Epidemiology and Preventive Medicine, TB 168, University of California, Davis, CA 95616. The position will be open until filled but not later than December 31, 1997. The University of California is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR: Tenure-track position. Available August 1997, pending budget approval. To teach Vertebrate Anatomy and Physiology. Experience in human anatomy and physiology and/or animal behavior desirable. Candidates for the position should be able to teach in the General Biology sequence and be qualified to offer courses in the core science sequence. Supervise undergraduate research projects. Ph.D. required; postdoctoral teaching experience is desirable. Experience in an urban academic setting is a plus. Applications, including curriculum vitae, the names and addresses of three references, and all transcripts should be submitted to: Dr. Michael E. Held, Chair, Biology, Saint Peter's College, Jersey City, NJ 07306. Application deadline is November 22, 1996. Saint Peter's College is an Equal Opportunity/Affinative Action Employer and complies with Title IN of the Education Amendments of 1972 and with Section 504 of the Reliabilitation Act of 1973.

MOLECULAR BIOLOGIST Division of Cardiovascular Pathophysiology Cornell University Medical College

A tenure-track **INSTRUCTOR** or **ASSISTANT PROFESSOR** level position is available for a broadly trained and highly motivated Ph.D. molecular biologist with background in extracellular matrix biology to join a collaborative research group studying the basic biology of valvular diseases. Candidates with records of successful past collaborative efforts and research productivity are preferred. Competitive salary and start-up package. Appointment begins January 1, 1997 or as soon as possible thereafter. Interested candidates should submit curriculum vitae, statement of research interests, and names of three references to: Jeffrey S. Borer, M.D., Cornell University Medical College, 1300 York Avenue, New York, NY 10021.

POSITIONS OPEN

NEUROBIOLOGY AND IMMUNOLOGY

Two full-time, tenure-track **ASSISTANT PROFES-SOR** positions scheduled to begin fall term 1997.

Neurobiologist: Teach upper-level undergraduate course in neurobiology and junior level course with laboratory in either general genetics, cell biology, or comparative animal physiology. May teach introductory bio ogy and participate in an interdisciplinary course (Science in Context). Ph.D. with appropriate background and experience in neurobiology and either genetics, cell biology, or comparative animal physiology. Postdoctoral experience preferred. Send application materials to: **Neurobiologist Search**.

Immunologist: Teach upper-level undergraduate course in immunology and a junior-level course with laboratory in either general genetics or cell biology. May teach introductory biology and participate in an interdisciplinary course (Science in Context). Ph.D. with appropriate background and experience in immunology and either genetics or cell biology. Postdoctoral experience preferred. Send application materials to: **Immunologist Search**.

Faculty are expected to develop active research programs involving undergraduates. A commitment to undergraduate teaching and liberal arts education is also required. Interested individuals are encouraged to submit application materials postmarked no later than December 11, 1996 to ensure consideration. Submit interest letter that describes teaching philosophy, specific courses qualified to teach, and proposed research, curriculum vitae; and a minimum of three reference letters that address teaching and research to: (Specify Search) University of **Puget Sound, P.O. Box 7297, Tacoma, WA 98407.** *Equal Opportunity/Affinative Action Employer.*

Animal Physiologist—Applications are invited for a tenure-track position at the **ASSISTANT PROFESSOR** rank to begin August 1997. Ph.D. is required. We seek a physiologis who is committed to combining teaching and research at a liberal arts institution. Primary teaching responsibilities will be general zoology and comparative physiology, additional course(s) may include comparative antomy, human anatomy and physiology, neurophysiology, or another course in the candidate's area of expertise. The successful candidate is expected to involve undergraduates in collaborative research. Applicants must submit a curriculum vitae, three letters of recommendation, undergraduate and graduate transcripts, and statements of educational and research objectives by 15 December 1996 to: Search Committee, Department of Biology, Denison University, Granville, OH 43023.

ASSISTANT PROFESSOR MOLECULAR BIOLOGY AND GENETICS

The Department of Molecular Biology and Genetics at The Johns Hopkins University School of Medicine has a position available at the **ASSISTANT PROFESSOR** level. Candidates of exceptional promise in the general research area of molecular biology and in teaching are invited to apply by submitting a curriculum vitae, a brief statement of future research plans, and three letters of reference by January 1, 1997 to:

Ms. Dawn Parker Search Committee Department of Molecular Biology and Genetics The Johns Hopkins University School of Medicine 617 Hunterian, 725 North Wolfe Street Baltimore, MD 21205

The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.

Tenure-Track, Biochemistry—ASSISTANT/ASSO-CIATE rank—fall 1997. Candidates should have expertise in biochemical aspects of immunochemistry and cell biology. Teaching may include upper-division lecture/ laboratory and graduate biochemistry courses. Candidate is expected to establish a research program in immunological aspects of biochemistry and cell biology, and be knowledgeable in techniques using protein antigen/antibody reactions, tissue-hybridoma cultures, and monoclonal antibodies. Further information and application forms can be obtained from: Chair, Department of Chemistry, San Jose State University, San Jose, CA 95192-0101. Please reference PVIN SCI97-030. Applications should be complete by December 15, 1996. Interviews will commence February 1, 1997 and continue until the position is filled. *Minorities and women are strongly encottaged to apply. San Jose State University is an Equal Oppertunity/Alfirnative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR of Medicinal Chemistry. The Division of Medicinal and Natural Products Chemistry of the College of Pharmacy at the University of Texas invites applications for a tenure-track position at the Assistant Professor level to be filled by September 1997. The selected candidate will be expected to establish a rigorous research program in any area of modern medicinal or bioorganic chemistry. Participation in undergraduate teaching and the development of graduate courses in the area of research expertise is also expected. A Ph.D, with postdoctoral experience is required. A background in pharmacy or in a pharmacy-related discipline is preferred but not required. Send curriculum vitae, a summary of research plans, and the names of three references to: Dr. Chris Whitman, Medicinal Chemistry Division, PHR 4.220B, College of Pharmacy, The University of Texas, Austin, TX 78712-1074. The deadline for the receipt of applications is December 15, 1996.

ANIMAL PHYSIOLOGY NORTHEASTERN UNIVERSITY

The Department of Biology invites applications for a **TENURE-TRACK ASSISTANT PROFESSOR**-**SHIP**. Qualifications include a Ph.D. and postdoctoral experience. The successful candidate will be expected to develop an externally funded research program in an area that complements and supplements our current research strengths in physiology. Additionally, the individual will be expected to participate enthusiastically in undergraduate and graduare teaching. Information about the department is available at our websites: www.dac.neu.edu/ Units/ArtsSci/MSC/MSCHOmePage.html.

Applicants should send a curriculum vitae and a statement of research and teaching interests, and should arrange to have at least three letters of reference forwarded independently to: Biology Faculty Search Committee, 414 Mugar Building, Northeastern University, Boston, MA 02115. Review of applications will begin on December 1, 1996. Nonlicastern is an Equal Opportunity/ Affinative Action/Title IN University. Women and minority candidates are especially encouraged to apply.

Biomedical Science (6-6155). The University of Nebraska Medical Center (UNMC) College of Dentistry, Department of Oral Biology, has a full-time, tenure-leading position at the ASSISTANT/ASSOCIATE PROFESSOR level. Responsibilities include undergraduate and graduate teaching in human physiology and/or oral biology and establishment of a vigorous research program. Preference given to expertise in molecular biology or biomechanics appropriate for collaboration with ongoing research programs in craniofacial growth, immunoregulation, or biomaterials. Ph.D. or equivlaent degree required. Postdoctoral experience preferred. Salary and rank commensurate with background, training, and experience. Review of applications will continue until position is filled. Send curriculum vitae, statement of research plans, and three letters of reference to: Office of the Dean, Position Number 6-6155, UNMC College of Dentistry, P.O. Box 830740, Lincoln, NE 68583-0740.

The Johns Hopkins University, Department of Chemis-, invites applications for a tenure-track position of AS-SISTANT PROFESSOR in experimental physical chemistry. We are seeking a person who will establish a vigorous research program that complements the interests of the current faculty, and who will participate effectively in teaching at the graduate and undergraduate levels. Specific research interests are of less importance than scientific promise; scientists specializing in condensed matter studies as well as research involving interfaces and small molecules are encouraged to apply. Applicants should submit their curriculum vitae and a summary of research plans, and should arrange for three letters of recommendation to be sent to: Professor Dean W. Robinson, Department of Chemistry, The Johns Hopkins University, 3400 North Charles Street, Baltimore, MD 21218. To ensure full consideration, materials should be received by December 1, 1996. The Johns Hopkins University is an Equal Opportunity/ Affirmative Action Employer.

ASSOCIATE SCIENTIST—laboratory manager. Located in greater Boston, position requirements include confocal and EM skills, and ability to execute NIH-funded programs and coordinate lab activities of 10 technicians. Salary up to \$36,000. Send curriculum vitae to: S. Tzipori, Division of Infectious Diseases, Tufts University Veterinary School, Grafton, MA 01536. Telephone: 508-839-7955; FAX: 508-839-7977; Email: stzipori@infonet.tufts.edu

DEPARTMENT OF RADIATION & CELLULAR ONCOLOGY AND COMMITTEE ON CANCER BIOLOGY Division of Biological Sciences University of Chicago

The Departments Radiation & Cellular Oncology and Committee on Cancer Biology in the Division of Biological Sciences, University of Chicago, seek candidates for a full time tenure track faculty position at the Assistant or Associate Professor level available July 1997. Applicants should have a Ph.D. or equivalent degree, postdoctoral experience, and expertise in molecular biology, molecular carcinogenesis, or experimental therapeutics. The candidate will be expected to develop an innovative, externally funded research program in the carcinogenesis of malignancies of the upper aerodigestive tract including the esophagus and head and neck. A successful candidate will be joining an established group of faculty. Applicants should be interested in developing a program that can lead to successful translational cancer research. Integration with a large multispecialty clinical program is expected. The development of an integrated cancer program in this area has been made possible by a recent donation to the University of Chicago. These funds will be used to provide start-up and salary support, commensurate with experience. Modern research facilities are available. Applications should include curriculum vitae, representative reprints, a statement regarding research interests and future plans as well as three letters of recommendation. Send all materials to: Dr. Craig Thompson, University of Chicago, 5841 S. Maryland Avenue, MC 2115, Chicago, IL 60637-1470.

THE UNIVERSITY OF CHICAGO An Affirmative Action/Equal Opportunity Employer.

PENNSTATE



FACULTY POSITIONS DEPARTMENT OF VETERINARY SCIENCE COLLEGE OF AGRICULTURAL SCIENCES

Applications are invited for two tenure-track or tenured positions at the levels of assistant or associate professor. Candidates with interests in **molecular biology, toxicology, microbiology, pharmacology, nutrition, neurendocrinology, and molecular pathology, as** related to the disciplines of immunology, will be considered. Applicants at the associate professor level should have an established externally-funded research program. Applicants at the assistant professor level should be recent graduates, preferably with some postdoctoral experience, with the potential for building a solid research program based on externally funded support. The responsibilities for these positions include development of an active, independent research program and participation in undergraduate and graduate education in the department.

Start-up funds and ample laboratory space supported by excellent clinical facilities in our Animal Diagnostic laboratory are available. Applications will be accepted until the positions are filled; however, initial review will begin on December 1, 1996. Applicants should send a curriculum vita, a brief summary of research objectives; and names, addresses, and telephone numbers of at least three references to: DR. GARY H. PERDEW, CHAIR, FACULTY SEARCH COMMITTEE, THE PENNSYLVANIA STATE UNIVERSITY, 115A HENNING BUILDING, BOX SCI, DEPARTMENT OF VETERINARY SCIENCE, UNIVERSITY PARK, PA 16802-3500.

An Affirmative Action/Equal Opportunity Employer. Women and Minorities Encouraged to Apply.

SMITH COLLEGE DEPARTMENT OF BIOLOGICAL SCIENCES BACTERIOLOGIST

The Smith College Department of Biological Sciences invites applications for a fulltime, tenure-track Assistant Professor in bacterial physiology or bacteriology/immunology starting September 1, 1997. We seek a biologist with expertise in bacterial physiology to participate in introductory biology or cell biology and to offer a onesemester lecture and laboratory course in bacteriology at the intermediate level. Ability to teach immunology or pathogenic microbiology is highly desirable. **Professor S. A. Williams.**

MICROBIOLOGIST

The Smith College Department of Biological Sciences invites applications for a fulltime, tenure-track Assistant Professor in microbial physiology starting September 1, 1997. We seek a biologist with expertise in eukaryotic microbiology to participate in introductory biology and to offer a one-semester lecture and laboratory course in microbiology or physiology at the intermediate level. Teaching of an advanced course in the applicant's area of specialty will be encouraged. Professor S. P. Scordilis. Candidates should have a Ph.D., a commitment to undergraduate teaching, and a strong research program with projects suitable for undergraduates. Preference will be given to persons with significant teaching and/or postdoctoral experience. Located in Western Massachusetts, Smith College is a leader in the education of women and has a large and active Biological Sciences Department. The Five College Consortium, comprised of Smith, Amherst, Mount Holyoke and Hampshire Colleges and the University of Massachusetts, provides a rich intellectual and cultural life for faculty and students, as well as collegial opportunities in teaching and research. A curriculum vitae, statement of teaching philosophy and research interests and experience, and three letters of recommendation should be sent to: (Professor's Name), Department of Biological Sciences, Clark Science Center, Smith College, Northampton, MA 01063. Applications should be received by November 15, 1996. An Affirmative Action/ Equal Opportunity Institution. Minorities and women are encouraged to apply.

CLINICIAN SCIENTISTS HUMAN GENETICS PROGRAM

Geisinger Clinic, the Henry Hood Research Program, is seeking recently trained PHYSICIANS in Internal Medicine, Obstetrics/Gynecology, or Pediatrics to practice human genetics in the Pediatrics and Obstetrics/Gynecology division and to do laboratory research in molecular genetics. The primary appointment will be in the Research Program with up to 25% of time devoted to clinical activities. These positions are funded by institutional monies. Research funds include budgeted monies for supplies and technical support. Additional support can be obtained through grants. The Internal Medicine appointment will be in the Oncology Department. The Pediatrics/Obstetrics/Gynecology appointment will be in the field of the candidate's clinical training. Successful candidates should be Board-certified / Board-eligible in Medical Oncology, Pediatrics, or Obstetrics/Gynecol ogy. The Basic Research Program has well-established research in signal transductions, cell cycle regulation, gene transcription, extracellular matrix proteins, and function of oncogenes. Research must be conducted independently but collaboration with members of the Basic Research program is encouraged. Geisinger Medical Center, located in Danville, is a 548-bed tertiary care and academic institution, providing care for 2.3 million in eastern and central Pennsylvania. You can enjoy the advantages of living in a small town with low crime, good schools, and reasonable housing costs and still do research and practice medicine in a large urban style medical center. Please send your curriculum vitae along with all inquiries to: Kurt Scott, c/o Howard E. Morgan, M.D., Geisinger Physician Recruitment (GEN-CS), 100 North Academy Avenue, Danville, PA 17822-1528. Telephone: 800-845-7112. FAX: 800-622-2515. Equal Opportunity Employer. Minorities/Females/Disabled/Veterans.

SCIENTIFIC SOFTWARE ENGINEER

Affymetrix, located in the heart of Silicon Valley, seeks a SCIENTIFIC SOFTWARE ENGINEER to develop algorithms and visualization tools for the interpretation of DNA hybridization data. The specific application is mu-tation screening in the BRCA 1 gene, including the de-tection of heterozygous mutations. For this one-year appointment, we seek an independent, inquisitive thinker who can provide innovative solutions to data analysis programs. Requirements include a B.S./M.S. in computer science or equivalent and strong background in mathematics and statistical analysis with three years' related experience. Experience with C++ application programming and user interface development essential; Windows/MFC experience desirable. Travel will be required between Affymetrix and the collaborator's site. For consideration, please send or FAX your résumé to: Affymetrix, Human Resources, 3380 Central Express way, Santa Clara, CA 95051. FAX: 408-481-0422. Equal Opportunity Employer.

PROTEIN BIOTECHNOLOGIST

Seeking individual with experience in the expression of recombinant proteins to join a drug development group. The position involves vector construction, site-directed nutagenesis, *E. Coli* and baculovirus expression of protein tyrosine kinases, along with their purification and characterization. Individual must be independent, yet work as part of a multidisciplinary research team. Applicants should have a Ph.D. or M.S. with experience. Please send curriculum vitae and names of three references to: **Raymond Budde**, Ph.D., Department of Neuro-Oncology, Box 316, M.D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030. Email: rjabudde@utmdacc.mda.uth.tmc.edu. The Uniresity of Texas M.D. Anderson Cancer Center is an Equal Opportunity/Alfinative Action Employer. Women and minorities are encouraged to apply.

AQUACULTURE SPECIALIST

Ph.D. scientist is needed to initiate and direct operation of a large tilapia tank culture facility. Additional duties include research and education for the University's aquaculture/mariculture (shrimp and fish) programs. Review of applications will begin November 10, 1996, and continue until the position is filled. For confidential consideration, send letter of application, résumé (including salary requirements), and the names and addresses of three work-related references to: Dr. Richard Dodge, c/o Nova Southeastern University, Human Resource Department (DSF), 3301 College Avenue, Fort Lauderdale, FL 33314. Equal Oppertunity Employer/Affinative Action/Sindse-free Campus. POSITIONS OPEN



The position is available immediately to study within a dynamic, multidisciplinary research group cholesterol and lipid absorption in the small intestine. Lipid uptake at the brush border membrane is protein-mediated, and the main aim of the project is to isolate and clone proteins involved in this process.

Requirements: Ph.D. in biochemistry, molecular biology, cell biology, or related areas. You must have protein purification experience and expertise in cloning. Experience in microbiology is beneficial. The position is available for three years and can be converted to tenure-track. Salary is negotiable, in the range of \$50,000 to \$80,000.

Expectations include a strong commitment to research, development of a productive research program, and participation in graduate student education. Candidates should send their complete curriculum vitae, a statement of their research experience, and three letters of reference to: Prof. Dr. H. Hanser, Department of Biochemistry, Swiss Federal Institute of Technology, CH-8092 Zurich, Switzerland.

ASSISTANT RESEARCH SCIENTIST College of Medicine Department of Internal Medicine Pulmonary Division The University of Iowa

The Department of Internal Medicine, Pulmonary Division, is seeking an ASSISTANT RESEARCH SCI-ENTIST to perform research in the function and biochemistry of Cystic Fibrosis transmembrane conductance regulator (CRTR). Research will include an understanding of theories and methods required to address problems in the function and cell biology of this protein in epithelial and nonepithelial cells and a combination of physiologic, biochemistry, and recombinant DNA techniques.

Requires a Ph.D. or M.D. degree or equivalent combination of education and experience. Applicants should have experience in microbiology/immunology and possess the ability to plan and execute a research study through independent research. Postdoctoral experience in microbiology and/or physiology, research experience in the area of Cystic Fibrosis, research experience in the biochemistry of membrane proteins and recombinant DNA techniques, and ability to obtain funding for own demonstrated work are all desirable.

Please send résumé indicating Number 39024 to: Michele Pugh, Human Resources, Internal Medicine, E400 GH, 200 Hawkins Drive, Iowa City, IA 52242-1081.

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

MANAGER MOLECULAR BIOLOGY CORE FACILITY

The Plant Molecular Biology Center of Northern Illinois University is seeking an individual to run a core facility providing automated DNA sequencing and custom oligonucleotide synthesis. Minimal requirements: B.S. (M.S. preferred) in biological sciences or related field, and appropriate laboratory skills and experience. Competitive salary, commensurate with experience; full benefits. Send letter of interest, current curriculum vitae, and three letters of reference to: Director, Plant Molecular Biology Center, Northern Illinois University, DeKalb, IL 60115. Telephone: 815-753-7841; FAX: 815-753-7855; Email: pmbc@niu.edu. Position available immediately. Application deadline: November 27, 1996. Affinnative Action/Equal Opportunity Employer.

ELECTRON MICROSCOPY TECHNICIAN II

Requirements include a Bachelor's degree in a biological science and one year of experience in a research laboratory with some experience operating electron microscopes. Theoretical and practical knowledge of transmission electron microscope and scanning electron microscope tissue preparation protocols and ultramicrotomy required. Excellent benefits and salary. Apply to: Texas Tech University Health Sciences Center, Office of Human Resources, 3601 4th Street, Room 1B110, Lubbock, TX 79430. Telephone: 806-743-2865 for application and job description. Texas Tech University Health Sciences Center is an Equal Employment Opportunity Employer.

POSITIONS OPEN

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE

The United States Department of Agriculture (USDA), Agricultural Research Service (ARS), Pollinating Insect-Biology, Management, Systematics Research, Logan, Utah, is accepting applications for a permanent, full-time RE-SEARCH LEADER and SUPERVISORY RESEARCH ENTOMOLOGIST. This position will develop a program to identify chemophysiological traits responsible for gregarious nesting behavior of bees that nest in the soil. Candidates should have a strong working knowledge of insect biology, foraging behavior, ecology, and physiology. Responsibilities as Laboratory Leader require managerial and leadership experience in areas of crop pollination, biology of pollinator species, and bee conservation. A Ph.D. in entomology or related discipline with emphasis in physiology is desired. Experience with statistical methods and computer programs is essential. Applicant must be a U.S. citizen. Salary range is \$51,915 to \$79,754. For a copy of announcement number ARS-D7W-007 and application forms, please call: John Watterson, USDA, ARS, Location Administrative Officer, Telephone: 801-797-3071. Specific questions regarding the position may be directed to: Philip F. Torchio, Telephone: 801-797-2520. The closing date for this announcement is November 4, 1996. USDA, ARS is an Equal Opportunity/Affirmative Action Employer.

RESEARCH CHEMISTS

CombiChem, Inc. engages in collaborations with pharmaceutical organizations to accelerate the research phase of the drug discovery process. CombiChem's unique approach relies on the integration of medicinal chemistry expertise, laboratory automation, and informatics-based small library design.

As part of our sustained growth, we now have opportunities for synthetic organic and analytical chemists at the following levels:

1. SENIOR RESEARCH CHEMISTS. The successful candidate will have an excellent academic record and three or more years of experience in medicinal chemistry. Experience in combinatorial chemistry and/or solid phase synthesis will be beneficial.

2. **RESEARCH CHEMISTS.** These positions require a B.S., M.S., or Ph.D. in chemistry with a minimum of five vears of postgraduate experience in organic synthesis.

3. **RESEARCH ASSOCIATES**. Graduates or Masters in chemistry with relevant laboratory experience will be considered for these appointments.

be considered for these appointments. 4. ANALYTICAL CHEMISTS. Separation scientists/analytical chemists at the B.S./M.S. level with research and/or industrial experience in preparative-scale column chromatography and pharmaceutical molecule analysis. Experience in mass spectrometry a plus.

All candidates must have excellent communication and interpersonal skills, be computer literate, and be able to work independently or as part of a team as required. Salaries and benefits will be commensurate with experience and are highly competitive. To apply, please send your résumé to: Ms. Bobbie Bosley, CombiChem, Inc., 9050 Camino Santa Fe, San Diego, CA 92121. FAX: 619-530-9998 to the attention of Ms. Bosley. CombiChem is an Equal Opportunity Employer.

RESEARCH PLANT GENETICIST. USDA/ARS is seeking applications for a GS-11/12/13 Research Plant Geneticist position in the Horticulture and Breeding Research Unit, U.S. Horticultural Research Laboratory, Orlando, Florida. Incumbent conducts both basic and applied research as part of the Laboratory's citrus improvement program, which is designed to provide fundamental knowledge on the genetic, morphological, and biological inherent traits necessary to produce horticulturally superior trees. Primary focus is on developing citrus scions to improve citrus tree performance in sustained production, quantity and quality of fruit, resistance to biotic/abiotic stresses, variable fruit maturing dates, and other horticultural features of scientific/commercial value. A degree in genetics or other biological sciences that included genetics plus specialized research experience or graduate level related education and experience is required. Salary range is \$36,000 to \$67,000. *Must be a U.S. ditzen.*

Contact Dr. George Yelenosky, Telephone: 407-897-7352 for program/position information. For application forms and procedures contact: C. Wayne Moore, Telephone: 407-897-7310. Applications in response to this advertisement should be marked ARS-D68-099, postmarked by November 25, 1996, and submitted to: Vickie Taber, USDA, ARS, Southern Operations Branch, 6305 Ivy Lane, Room 370, Greenbelt, MD 20770-1435. ARS is an Equal Opportunity Employer.

TWO POSTDOCTORAL FELLOWSHIPS

Eastside biomedical research center has two positions available immediately:

The first position involves investigating the regulation of androgen biosynthesis. Studies focus on pubertal development of Leydig cells and inhibition of their steroidogenic function by stress and male contraceptives. Ph.D., M.D., or equivalent degree, required. Applicants should submit a curriculum vitae, one-page summary of research goals, and names and addresses of three references to: Dr. Matthew Hardy, The Population Council, 1230 York Avenue, Box 273, New York, NY 10021.

The second position involves studying the regulation of gene expression by steroid hormones in the mammalian uterus during implantation. Ph.D., M.D. or equivalent degree, and experience in molecular biology, such as isolation of messenger RNA from tissue, PCR, gene transfection, and *in sim* hybridization analysis is required. Send curriculum vitae and names and addresses of three references to: Dr. Indrani Bagchi, The Population Council, Center for Biomedical Research, Box 273, 1230 York Avenue, New York, NY 10021.

An Equal Opportunity/Affirmative Action Employer—Minorities/Females

RESEARCH SCIENTISTS

Korea Kumho Life and Environmental Science Laboratory, the newly established research center in Kwangiu, Korea, supported by Kumho Petrochemical Co. and Kumho Group, one of the major industrial conglomerates in Korea, has immediate openings for junior and senior RESEARCH SCIENTISTS in plant molecular biology/biotechnology and bio-remediation. Candidates must have a Ph.D. degree. Postdoctoral experience preferred. Postdoctoral fellowships are also available. Proficiency in Korean is not required. We offer a competitive base salary, free housing, and moving expenses. Interested applicants should send curriculum vitae and statement of past experience and future interest, and should arrange to have three letters of reference sent to: Kumho Life and Environmental Science Laboratory, c/o Kwangju Institute of Science and Technology, Kwangju, Korca. FAX: 82(country code)-62(city code)-953-5085; Email: pandp@unl.edu.

POSTDOCTORAL POSITION available immediately to study the action of estrogens and antiestrogens utilizing whole animal studies and molecular techniques, including the yeast two hybrid system, cDNA cloning, and cell transfections. The applicant should have a Ph.D. and esperience in molecular and cell biology. Send curriculum vitae; brief statement of research interests; and names, addresses, and telephone numbers of three references to: Kenneth P. Nephew, Ph.D., Indiana University School of Medicine, Medical Sciences Program, Myers Hall, Bloomington, IN 47405-4401. Email: knephew@indiana.edu.

ECOLOGICAL MODELER—San Francisco Bay area. The Tiburon Laboratory of the National Marine Fisherics Service, a NOAA research facility, invites applicants for a permanent position to develop and implement population models of coho salmon, with emphasis on possibly threatened or endangered stocks. Salary S38,119 to \$70,628. Announcement RN96-422JN closes December 2, 1996. Telephone: 206-526-6067. Call promptly for materials. U.S. citizenship required. An Equal Opportunity/Affinative Action Employer.

POSTDOCTORAL FELLOW/RESEARCH AS-SOCIATE positions available January 1, 1997 and April 1, 1997 to study Hepatitis C virus and/or rotavirus pathogenesis. Applicants should be well-trained in molecular biology or viral immunity and should have a broad interest in viral pathogenesis. Send curriculum vitae and three letters of reference to: Harry Greenberg, Department of Medicine, MSLS P304, Stanford University Medical School, Stanford, CA 94305-5487. FAX: 415-852-3259; Email: hbgreen@leland.stanford.cdu.

POSTDOCTORAL POSITION to study sequence selective DNA damaging agents *in vito* and *in vivo*. Ph.D. in biochemistry or related discipline required. Experience in DNA damage and repair and ligation-mediated PCR is desired. Send résumé, including the names, addresses, and telephone numbers of three references, to: Dr. Barry Gold, Eppley Institute, University of Nebraska Medical Center, Omaha, NE 68198-6805. Email: bgold@ummc.edu.

The University of Nebraska Medical Center is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

FELLOWSHIPS Mathematics and Molecular Biology

The Program in Mathematics and Molecular Biology has graduate and postdoctoral FELLOW-SHIP support available for research at the interface between mathematics and molecular biology. Some current topics include topology and sequence analysis of DNA, molecular dynamics of proteins and nucleic acids, phylogenetic comparison, RNA structure, and algorithms for molecular structure prediction. Other areas are also appropriate. Fellowships can be held at any university, col-lege, or research institute in the United States. Non-U.S. citizens are eligible to apply. Application deadline: February 3, 1997. Request application packet from: PMMB, 103 Donner Lab, Number 3206, University of California at Berkeley, Berkeley, CA 94720-3206. Complete packet available via Email: sylviaj@violet. berkeley.edu. Women and minorities are encouraged to apply.

POSTDOCTORAL AND RESEARCH FACULTY Chemical Physics and Physics Experimentalists and Theorists

FIVE POSITIONS for exceptionally talented scientists in the following areas: quantum control of chemical reactions with tailored ultrafast light pulses, ultrafast x-ray diffraction and absorption, dynamics of biomolecular and biological processes imaged with light pulses, and high intensity light driven physics, including x-ray lasers, high harmonics, and laser driven particle acceleration. For more information about these positions and the group, see our Web site: http://www-wilson.ucsd.edu.

Salaries and positions commensurate with experience and qualifications. Applicants please send curriculum vitae, statement of research interests, and one letter of recommendation to: Prof. Kent R. Wilson and C. P. J. Barty, Department of Chemistry, University of California, San Diego, La Jolla, CA 92093-0339. Equal Opportunity Employer.

Two **POSTDOCTORAL POSITIONS** in cellular and molecular hematology. To study: adhesion-coupled signal transduction, cell biology and assembly of platelet adhesion receptors and mouse models of adhesion deficiency disorders. Background in gene knockout and transgenic mice, molecular and cell biology, and protein chemistry are desirable. Must have M.D., Ph.D., or equivalent degree.

Send curriculum vitae, summary of research interest and experience, and names of three references to:

José A. López, M.D. VA Medical Center Hematology–Oncology Section (111H) 2002 Holcombe Boulevard Houston, TX 77030-4298 FAX: 713-794-7578

Baylor College of Medicine is an Equal Opportunity/Affirmative Action/Equal Access Employer.

BRIGHAM AND WOMEN'S HOSPITAL HARVARD MEDICAL SCHOOL

Applications are invited for a **POSTDOCTORAL** position available immediately to characterize intracellular transport processes in the hepatocyte, with a focus on the identification, cloning, and regulation of proteins in the endoplasmic reticulum involved in glucuronidation.

A Ph.D. and experience in molecular/cell biology is required. Send curriculum vitae, statement of research experience, and names of three referees to: Dr. John Gollan, Division of Gastroenterology, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115. Affinative Action/Equal Opportunity Employer.

PLANT VIROLOGY

POSTDOCTORAL POSITION in engineered resistance and molecular characterization of a new luteovirus infecting sugarcane. Ph.D. in plant virology or related field, solid molecular background, and proficiency with DNA sequence analysis programs (UWGCG) required. Contact: Dr. T. Erik Mirkov, Department of Plant Pathology and Microbiology, Texas A&M Agricultural Experiment Station, 2415 East Highway 83, Weslaco, TX 78596. Email: e-mirkov@tamu.edu. An Equal Opportunity Employer.

POSITIONS OPEN

EVOLUTIONARY PRIMATOLOGY POSTDOCTORAL POSITION

The American Museum of Natural History (AMNH) seeks a resident **POSTDOCTORAL** candidate to complement the research of and work with one or more members of its staff for one year beginning summer 1997. This position is offered under the auspices of the New York Consortium in Evolutionary Primatology (NYCEP), a graduate training program in all aspects of the behavioral and evolutionary biology of primates, and is funded by an NSF Research Training Grant. The NYCEP faculty includes 30 researchers drawn from the AMNH, City University of New York, Columbia University, New York University, and the Wildlife Conservation Society. NYCEP faculty at the AMNH (Eric Delson, Rob DeSalle, Ross MacPhee, Michael Novacek, Ian Tattersall, John Van Couvering, and Ward Wheeler) undertake research in primate (including human) paleontology and systematics, biochronology, comparative and func-tional morphology, and molecular systematics and evolution. NSF limits eligibility to U.S. citizens, nationals, and permanent residents. Obtain application forms and information from: Dr. E. Delson, Department of Vertebrate Pale-ontology, AMNH, New York, NY 10024. All contact with him or other faculty should be by mail. Postmark applications by January 15, 1997. AMNH and NYCEP are Equal Opportunity/Affirmative Action Employers. Minority candidates are especially encouraged to apply. Please see our Fellow-ships display ad for more AMNH opportunities listed in this issue of SCIENCE.

POSTDOCTORAL POSITION

POSTDOCTORAL POSITION available for an NCI training program in molecular and cellular mechanisms of carcinogenesis at The University of Texas M.D. Anderson Cancer Center—Science Park. Research programs focus on the following areas: DNA repair and mutagenesis, carcinogen metabolism and adduct formation, tumor promotion, role of oncogenes and/or tumor suppressor genes in multistage carcinogenesis, normal and tumor cell differentiation, retrovirology, chemoprevention and nutrition in cancer. Applicaus *nust be U.S. citizeus or pennaneut residents* and must have a Ph.D., M.D., or D.V.M. degree. For application forms, contact: **Dr. Thomas Slaga, Director, U.T. Science Park—Research Division, P.O. Box 389, Smithville, TX 78957. Telephone: 512-237-2403.** *We are an Equal Opportunity/Affinantive Action Employer. Wonen and minorities are encouraged to apply.*

POSTDOCTORAL POSITION

This position is now available to study a pool of ATP, contained within the cytoskeletal/membrane complex of red blood cells, that is used directly to fuel the pumped transport of Na, K, and Ca. Send curriculum vitae and three references prior to December 15, 1996 to: Joseph F. Hoffman, Department of Cellular and Molecular Physiology, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06520.

POSTDOCTORAL POSITION

POSTDOCTORAL POSITION in crystallography available immediately to study the structure of proteins associated with signal transduction pathways. Strong background in biophysical research is preferred. Send curriculum vitae and three letters of recommendation to: Dr. Jan Feng, Institute for Cancer Research, The Fox Chase Cancer Center, Human Resources, 7700 Burholme Avenue, Philadelphia, PA 19111. Email: feng@guanyin.fccc.edu. Equal Opportunity Ec.ployer.

POSTDOCTORAL position is available immediately. NIH-funded work involves the study of the quantitative structure-activity relationships (QSAR) of free radicals on cellular toxicity. Strong training to medicinal chemistry/ cell culture techniques is required, send resume, one letter of recommendation, and stanes and addresses of two other references to: **ProFessor C. Selassic, Chemistry Department, Pomona College, 645 North College Avenue, Claremont, CA 917 1-6338.** *Pomona College is an Affirmative Action/Equal Operatority Employer.*

The Animal Reproduction and Biotechnology Laboratory at Colorado State University has openings for **PRE**and **POSTDOCTORAL FELLOWS**. Successful applicants may conduct research in signal transduction in reproductive tissues of males and/or females, regulation of reproductive hormone gene expression, oocyte maturation, *in vitro* fertilization, gamete and zygote preservation, and production of transgenic animals. Send curriculum vitae and drec letters of recommendation to: **Dr. Gordon Niswender, ARBL, Colorado State University, Fort Collins, CO 80523-1683.**

The Centre de Recherche Guy-Bernier, Höpital Maison neuve-Rosemont (affiliated with the University of Montreal) invites applications for a tenure-track position at the level of ACADEMIC RESEARCHER . The successful candidate will hold a Ph.D. degree, and will have completed at least two periods of postdoctoral training in a pertinent area. He or she will have had superior training in organic synthesis, as well as extensive experience in employing in vitro approaches for studying DNA replication and/or DNA repair (particularly nucleotide excision repair). The candidate will be expected to establish a strong, independently funded research program, and to be committed to the training of graduate students. Closing date for this application is December 6, 1996. Ap plicants should arrange to send a curriculum vitae, detailed statement of research interests, and three letters of recommendation to: Dr. E. A. Drobetsky, Research Center, 5415 boulevard L'Assomption, Montréal, Québec H1T 2M4 Canada. The successful applicant will be bilingual (English and French), or will be expected to attain proficiency in both languages within three years. In accordance with Canadian migration requirements, this advertisement is directed mainly to Canadian citizens and permanent residents of Canada. The University of Montreal is committed to employment equity.

Two **POSTDOCTORAL POSITIONS** available immediately to study biosynthesis and processing of cholecystokinin in endocrine tumor cells and rats. Biochemistry and molecular biology experience highly desirable. Send curriculum vitae and three letters of reference to: Margery Beinfeld, Ph.D. Professor, Department Pharm, Exp. Ther., Tufts University School of Medicine, 136 Harrison Avenue, Boston, MA 02111. FAX: 617-636-6738. Affinantive Action/Equal Opportunity Employer.

CORNELL UNIVERSITY Biogeochemistry and Environmental Change

We seek a POSTDOCTORAL FELLOW to assist in development and coordination of a new NSF-funded research and training program in Biogeochemistry and Environmental Change at Cornell University. This interdiscipli-nary program coordinates research and training activities among several departments and units at Cornell, and includes a new laboratory for stable isotope analysis. We also offer GRADUATE STUDENT FELLOWSHIPS for the Ph.D. degree within the same program. The postdoctoral fellow will assist with team-taught courses, workshops, seminar series, and other training activities for graduate students and postdocs. We expect the successful candidate to maintain an active research program in biogeochemistry and/or environmental change, and to have strong interests in interdisciplinary research and training. Please send a statement of qual-ifications, curriculm vitae, and three letters of reference to: Robert W. Howarth, Program Director, Program in Bio geochemistry and Environmental Change, Corson Hall, Ithaca, NY 14850. Information on graduate fellowships can be obtained from the same address, or via Email: biogeo@cornell.edu. We will start reviewing applications for the Postdoctoral Fellow on February 1, 1997 and will continue until we find a suitable applicant. Cornell University is an Equal Opportunity/Affirmative Action Employer, Applications from women and minorities are encouraged.

POSTDOCTORAL POSITION CANCER BIOLOGY

A POSTDOCTORAL POSITION will be available January 2, 1997 to study cellular responses to DNA damaging agents including DNA damage-induced apoptosis. One current focus is the UV radiation and cisplatin induced ubiquitination of RNA polymerase II in human cells (PNA ⁺, 93:11586, 1996). Requires recent Ph.D. or M.D. with expertise in molecular biological and protein biochemical techniques. Salary support is available for two to three years in an intellectually stimulating and congenial environment. The campus is located in a residential neighborhood with affordable housing. Please send cover letter, curriculum vitae, and three references to: David Bregman, M.D., Ph.D., Department of Pathology, F 717N, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461. FAX: 718-430-8867; Email: bregman@aecom.yu.edu. Equal Opportunity Europhyper.

POSTDOCTORAL FELLOW OR ADVANCED LABORATORY TECHNICIAN POSITION

Immediately available in basic HIV research on screening for new anti-HIV compounds and their mode of action. Experience in handling laboratory strain of HIV is preferred. Tissue culture experience is essential. Dr. H. Kaji, Pharmacology, Jefferson Medical College, Philadelphia, PA 19107, U.S.A. Telephone: 215-503-6547; FAX: 215-923-7343.

POSITIONS OPEN



POSTDOCTORAL POSITION Department of Pharmacology Duke University Medical School

A **POSTDOCTORAL POSITION** is available to study the molecular mechanism of action of steroid hormone receptors. The successful candidate will use a combination of molecular and biochemical approaches to define the mechanism(s) that permit endocrine target cells to distinguish between hormone- and antihormone-activated estrogen and progesterone receptors.

Applicants should have a background in molecular biology or protein chemistry. Interested individuals should submit a curriculum vitae and three letters of reference to:

Dr. Donald P. McDonnell Department of Pharmacology Box 3813 Duke University Medical School

Durham, NC 27710 Email: McDon016@acpub.duke.cdu

Duke University is an Equal Opportunity/Affirmative Action Employer,

POSTDOCTORAL RESEARCH FELLOW

POSTDOCTORAL RESEARCH FELLOW (PDF) training positions are available in the laboratories of the Atlantic Research Centre (associated with the Departments of Pediatrics and Biochemistry, Dalhousie University and the IWK-Grace Health Centre), Halifax, Nova Scotia, Canada. Laboratory-based research at the Centre is focused on two interrelated areas:

 Signal transduction mechanisms, lipid second messengers, protein kinase isoforms, and protein substrates in cultured cell models.

 Membrane lipid turnover including regulation of phospholipid, sphingolipid, cholesterol, and fatty acid metabolism in normal, mutant, and transformed cell lines and yeast.

Further details of research can be obtained on the Internet (http://www.mcms.dal.ca/ricu/arc/archome. html).

Experience with immunochemistry or lipid techniques is required. Candidates must have a doctoral degree in biochemistry (or a related discipline) and relevant research experience at the postgraduate level. Salary will be commensurate with the Medical Research Council of Canada salary scales for PDFs (\$23,000 to \$28,000). Reply with a curriculum vitae and names, addresses, and telephone numbers of three referees to:

Dr. Harold W. Cook Atlantic Research Centre Dalhousie University 5849 University Avenue Halifax, Nova Scotia, B3H 4H7 Canada Telephone: 902-494-7066; FAX: 902-494-1394 Email: h.cook@dal.ca

POSTDOCTORAL NIH TRAINEESHIP MAMMARY CARCINOGENESIS

Available spring/summer 1997 to study cellular and molecular mechanisms by which pregnancy or hormone treatments prevent rat mammary gland carcinogenesis. Broad experience in molecular biology, particularly in the analysis of gene expression, required.

Šend curriculum vitae and references to: Steven M. Swanson, Ph.D., Department of Nutrition Sciences, Room 224 Webb Building, University of Alabama at Birmingham, Birmingham, AL 35294-3360. Email: swanson@uab.edu.

POSTDOCTORAL POSITIONS available immediately. One position will develop microfabricated devices and microfluidic methods for DNA diagnostics and sequencing. Experience in biophysical chemistry, molecular biology/biochemistry, and spectroscopy required. A second position will use new fluorescent labels to develop novel DNA separation and detection techniques. Experience in bioorganic chemistry and spectroscopy required. Send résumé and three references to: Dr. Richard A. Mathies, Department of Chemistry, University of California, Berkeley, CA 94720. The University of California is an Equal Opportunity/Affimative Action Employer.

POSITIONS OPEN

PLANT MOLECULAR GENETICS

POSTDOCTORAL ASSOCIATE POSITION in the Plant Molecular Genetics Institute (PMGI) of the University of Minnesota available immediately for a person with a doctorate degree and appropriate training and experience. This temporary (two-year) research position will be supervised by one of the 22 PMGI faculty members. Possible areas of research include: gene expression, plant development, chromosome function and structure, photosynthesis, nitrogen fixation, plant-microbe interactions, molecular evolution, cytoskeleton structure and function, organelle biogenesis, molecular cytogenetics, genome mapping, transformation, biochemical genetics, and signal transduction.

The deadline for application is December 13, 1996. Application must include a personal curriculum vitae, a brief statement of research interests and experience, and three letters of recommendation. Please submit applications to:

Dr. Neil Olszewski, Director PMGI 220 Biological Sciences Center 1445 Gortner Avenue University of Minnesota St. Paul, MN 55108 Telephone: 612-625-3129; FAX: 612-625-1738

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

Evolutionary Ecology POSTDOCTORAL FEL-LOWSHIP to collaborate with the following faculty at the University of Kentucky: Edmund Brodie III: Evolutionary Quantitative Genetics; Phil Crowley: Life-history Strategies and Community Ecology; Ken Haynes: Insect Chemical Communication; Nicholas McLetchie: Sex Ratio in Plants; Craig Sargent: Behavioral Ecology of Fish; Andy Sih: Ecology of Stream Organisms; David Wagner: Population Genetics of Forest Trees; David Westneat: Behavioral Ecology of Birds; David Wise: Community Ecology of Spiders. In addition to conducting research, the postdoctoral fellow will help mentor Ph.D. students supported by our NSF Graduate Research Training grant in Evolutionary Ecology (for further information on this training program see http://darwin. ceeb.uky.edu/ ceeb/grt.html). Applicants should send a letter that identifies one or more potential collaborators, a curriculum vitae, and three letters of reference to: GRT Postdoctoral Fellowship, 101 Morgan Building, University of Ken-tucky, Lexington, KY 40506-0225, U.S.A. Closing date is December 1, 1996 or until position is filled. Women and minorities are especially encouraged to apply. Because of the source of funding, only U.S. citizens and permanent residents can be considered for this position. The University of Kentucky is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately to study mechanisms of glioma cell invasion into the brain using regulated gene expression (see J. Find., 70:62, 1996). Applicants should have a Ph.D. or M.D. degree and a background in molecular genetics and/or transplanting cells into rodent brains. New laboratory space and an attractive collaborative environment are available. Salary will be in the range of 80,000 to 100,000 DM (BAT IIa). Send curriculum vitae, a description of research experience and interests, and the names and addresses of two academic referees to: Dr. Werner Paulus, Division of Neuropathology, University of Erlangen Medical School, Krankenhausstr. 8-10, D-91054 Erlangen, Germany. FAX: +49-9131-85-4745.

POSTDOCTORAL POSITION available immediately to study pre-mRNA splicing. Experience in molecular biology or biochemistry desirable. Send curriculum vitae and the names, addresses, and telephone numbers of three references to: Dr. J. Potashkin, Finch University of Health Sciences/The Chicago Medical School, Pharmacology and Molecular Biology, 3333 Green Bay Road, North Chicago, IL 60064. *Affirmative Action/ Equal Opportunity Employer.*

An NIH-funded **POSTDOCTORAL POSITION** is available immediately for studying the effects of sex hormones and chronic hypoxia on the cardiovascular system. Opportunity to study the role of the nitric oxide/cGMP pathway in the fetal and maternal circulations and the molecular mechanisms altered by these treatments. Experience in biochemical assays and/or molecular biology techniques required. Please send curriculum vitae and names of three references to: Dr. Loren P. Thompson, University of Maryland School of Medicine, Department of Obstetrics, Gynecology, and Reproductive Sciences, Bressler Research Building, Room 11-040, 655 West Baltimore Street, Baltimore, MD 21201.

POSTDOCTORAL POSITION Gene Targeting to Disrupt Astrocytic Properties University of North Carolina at Chapel Hill

We are seeking a **POSTDOCTORAL FELLOW** or **RESEARCH ASSOCIATE** to participate in studies designed to elucidate the role of astrocytes in brain. Knockdown constructs (e.g., dominant-negatives) and knockout strategies will be employed to disrupt specific astrocytic properties *in vivo*. Applicants should have extensive experience in the theoretical and practical aspects of nolecular biology. The selected candidate will work closely with members of our multidisciplinary neuroscience laboratory. Send curriculum vitae and names of three references to: Ken D. McCarthy, Department of Pharmacology, CB Number 7365—FLOB, University of North Carolina, Chapel Hill, NC 27599-7365. FAX: 919-966-5640.

POSTDOCTORAL POSITION MOLECULAR BIOLOGY

A POSTDOCTORAL POSITION is available immediately to participate in the ongoing projects concentrating on dissecting the cellular and molecular biology of hepatocyte growth factor (HGF) and its receptor and their role in normal and neoplastic hepatocyte growth. Studies will involve the use of transgenic mouse models that overexpress this receptor/ligand system. Applicant must have a strong background and hands-on experience in molecular biology. Send curriculum vitae and the names of three references to: Dr. Reza Zarnegar, Department of Pathology, Room S419, Biomedical Science Tower, University of Pittsburgh, School of Medicine, Pittsburgh, PA 15261. Telephone: 412-648-8657; FAX: 412-648-1916; Email: Rezazar@pitt.edu.

POSTDOCTORAL POSITION

Molecular biology of endometrial cancer. \$36,000 per year. Requires M.D. with one year of experience in the investigation, through state-of-the-art molecular biology, of the oncogene and cell cycle regulatory proteins of human endometrial tissue and *in vitre*. Applicant must possess one year of experience in molecular biology, including quantitative RT PCR, differential display, estraction of DNA from paraffin-embedded tissue, and sequencing, as well as in immunohistochemistry and ELISA. Send curriculum vitae and names of three references to: Richard R. Barakat, M.D., c/o Academic Office, Gynecology Service, Department of Surgery, Memorial Sloan-Kettering Cancer Center, 1275 York Avenne, New York, NY 10021. Correspondence should be received within two weeks of date of advertising.

POSTDOCTORAL POSITION NEUTROPHIL SIGNAL TRANSDUCTION

A **POSTDOCTORAL POSITION** is available immediately to study signal transduction pathways in neutrophils. Candidates should have a Ph.D. in biochemistry, cell biology, or related sciences with experience in signal transduction analysis and molecular biology techniques. Send a curriculum vitae and three letters of recommendation to: Dr. G. Scott Worthen, Department of Medicine, National Jewish Center for Immunology and Respiratory Medicine, 1400 Jackson Street, Denver, CO 80206. FAX: 303-398-1851; Email: worthenlab@ njc.org.

POSTDOCTORAL POSITION in molecular virology available to work on N1H-funded studies investigating the molecular virology of herpes simplex virus latency and pathogenesis, and other persistent or slow viruses. Experience in molecular biology or molecular/classical virology is desirable. Send curriculum vitae and names, addresses, and telephone numbers of three references to: Dr. Steven L. Wechsler, Director, Virology Research, Davis Building, Room 5069, Cedars-Sinai Research Institute/UCLA School of Medicine, 8700 Beverly Boulevard, Los Angeles, CA 90048-1869. Email: Wechsler@CSMC.edu.

POSTDOCTORAL POSITION available immediately to study acute and chronic actions of drugs of abuse on receptor function. Methods include neuroanatomical and electrophysiological, as well as animal models. See http://www.mco.edu:80/depts/pharm/mainpage. html. Ph.D. or equivalent in neurobiology, neuropharmacology, or molecular neuroscience preferred. Send curriculum vitae and references to: Howard C. Rosenberg, M.D., Ph.D., Department of Pharmacology, Medical College of Ohio, Toledo, OH 43699-0008. Email: rosenberg@vortex.mco.edu.

POSITIONS OPEN

POSTDOCTORAL POSITION available to study cellular transformation by DNA tumor viruses. Focus on gene expression, cell cycle regulation, and potential gene therapy approaches. Requirements: recent Ph.D., *American citizenship or permanent residency*. Contact: Dr. A. Schönthal, University of Southern California, School of Medicine, 2011 Zonal Avenue, Los Angeles, CA 90033. Email: schontha@hsc.usc.edu. Equal Opportunity Employer.

The Laboratory of Molecular Immunology, Division of Basic Sciences, National Cancer Institute, has three openings. One **POSTDOCTORAL FELLOWSHIP** available. Candidate should have a Ph.D, and/or M.D. with current technical expertise in molecular biology. A strong background in signal transduction and/or transcription factors is preferred. Fellowship may be up to five years and involves discovery based research in the area of cell lineage differentiation.

A Ph.D./M.D. SCIENTIST with molecular biology, biochemistry, and immunology is needed to pursue investigations aimed at developing and identifying antagonists to chemokines.

A **POSTDOCTORAL** or **POST-POSTDOC-TORAL** Ph.D./M.D. scientist is needed with training experience in the development and human biological evaluation of transgenic and knockout mice. Salary range: \$25,000 to \$40,000 per annum.

Salary range: \$25,000 to \$40,000 per annum. All applicants must have a doctoral degree or equivalent

in the sciences and have eight years or less of relevant research experience. Please submit your applications to: Dr. Joost J. Oppenheim, NCI-FCRDC, Building 560, Room 21-89A, Frederick, MD 21702-1201. Telephone: 301-846-1551; FAX: 301-846-7042. *NIH is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION University of North Carolina, Chapel Hill Departments of Anesthesiology and Pharmacology

A POSTDOCTORAL POSITION is available in neurophysiology (patch clamp, PT-PCR, and neuroanatomy techniques are primary) to study the mechanism of an esthetic effects on ligand and voltage gated ion channels. The successful candidate must have a Ph.D. degree with a neurophysiology/pharmacology focus. Experience with patch clamp or molecular biology techniques is desirable. Interested applicants should send their curriculum vitae and names of three references to: George R. Breese, Ph.D., c/o Linda Hunt, Department of Anesthesiology, 223 Burnett-Womack, CB Number 7010, University of North Carolina is an Equal Opportunity Employer.

POSTDOCTORAL POSITION Integrative Neuroscience/Physiology

Individual interested in mechanisms underlying the coupling between regional neuronal activity, blood flow, oxygen extraction and metabolism in the CNS. NIH-funded position to study the mechanisms of functional magnetic resonance imaging contrast at 3.0 Tesla using a rat model. Knowledge of fMIRI and laser doppler flowmerry recommended. Ph.D. in cardiovascular physiology, neuroscience, or biophysics preferred.

Available September 1997. Send curriculum vitae, research interests, and names of three references to: Elliot A. Stein, Ph.D., Department of Psychiatry or Andrew Greene, Ph.D., Department of Physiology, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226. Email: estein@post.its.mew. edu.

The Medical College of Wisconsin is an Affirmative Action Employer; Minorities/Females/Disabled/Veterans.

POSTDOCTORAL FELLOWSHIP MAMMALIAN GENETICS

NIH grant-supported position(s) to study genetics of oncology and metastasis, as well as early embryology and the interrelatedness of these processes. Ph.D. in molecular, cellular, or developmental biology with expertise in molecular genetics or generation of transgenic animals desirable. Send curriculum vitae and three letters of reference by December 15, 1996 to: Dr. P. J. McCormick, Department of Biological Sciences, State University of New York at Albany, 1400 Washington Avenue, Albany, NY 12222. Email: pmc@csc.albany.edu. The State University of New York/RF is an Equal Opportunity: Affinantic Action Employer. Applications from nomen, minority and disabled persons, and special disabled or Vietnam can retenans are especially urchone.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSISTANT Muscle Research

Position is available immediately to candidates with recent Ph.D. in biochemistry or molecular biology (or equivalent) to study contractile proteins. Experience in protein chemistry and some with cloning and protein expression is required. Salary depending on experience (\$25,000 to \$30,000 per year). Applicants should send curriculum vitae and a brief summary of doctoral work to: Dr. J. Borejdo, Department of Biochemistry, University of North Texas Health Science Center at Forth Worth, Fort Worth, TX 76107. FAX: 817-735-2133. An Equal Employment Opportunity/Affirmative Action Institution.

POSTDOCTORAL RESEARCH POSITION

Full-time position available immediately at large medical center located in western suburbs, approximately 10 miles west of downtown Chicago. Successful candidate will be involved in investigative studies concerning the molecular mechanisms of cell aging and repair, specifically addressing the roles of growth factors and oncogenes in modulating cell cycle behavior. Ph.D. or M.D. with extensive experience in molecular and cell biology required. Salary commensurate with qualifications and experience. Please send curriculum vitae, a brief summary of research experience, and names and addresses of three references to: Dr. V. Terranova, LTBCTR, CARES, P.O. Box 250, Hines, IL 60141. Minorities/Females/Disabled Persons; Equal Opportunity Employer.

POSTDOCTORAL POSITION HIV DNA INTEGRATION

A **POSTDOCTORAL POSITION**, with funding through an NIH training grant, is available immediately to study the mechanism of HIV integration. Projects focus on the molecular virology of HIV-1 preintegration complexes and integrase protein, and the *in vitro* biochemistry of recombinant integrase-DNA. Experience in either molecular virology or protein chemistry is desirable, although not essential.

Send curriculum vitae and three letters of recommendation to: Dr. Alan Engelman, Division of Human Retrovirology, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115. The Dana-Farber Cancer Institute is an Equal Opperunity/Affirmative Action Employer.

POSTDOCTORAL ASSOCIATE College of Medicine, The University of Iowa

The Department of Internal Medicine, Rheumatology Division, seeks a **POSTDOCTORAL ASSOCIATE** to perform research in immune stimulation mediated by bacterial DNA.

Requires a Ph.D. or M.D. degree or equivalent combination of education and experience. Experience in immunelsons and protected and for cellular biology is desirable.

nology and molecular and/or cellular biology is desirable. Please send resumé with three references and cover letter indicating Number F1037 to: Michele Pugh, Human Resources, Internal Medicine, E400 GH, 200 Hawkins Drive, Iowa City, IA 52242-1081.

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

POSTDOCTORAL POSITIONS are available immediately to study molecular and cellular aspects of vascular biology and lipoprotein metabolism. Specific projects address molecular interactions between proteins involved in lipoprotein biosynthesis, macrophage gene expression, and structure-function relationships of engineered apolipoprotein E molecules. Molecular biology experience is essential. Please send curriculum vitae and three references to: Dr. Michael C. Phillips, Chair, Department of Biochemistry, MCP+Hahnemann School of Medicine, Allegheny University of the Health Sciences, 2900 Queen Lane, Philadelphia, PA 19129. FAX: 215-843-8849; Email: Phillips@allegheny.edu. Affirmative Action/Equal Oppartunity Employer.

POSTDOCTORAL RESEARCH SCIENTIST

Available in **PROTEIN MODELING** to investigate the structures of proteins involved in cancer. Experience in protein homology modeling required. Send curriculum vitae, summary of research experience and interests, and names of three references to: Dr. Gabriel Waksman, Washington University School of Medicine, Department of Biochemistry and Molecular Biophysics, Box 8231, 660 South Euclid Avenue, Saint Louis, MO 63110.

POSTDOCTORAL POSITION/BIOCHEMISTRY UNIVERSITY OF MICHIGAN

Position available immediately for work on RNA regulation. Candidate should have a strong background in molecular biology and prior experience working with RNA, and will be able to work independently. Curriculum vitae, cover letter describing research interests, and three references to: Dr. Carolyn Worby, Department of Biological Chemistry, MSI Room 5450, University of Michigan, Ann Arbor, MI 48109-0606. Email: cdworby@umich.edu.

POSTDOCTORAL POSITION with Gerald Holmquist at the City of Hope for a molecular biologist to study DNA repair. Knowledge of mutagenesis is desirable but not necessary. Ligation-mediated PCR is used in our program project to determine repair kinetics of mutagen-induced DNA lesions at individual nucleotide positions along human genes. Lesion frequency and repair rates are related to footprints, cytosine methylation status, sequence context, and mutational spectrum along the gene. Mail or fax curriculum vitae and three letters of reference to: HR/DRHOL, 1500 East Duarte Road, Duarte, CA 91010. FAX: 818-301-8448; Email: gholm @smtplink.coh.org. Equal Opportunity Employer.

POSTDOCTORAL POSITION for study of human aldehyde dehydrogenase: Candidates with experience in enzyme kinetics, peptide HPLC, protein sequencing, dehydrogenase methodology, and chemical modification of enzymes are invited to apply. This is a grant-funded position available immediately. Salary is competitive and commensurate with experience. Mail or fax curriculum vitae, cover letter, and list of three references to: Regina Pietruszko, Ph.D., Rutgers Center of Alcohol Studies, P.O. Box 969, Piscataway, NJ 08855-0969. FAX: 908-445-3500. Rutgers is an Equal Oppomulity/Affinative Action Employer.

POSTDOCTORAL POSITION to study genes and cellular events associated with activation of progenitor/ stem cells in the liver and the roles of such genes and cells in liver development, growth control, and regeneration. Strong background in molecular/cell biology required. Send curriculum vitae, statement of research interests and accomplishments, and names of three references to: David A. Shafritz, M.D., Director, Marion Bessin Liver Research Center, Albert Einstein College of Medicine of Yeshiva University, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461. Telephone: 718-430-2098; FAX: 718-430-8975. Equal Opportunity Euployer.

POSTDOCTORAL POSITION HARVARD MEDICAL SCHOOL

Available immediately to study transgenic models of disordered Ca²⁺ transport. Experience in molecular biology or renal physiology preferred. Send curriculum vitae to: Dr. A. Yu, Thorn 628, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115. FAX: 617-732-6392; Email: ayu@bustoff.bwh.harvard.edu. Women's Hospital/Harvard Medical School is an Equal Opportuuity Employer.

POSTDOCTORAL POSITION available in the field of prohormone convertases (PCs; eukaryotic subtilisins). Entails production and enzymatic analysis of mutant forms of PC2 as well as in *vine* experiments on PC2's binding protein 7B2 (*J. Cell Biol.*, **129**:1641, 1995; *Arch of Biochem. Biophys.*, **330**:238, 1996; *Proc. Natl. Acad. Sci.*, **93**:4919, 1996). Prefer recent Ph.D. with proteinase and molecular biological background. Please send curriculum vitae with the names, addresses, and telephone numbers of three references to: Dr. Iris Lindberg, LSUMC, Department of Biochemistry and Molecular Biology, 1901 Perdido Street, New Orleans, LA 70115. *LSU Medical Center is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION to study the role of chromatin structure and gene expression in DNA repair in mammalian cells and yeast minichromosomes (e.g., see Curr. Opinion Cell Biol., 3:422, 1991; ACB, 16:2361, 1996; JBC, 270:3949, 1995; Biochemistry, 34:13117, 1995). Training in biochemistry, biophysics, molecular biology, and/or molecular genetics is preferred. Send statement of interests, résumé, and names of three references to: Dr. Michael J. Smerdon, Department of Biochemistry and Biophysics, Washington State University, Pullman, WA 99164-4660. FAX: 509-335-9688. If ashington State University is an Equal Opportunity/ Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION—Molecular Oncology, available immediately. \$28,000 per annum. Requires Ph.D. in biochemistry or molecular biology and two years of postdoctoral experience in tissue culture techniques, yeast two-hybrid assay, analysis of signal transduction pathways, and cell proliferation. Candidates should direct curriculum vitae with references to the attention of: Dr. Hidesaburo Hanafusa, Laboratory of Molecular Oncology, Box 169, The Rockefeller University, 1230 York Avenue, New York, NY 10021. Applications must be received by November 22, 1996.

POSTDOCTORAL POSITION available: For studies on regulation of cytokine production by respiratory epithelial cells. Experience with epithelial cell culture and/or in situ hybridization required. American ditien or pennaneut resident status required by terms of grant funding. Send curriculum vitae to: Melvin Berger, M.D., Ph.D., Professor of Pediatrics, Case Western Reserve University, Rainbow Babies and Childrens Hospital, 11100 Euclid Avenue, Cleveland, OH 44106. Case Western Reserve University is an Affirmative Action/Equal Opportunity Employer.

PREDOCTORAL AND POSTDOCTORAL TRAINING PROGRAM IN REPRODUCTIVE SCIENCES

The University of Kentucky is recruiting **PREDOC-TORAL** and **POSTDOCTORAL TRAINEES** for an NIH-supported training program in the reproductive sciences. *Alphicants mist be U.S. citizens or permaneur residents*. Faculty are from the Departments of Animal Science, Anatomy and Neurobiology, Biochemistry, Pharmacology, Physiology, Obstetrics/Gynecology, and Vet Science, with diverse research interests in the reproductive sciences at the molecular, cellular, and whole animal level. For further information, please contact: Dr. Tom Curry, Department of OB-GYN, University of Kentucky, Lexington, KY 40536. Telephone: 606-323-6166; FAX: 606-323-1931. The University of Kentucky is an Equal Opportunity/Affinuative Action Employer and encourages applications from qualified reoner and minorities.

POSTDOCTORAL RESEARCH POSITION

Available immediately to study mesangial cell function in diabetes mellitus. Applicants should have research interest related to pharmacology/physiology. Experience with cell culture, imaging technology, flow cytometry, or receptor binding studies is preferable but not required. Send curriculum vitae and three letters of reference to: E. Fernández-Repollet, Ph.D., Department of Pharmacology, Renal Pharmacology Lab A-331, UPR School of Medicine, P.O. Box 36-5067, San Juan, PR 00936-5067.

POSTDOCTORAL POSITION for a molecular biologist to study DNA repair. Knowledge of mutagenesis is desirable but unnecessary. Ligation mediated PCR is used in our program project to determine repair kinetics of mutagen-induced DNA lesions at individual nucleotide positions along human genes. Lesion frequency and repair rates are related to footprints, cytosime methylation status, sequence context, and mutational spectrum along the gene. Send curriculum vitae and three letters of reference to: Dr. Gerald P. Holmquist, City of Hope—Biology, 1450 East Duarte Road, Duarte, CA 91010, U.S.A. Telephone: 818-301-8350; FAX: 818-358-7703; Email: gholm@smtplink.coh.org.

NIH-supported **POSTDOCTORAL POSITION** available immediately to study neuronal nicotinic acetylcholine receptors using molecular biological, electrophysiological, biochemical, and pharmacological techniques. See http://spider.med.miami.edu/pharm/Faculty/ Luetje.html for more information. Molecular biology experience desirable. Send curriculum vitae and names of three references to: Dr. C. W. Luetje, Department of Molecular and Cellular Pharmacology (R-189), University of Miami, P.O. Box 016189, Miami, FL 33101. Email: cluetje@newssun.med.miami.edu.

POSTDOCTORAL POSITIONS

The Fox Chase Cancer Center, one of only four independent Comprehensive Cancer Centers designated by the National Cancer Institute, has **TWO POSTDOC**-**TORAL** positions available to study 1) signal transduction by tyrosine kinases, and 2) the molecular basis of cytotoxic drug resistance. Please submit curriculum vitae with two letters of reference to: **Dr. Gary D. Kruh, M.D., Ph.D., c/o Human Resources Department, Fox Chase Cancer Center,** 7701 Burholme Avenue, **Philadelphia, PA 19111.** Equal Opportunity Employer.

POSITIONS OPEN

A POSTDOCTORAL POSITION is available to study isocitrate dehydrogenase. Projects include engineering substrate specificity, structural basis of catalysis, and experimental evolution. A Ph.D. with experience in protein biochemistry, molecular biology, or experimental evolution is preferred. Send curriculum vitae, brief summary of research experience, and names of three referees to: Antony M. Dean, Ph.D., Department of Biological Chemistry, FUHS/The Chicago Medical School, 3333 Green Bay Road, North Chicago, IL 60064-3095. Email: deana@mis.finchcms.edu. Equal Opportunity Employer.

ASSISTANT EXECUTIVE OFFICER, American Society for Pharmacology and Experimental Therapeutics (ASPET), to work closely with ASPET Council and Committees, to implement new initiatives, to attract and retain members, to enhance electronic communications, and to solicit articles of general interest for the Society's news journal. Background in pharmacology or related science desirable but not essential. Applications and requests for more information by January 1, 1997 to: ASPET, 9650 Rockville Pike, Bethesda, MD 20814-3995. Email: aspetinfo@faseb.org.

ANNOUNCEMENT NATIONAL PARKINSON FOUNDATION PARKINSON RESEARCH GRANTS 1997 to 1998

The National Parkinson Foundation of Miami, Florida invites the submission of **GRANT** proposals for Parkinson research. Funding is made available to support basic bench research in Parkinson's disease. The award for a single grant will not exceed \$40,000. None of the monies are to be utilized for administrative overhead or travel expenses. The application deadline is February 1, 1997. Funding will commence on June 1, 1997. It is required that proposed studies specifically focus on mechanisms involved in the disease process and that they have the potential of finding the cause and prevention of Parkinson research are encouraged to apply. Proposals will be assessed by the National Parkinson Foundation Scientific Advisory Board. To obtain submission information please write to:

> Paula Conley Programs and Grants Administrator National Parkinson Foundation 1501 N.W. 9th Avenue Miami, FL 33136

COURSES AND TRAINING



Molecular and Cellular Sciences Program

Announcement of an interdisciplinary Ph.D. program. Select an exciting project from among 35 research laboratories in the basic science departments. Study and do research in a collegial atmosphere and live nearby in a congenial area. Prepare yourself for a career in biomedical sciences. Research areas include: control of gene transcription, RNA processing, immune regulation, ion channels, enzyme mechanism and regulation, neuronal development, nerve regeneration.

For further information contact:

Director, Molecular and Cellular Sciences Program Finch University of Health Sciences/ The Chicago Medical School 3333 Green Bay Road, North Chicago, IL 60064 FAX: 847-578-3240 Email: wagnerj@mis.finchcms.edu Website: www.finchcms.edu

An Equal Opportunity/Affirmative Action Employer.

TRACER METHODOLOGY COURSE

Principles and Practice of Tracer Methodology in Metabolism. Dr. Robert R. Wolfe, Course Director. A combination of didactic and interactive sessions will address theoretical and practical aspects of tracer methodology in metabolism. Emphasis will be on application of stable isotopic tracers in metabolic studies, but principles of use of radioactive tracers will also be covered. Galveston, Texas. March 2 through 7, 1997. Telephone: 409-770-6623; FAX: 409-770-6825.



The Biology Department at Swarthmore College invites applications for two different 1-year faculty leave replacement positions at the assistant professor level,

each beginning September 1997. Applicants should have a Ph.D., teaching experience, and a strong commitment to undergraduate education. All application materials should be received by January 6, 1997.

MICROBIOLOGY: Teaching is expected to include general microbiology, an advanced undergraduate seminar, preferably in the area of prokaryotic gene expression, and participation in the Department's team-taught introductory biology course. Interested persons should submit a curriculum vitae, three letters of recommendation, and a statement of teaching and research interests to: Dr. Amy Vollmer, Microbiology Search, Department of Biology, Swarthmore College, Swarthmore PA 19081. ANIMAL PHYSIOLOGY: Teaching is expected to include general animal physiology, an advanced undergraduate seminar in animal physiology or biomechanics, and participation in the Department's team-taught introductory biology course. Interested persons should submit a curriculum vitae, three letters of recommendation, and a statement of teaching and research interests to: Dr. Sara Hiebert, Animal Physiology Search, Department of Biology, Swarthmore College, Swarthmore, PA 19081.

Swarthmore College is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

ASSISTANT PROFESSOR OF GENETICS

Applications are invited for a tenure-track position in the Department of Genetics with primary research and teaching interests in the molecular genetics of fungi. The candidate will be expected to develop a strong creative research program and to have a commitment to teaching at the undergraduate and graduate levels. The appointment could begin as early as September 1, 1997. Women and minority candidates are especially encouraged to apply. Apply before February 1, 1997 by sending a curriculum vitae, list of publications, brief statement of research interests, and three letters of reference solicited by the applicant to: Search Committee, Department of Genetics, Life Sciences Building, University of Georgia, Athens, GA 30602-7223. The University of Georgia is an Equal Opportunity/Affirmative Action Employer. The Department of Genetics at the University of Georgia consists of 20 faculty members, including three members of the National Academy of Sciences. In addition to its vibrant research atmosphere, the department takes pride in the quality of its graduate student training program, which is supported, in part, by NIH/NSF training grants, including one in mycology. The selected candidate will be provided start-up funds, equipment, and excellent laboratory facilities in a recently completed, state-of-the-art research building. Athens, located 70 miles from Atlanta in the rolling hills of northern Georgia, provides a pleasant, college-town living environment. For additional information, contact chairperson of the search committee, at telephone number (706) 542-8000, fax number (706) 542-3910, or www.genetics.uga.edu/.

FACULTY POSITION IN CHEMISTRY/BIOLOGY The University of Texas Southwestern Medical Center Ryburn Cardiology Center

Applications are sought from outstanding scientists with research interests at the chemistry-biology interface. We are interested in chemists who apply chemical approaches to studying complex biological systems and who have an interest in developing new technologies for this purpose. Areas of study might include the chemical basis of binding specificity in macromolecular complexes or the mechanisms of activity of protein machines. This position complements a general commitment of Southwestern to develop the chemistry/biology frontier in a new Biochemistry Department chaired by Dr. Steve McKnight. Excellent facilities are available as well as opportunities to collaborate with biochemists, molecular biologists, and cell biologists working in DNA replication, gene expression, gene therapy, muscle development, and other areas. Applications at assistant to full professor will be considered for this tenure-track position.

Please contact Dr. R. Sanders Williams (email: williams@ryburn. swmed.edu) or send c.v. and research interests statement to: Ryburn Cardiology Center, The University of Texas Southwestern Medical Center, 5323 Harry Hines Blvd., Dallas TX 75235-8573.

UT Southwestern Medical Center is an equal opportunity employer/ affirmative action employer.



Fellowships at the Smithsonian Tropical Research Institute

The Smithsonian Tropical Research Institute (STRI), a division of the Smithsonian Institution headquartered in the Republic of Panama, offers fellowships for research based at its facilities. Disciplines include ecology, anthropology, paleontology, conservation biology, evolution, systematics, behavior, and physiology of tropical plants and animals.

Predoctoral, postdoctoral, senior postdoctoral, and 10-week fellowships are available through the Smithsonian's Office of Fellowships & Grants, Washington, DC. Deadline: Jan15. For more information contact the Office of Fellowships & Grants at 955 L'Enfant Plaza, Suite 7000, Washington DC 20560 or e-mail si.pehudson@ic.si.edu.

Three-month fellowships (deadline: Feb 15, May15, Aug15, and Nov15), an annual 3-year postdoctoral fellowship (deadline: Jan 15) are available through STRI. For information write to: Smithsonian Tropical Research Institute, Unit 0948, APO AA 34002-0948 or email stri.tivoli.dealbag@ic.si.edu.

Two postdoctoral fellowships are also available for work in molecular approaches to marine biodiversity. For information on these positions email: Nancy Knowlton: knowlton @ubaclu.unibas.ch or stri01.naos. knowlton @ic.si.edu, or fax 0041 61 267 3457.

The Department of Biology at Texas A&M University seeks to fill TWO FACULTY POSITIONS AT ANY RANK in the general area of microbiology. Competitive applicants will be expected to have demonstrated research excellence in any area related to microbiology, with some preference given to individuals taking molecular genetic approaches to examine basic biological questions in fungi, bacteria, or viruses. Successful candidates will be expected to take an active role in the undergraduate and graduate microbiology teaching programs. All applicants should submit a curriculum vitae and statement of research and teaching interests; junior level applicants should also arrange to have three letters of reference sent to: Microbiology Search Committee, Department of Biology, Texas A&M University, College Station, TX 77843-3258. More information about our department can be found at http://biowww.tamu.edu. Applications will be screened until the positions have been filled, but should be received by December 15, 1996, for full

ber 15, 1996, for full consideration. Texas A&M University is an Equal Opportunity/Affirmative Action Employer.



Join a worldwide leader -Bayer Corporation, currently has exciting opportunities in the field of Biotechnology as a...

FORMULATION AND STABILITY SCIENTIST

Conveniently located in Berkeley, CA, Bayer is one of the largest biotechnology, chemical and imaging companies in the world. As a Senior Research Scientist with experience in formulation and delivery of mammalian glycoproteins, your responsibilities will include protein stability estimation via biophysical techniques, viz. FTIR, DSC, CD, etc.; evaluation of novel delivery modalities for drug targeting; and implementation of drug delivery options under CGMP environment.

A PhD is an appropriate discipline with a minimum of 4 years of formulation/delivery of proteins is required. Bayer offers attractive compensation and generous benefits.

Send your resume to:

BAYER CORPORATION HR Department Attn: MJY-17A P.O. Box 1986 Berkeley, CA 94701



EOE/AA/D

AACR Minority Scholar Awards in Cancer Research are offered to the Annual Meeting and Special Conferences of the American Association for Cancer Research (AACR). The awards are supported by a generous grant from the Comprehensive Minority Biomedical Program of the National Cancer Institute (NCI). Those eligible for these awards are graduate and medical students, physicians-intraining, and postdoctoral students from minority groups considered underrepresented in cancer research by the NCI, i.e., African Americans, Hispanic Americans, Native Americans, Native Pacific Islanders, and Alaskan Americans. Please call the AACR for an application form. Deadline for receipt of applications for the annual meeting awards is December 2, 1996. Applications for special conference awards are due approximately two months before the date of the meeting.

> For Further Information: AMERICAN ASSOCIATION FOR **CANCER RESEARCH** Public Ledger Building, Suite 816 150 South Independence Mall West Philadelphia, PA 19106-3483 Telephone: (215) 440-9300 FAX: (215) 440-9313



http://www.aacr.org



HUMAN PATHOLOGIST

This investigator will provide leadership and expertise in histopathology in the context of gene-based human disease research. Principal responsibilities will be to: (1) lead tissue-based research efforts in conjunction with ongoing MPI disease programs, including oversight of the molecular histology core laboratory; (2) interface with collaborating academic pathologists in establishing and maintaining human tissue banks; and (3) establish liaisons with consulting pathologists with special human disease or veterinary expertise. An MD or MD/Ph.D., residency and research training in pathology, and an understanding of molecular techniques is required. Familiarity with murine pathology would be desirable.

Millennium Pharmaceuticals is a rapidly growing company using expertise in genetics and molecular biology to identify and elucidate the function of genes involved in a variety of diseases.

Please send or fax C.V. to Shani Stickney, Millennium Pharmaceuticals, Inc., 640 Memorial Drive, Cambridge, MA 02139; FAX (617) 225-0884. EOE.

MILLENNIUM PHARMACEUTICALS, INC.

TWO FACULTY POSITIONS IN MARINE ENVIRONMENTAL BIOLOGY AT THE UNIVERSITY OF SOUTHERN CALIFORNIA (1) WRIGLEY ENDOWED CHAIR (2) ASSISTANT PROFESSOR, TENURE TRACK

The USC Department of Biological Sciences announces two openings for faculty to be affiliated with the newly formed USC WRIGLEY INSTI-TUTE FOR ENVIRONMENTAL STUDIES. The institute will take a leading role in conducting research and education in the marine and environmental sciences, building upon the existing strengths at USC and creating novel programs for interdisciplinary research, education, and outreach. The initial development includes renovation of USC's existing laboratories and teaching facilities on Santa Catalina Island (20 miles offshore), establishment of new programs, and hiring of new faculty. For both positions, primary office and laboratory will be on the USC campus, with additional facilities on Catalina Island. Preference will be given to scholars who can take advantage of the special opportunities afforded by the Catalina laboratory and the new Wrigley Institute.

THE WRIGLEY CHAIR IN ENVIRONMENTAL STUDIES. For this tenured full professorship, we seek an active researcher with a distinguished record in marine environmental biology. The successful candidate will be expected to maintain a quality research program as well as participate in our undergraduate and graduate educational program and play an influential role in the Wrigley Institute. Ideally, this individual would have a broad, global perspective, and a vision for the role of his or her science in society

ASSISTANT PROFESSOR. The specific area of research is open with respect to approach or taxa, with special interest in the following areas: trophic interactions, biochemical and physiological adaptations, systems ecology, biodiversity studied with molecular biological approaches, biomechanics and functional morphology, and genetics (quantitative, popu-lation, or molecular). Teaching on both the USC campus and the Catalina facility at the undergraduate and graduate levels is expected.

Applicants should send a resume; a cover letter describing their teaching and research interests; up to three recent publications; and the names, addresses telephone/FAX numbers, and e-mail addresses of at least 3 references to: Chair, Wrigley Search Committee, Department of Biological Sci-

ences, University of Southern California, Los Angeles, CA 90089-0371 Applications will be considered beginning 1 December 1996, and will be

accepted until the positions are filled. For more information on the Institute and these positions, see: http://www.usc.edu/dept/LAS/WIES/ index.html.

USC is an Equal Opportunity/Affirmative Action Employer. We particularly encourage women and minorities to apply.

Director, Whitney Laboratory University of Florida

Applications are invited for the position of Director of the Whitney Laboratory, a marine research institute of the University of Florida. The Whitney Laboratory uses the advantages of marine models to solve problems in basic biology, primarily applying the techniques of molecular and cell biology. Applicants for Director should have an earned doctorate, an active research program in some aspect of the molecular or cell biology of marine animals, and demonstrated ability to provide administrative and scientific leadership for a multidisciplinary marine biological laboratory. The Whitney Laboratory is located 18 miles south of St. Augustine, Florida. The Director will have a faculty appointment in an academic unit of the University of Florida. The twelve-month state supported salary is negotiable and dependent upon qualifications. Applicants should send their curriculum vitae and the names of three professional references by December 31, 1996 to: Dr. M. Ian Phillips, Chairman of Search Committee, Department of Physiology, P.O. Box 100274, University of Florida, Gainesville, FL 32610-0274. The University of Florida is an Affirmative Action/Equal Employment Opportunity Employer. The selection process will be conducted under the provisions of Florida's "Government in the Sunshine" and Public Records laws.

CNS DISCOVERY RESEARCH at Schering-Plough

Schering-Plough Research Institute has several opportunities for talented scientists at all levels to join our expanding multidisciplinary group which focuses on molecular targets for CNS disorders.

NEUROPHARMACOLOGIST

This is a unique opportunity for a senior level Scientist to establish a new neurosciences laboratory and direct a team of neuroscientists devoted to the development of *in vitro* and *in vivo* approaches to the identification and evaluation of new drug discovery targets in the CNS. The successful candidate will have a PhD in Neurosciences and 6-10 years of experience in an academic or industrial drug discovery environment demonstrating an established record of scientific achievement. Applicants will be

expected to have the scientific skills necessary to lead a diverse group of neuroscientists, while contributing to new and ongoing drug discovery programs.

We offer an excellent compensation package including a competitive salary and comprehensive benefits. For prompt, confidential consideration, we invite you to forward a resume indicating Dept. Code and salary requirements to: Human Resources-BG, Dept. TED, Schering-Plough Research Institute, 2015 Galloping Hill Road, Kenilworth, NJ 07033-0539. 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.



Using Science For Human Advantage

GLOBAL CAREER OPPORTUNITIES

THE UNIVERSITY OF SHEFFIELD AND THE YORKSHIRE CANCER RESEARCH CAMPAIGN

INSTITUTE FOR CANCER STUDIES

DIRECTOR OF THE INSTITUTE FOR CANCER STUDIES

The Institute was established in 1993 as a joint venture between the University and the YCRC. It is underpinned by an endowment of £5m and covers an area of 800 m² of recently refurbished space on the Medical School site. There are close links with the Academic Department of Clinical Oncology (Professor B Hancock), which is leading the North Trent Cancer Institute in the Calman Cancer Services Initiative and has interests in lymphoma, breast cancer and bone metastases and a Clinical Trials Unit. The new Director will also be appointed as a University Professor in Cellular Genetics and in addition to four posts in the Institute will have the opportunity to make up to 4 new Lecturer appointments. In addition it is expected that he or she will establish new directions for the Institute, particularly taking account of the University's major initiative, making up to 20 new linked appointments between the Medical School and the School of Biological Sciences, in the areas of Development Genetics, Cell Biology and Medical Genetics. As part of this initiative Professor Philip Ingham will be joining the University to head a new programme in Developmental Genetics. The University and the YCRC intend this initiative to underpin the application of modern molecular genetics to cancer mechanism, therapy and prevention.

Closing date for applications: 14 November 1996. (Ref: R1006)

Further particulars from the Director of Human Resource Management, The University of Sheffield, Western Bank, Sheffield S10 2TN, Tel: 0114-279 9800.

An Equal Opportunity Employer

Announcement

NEW DEADLINE

U.S. Civilian Research & Development Foundation for the Independent States of the Former Soviet Union announces that the deadline has been extended for the TRAVEL GRANT PROGRAM FOR SELECTED STATES OF THE FORMER SOVIET UNION

New application deadline: October 31, 1997 Travel must be completed by December 31, 1997

Applications are being accepted from applied scientists and engineers in the non-Russian countries of the former Soviet Union for grants of up to \$2,500 for short-term travel to the United States. Travel must be to attend meetings of industry associations or scientific and engineering societies and to confer with U.S. scientists about research collaborations that have potential for commercial applications. Applicants must be making their first visit to the United States.

For eligibility guidelines and application materials, please contact:

Travel Grant Program U.S. Civilian Research & Development Foundation 1800 North Kent Street, Suite 1106 Arlington, VA 22209 USA Tel: 703-526-9720 • Fax: 703-526-9721 E-mail: information@crdf.org WWW: http://www.crdf.inter.net



Inquiries to: Nycomed R&D, Human Resources Div., 466 Devon Park Drive, P.O. Box 6630, Wayne, PA 19087-8330, or FAX to (610) 225-4404. Equal Opportunity Employer, M/F/D/V.

AMERICAN MUSEUM OF NATURAL HISTORY FELLOWSHIPS AND GRANTS

FELLOWSHIPS - Research Fellowships are available to postdoctoral researchers and established scholars starting in summer and fall 1997. The fellowships support independent research in association with the resident staff. Areas include vertebrate and invertebrate zoology, paleozoology, anthropology, and earth and planetary sciences. This year we are offering the Lincoln Ellsworth Research Fellowship, which is dedicated to Arctic, Nearctic, or Antarctic research. All fellowship applications, including Chapman (ornithology), should be postmarked by January 15, 1997.

GRANTS - Research grants are available to advanced predoctoral candidates and recent postdoctoral researchers in the fields of zoology and paleontology. Awards average \$700.

Postmark dates vary for each grant program:

Frank M. Chapman (Ornithology) - January 15, 1997

Theodore Roosevelt (North American Fauna) - February 15, 1997

Lerner-Gray (Marine Zoology) - March 15, 1997

Request information and application forms from: The Office of Grants and Fellowships, American Museum of Natural History, Dept. I., Central Park West at 79th Street, New York, NY 10024. AMNH is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS The Department of Pediatrics of the Medical University of South Carolina invites applications for two positions:

- ENDOWED CHAIR in molecular genetics at the rank of Associate/Full Professor for an individual with an outstanding record of research accomplishments and research funding. We are seeking an M.D. or M.D., Ph.D. who is utilizing transgenic approaches to study neurogenetic diseases. The main responsibility of this individual is to establish a vigorous research program. Collaboration possibilities with other investigators working in the field of neurogenetics. Attractive salary accompanies the endowed chair, with generous start-up funds available to the successful candidate.
- 2. INSTRUCTOR/ASSISTANT PROFES-SOR for a Ph.D. with experience in molecular and cellular biology, preferably with transgenic animals, to participate/collaborate in ongoing projects investigating the pathobiology of neurogenetic diseases. The candidate should have a record of successful graduate and post-doctoral training and published work.

Interested applicants should send a curriculum vitae and a statement of research interests, and should arrange to send three letters of recommendation to:

C.P. Darby, M.D. Chairman, Department of Pediatrics Medical University of South Carolina 171 Ashley Avenue Charleston, SC 29425

Recruitment Advertisers

Highlight your recruitment message in the following special issues of SCIENCE:

15 November:	Editorial Feature: Developmental Neuroscience.
	Bonus Distribution: Neuroscience Meeting, 17-20
	November, Washington, DC
	Space reservation deadline: 29 October
22 November :	Editorial Feature: Gordon Research Conference
	Program.
	Space reservation deadline: 5 November
29 November:	Bonus Distribution: Biochemical Society and
	British Society Immunology, 11-13 December,
	Harrogate, UK
	Space reservation deadline: 12 November
6 December:	Editorial Feature: Cell Cycle.
	Bonus Distribution: American Society for Cell Biology,
	8-11 December, San Francisco, CA
	Space reservation deadline: 19 November
13 December:	Advertising Supplement: Statistical Software.
	Space reservation deadline: 26 November
20 December:	Editorial Feature: Breakthrough of the Year.
	Space reservation deadline:13 December
	SoleNoe

JUIENCE

http://www.sciencemag.org

Geneva Biomedical Research Institute

Glaxo Wellcome Research and Development S.A.

The Geneva Biomedical Research Institute (formerly the Glaxo Institute for Molecular Biology) is a state-of-the-art-centre of scientific excellence. Its research is directed toward the discovery of novel molecular mechanisms that can be used as drug targets to treat serious diseases. Outstanding opportunities have arisen for

Three Postdoctoral Fellows

Yeast Molecular Biology

The candidate should have expertise relevant to a multidisciplinary team working on the potential importance of oxidative metabolism in the normal and abnormal functioning of cells. Experience in working with mitochondria in relation to ion and/or free radical homeostasis would be an asset. A proven track record for original and independent research is essential.

Informal enquiries can be directed to Dr Kinsey Maundrell (kgm0304@ggr.co.uk; phone +41 22 706 9666).

Molecular Basis of Nicotine Dependence

The candidate should have experience in the field of drug addiction, in particular in drug self-administration or related techniques. The project will study the neurobiological basis of nicotine self-administration using modern molecular technology, including molecular neuro-anatomy, genetics, and gene targeting. This project will be part of a European Community research collaboration.

Informal enquiries can be directed to **Dr Emilio Merlo Pich, MD** (emp15105@ggr.co.uk; phone +41 22 706 9853; fax +41 22 794 6965).

Molecular Biology of Glutamate Receptors

The candidate should have experience in standard molecular biology techniques. This project will study the physiological function of metabotropic glutamate receptors using transgenics and gene targeting in addition to the establishment of new strategies for generating knockouts. Previous experience with transgenic techniques will be an advantage. This project will be part of a European Community research collaboration.

Informal enquiries can be directed to Dr François Conquet (fc22770@ggr.co.uk; phone +41 22 706 9666; fax +41 22 794 6965).

The Geneva Biomedical Research Institute is part of the Glaxo Wellcome group, one of the world's most successful healthcare companies, which has an outstanding reputation for the quality of both its research and products.

If you are interested, please quote the position applied for and send your curriculum vitae with a list of publications and the names of three referees to: **Personnel Department, Geneva Biomedical Research Institute, Glaxo Wellcome Research and Development S.A., 14, chemin des Auix, 1228 Plan-les-Ouates/Geneva, Switzerland.**

GLOBAL CAREER OPPORTUNITIES

HITACHI Advanced Research Laboratory

As one of the leading companies in the world, Hitachi explores frontiers of science and technologies. Since 1985, the Advanced Research Laboratory (ARL) has been concentrating its efforts on electron/radiation beam physics, software science, biotechnology, and materials science with a long-term perspective.

Now ARL invites applications for **RESEARCH JOB POSITIONS** in the following areas. *Postdocs;* (1) COMPUTATIONAL NANOTECHNOLOGY, A nano-designer in computational physics; first-principle band/cluster calculation of electronic, magnetic, and optical properties of artificial nanostructures on solid surfaces. (2) THERAPEUTIC APPLICATIONS of ULTRA-SOUND, An ultrasonic expert with interests in biophysics or a biophysicist capable of ultrasonic engineering. (3) NATURALLANGUAGE PROCESS-ING, Text analysis and user interface for information access. Target languages are English and/or Japanese. *Research group leader;* (1) ALLERGY and MOLECULAR IMMUNOLOGY, A scientist to lead a research group devoted to innovating highly sensitive measurements of allergic processes by using novel biophysical and immunological techniques.

The posts are for maximum of 3 years on an annual contract basis. Applicants should submit a curriculum vitae, a list of publications, several reprints of their most significant work, a statement of research interests, and the names of three references willing to write letters of recommendation. A detailed description of the positions is available in www page http://www.harl.hitachi.co.jp/job.html or contact by e-mail jinji@harl.hitachi.co.jp.

Administration Section, Advanced Research Laboratory, Hitachi Ltd., Hatoyama-machi, Hiki-gun, Saitama, 350-03 JAPAN.

Postdoctoral Research Fellowship -Electrophysiology

School of Biological Sciences

Vacancy UAC.794

Applications are invited for a postdoctoral position in the School's Biochemistry and Molecular Biology section. It is available now, until December 1998.

We seek an individual with practical experience in electrophysiology and an interest in the molecular biology of membrane channels. The successful candidate will apply patch clamp and microelectrode techniques to study the role of membrane channels in ocular disease with emphasis on diabetic lens cataractogenesis. Facilities are state-of-the-art and include a double whole cell patch clamp station and an oocyte station.

The salary will be NZ\$44,250 per annum for the first year; NZ\$45,750 per annum for the second. Further information can be obtained from Associate-Professor Joerg Kistler, telephone 64-9-373 7599 ext 8250, fax 64-9-373 7414, email: j.kistler@auckland.ac.nz.

Applications in the form of a detailed CV, including the contact details for two or more referees and their fax numbers, close with the Registrar, The University of Auckland, Private Bag 92019, Auckland, New Zealand on **29 October 1996**.

Please quote Vacancy Number UAC. 794 in all correspondence. W B NICOLL, REGISTRAR



New Zealand

The University has an equal opportunities policy and welcomes applications from all qualified persons

ANNOUNCEMENT

Association for Chemoreception Sciences Minority Travel Fellowships and Clinical Travel Fellowships

The Association for Chemoreception Sciences (AChemS) is pleased to announce the availability of travel fellowships for individuals interested in the chemical senses. Students, postdoctoral fellows, and faculty who identify themselves with a minority group can apply for the minority fellowship, and resident clinicians (dentists and physicians) can apply for the clinical fellowship. The awards are funded by the National Institute on Deafness and Other Communication Disorders to defray cost of travel, meals, lodging, and registration to attend the Twelfth International Symposium on Olfaction and Taste, ISOT XII, which will take place jointly with the annual meeting of AChemS in San Diego, California on July 7-12 1997. For the minority fellowships, members of African-American, Hispanic-American, Native-American, Pacific Islander, or other ethnic or racial groups under-represented in chemosensory research will be considered. Applicants need not be AChemS members, but must be U.S. residents. Awardees will be selected according to their academic background, experience, and research interests.

Applicants are requested to submit a brief statement of research interests, their curriculum vitae, two letters of recommendation, and, for the minority fellowship, an indication of the minority group with which they identify, by February 15, 1997 to:

Travel Fellowship Committee AChemS Business Office 744 Duparc Circle Tallahassee, FL 32312-1409



Rutgers University Graduate School of Education, Department of Learning and Teaching.

The department anticipates vacancies for Assistant Professors, Tenure-track (9/1/97), in the following areas:

SCIENCE EDUCATION: Expertise in K-12 science education and evidence of ability to work collaboratively with research scientists in a variety of disciplines.

INSTRUCTIONAL TECHNOLOGY: Applications of technology in education and content expertise in science or mathematics education.

Applicants should have a demonstrated commitment to teacher education, an orientation toward work with teachers, and research interests in the learning and teaching that occur in classrooms. Questions can be addressed to: W.D. Crown 908-932-7496, ext. 102 or wcrown@ rci.rutgers.edu.

REQUIREMENTS: Doctoral degree from major research university, established program of research supported by scholarly publications, and commitment to excellent teaching. Responsibilities: Teaching graduate/undergraduate courses, conducting research, publishing, and advising students. Salary and rank commensurate with candidate's background and experience. Send cover letter, current vita, and three letters of reference no later than December 20, 1996 to: GSE Search Committee, Rutgers University: Graduate School of Education, 10 Seminary Place, New Brunswick, NJ 08903-5050.

Rutgers University is an Equal Opportunity, Affirmative Action Employer.

Assistant Professor

PLANT MOLECULAR BIOLOGY/BIOTECHNOLOGY The Ohio State University

Two 9-month, tenure-track **ASSISTANT PROFESSOR** positions are available in the Plant Molecular Biology/Biotechnology (PMBB) group at the Ohio State University. It is anticipated that the appointments will be in the Departments of Plant Biology and Horticulture and Crop Science. These positions include competitive salaries, significant start up funds, and access to excellent research facilities. The PMBB group currently includes over twenty faculty with interdisciplinary research programs investigating basic molecular mechanisms in plant development, plant productivity, and plant-microbe interactions, and their potential applications to crop improvement.

The successful applicants will be expected to develop internationally recognized research programs that use modern methods to investigate significant questions in plant biology, and to participate in graduate and undergraduate teaching. Applicants should have a Ph.D. and postdoctoral experience. One position is expected to be filled by a plant developmental biologist while the second position is open to candidates working in any research area related to the PMBB mission.

Interested candidates should forward a curriculum vitac including a list of publications, a summary of research interests, a summary of teaching philosophy and interests, and the names of three references to:

PMBB Search Committee, Plant Biotechnology Center, 1060 Carmack Rd., Columbus, OH 43210-1002. Review of applications will begin December 1, 1996 and continue until the positions are filled.

The Ohio State University is an Equal Opportunity-Affirmative Action Employer. Qualified women, minorities, Vietnam-era veterans, disabled veterans, and individuals with disabilities are encouraged to apply.

SYMPOSIUM



— MAX-PLANCK-INSTITUT — FÜR EXPERIMENTELLE MEDIZIN

Im Rahmen der Umorientierung des Max-Planck-Instituts für experimentelle Medizin in Göttingen in Richtung Neurobiologie veranstalten wir ein

Symposium

auf dem Gebiet der Röntgenkristallographie, das unter dem Thema

Struktur und Funktion am 3. und 4. Februar 1997

stattfinden soll.

Wissenschaftler, die auf dem Gebiet international, methodisch und thematisch Anerkennung gefunden haben und sich für das Fach Neurobiologie interessieren, können sich um eine Teilnahme bewerben. Es wird gebeten, einen Vortragstitel, eine kurze Zusammenfassung der bisherigen Arbeiten, eine Bibliographie sowie einen Lebenslauf innerhalb von 4 Wochen nach Erscheinen dieser Anzeige an folgende Adresse zu richten:

Kollegium des Max-Planck-Instituts für experimentelle Medizin

z. Hd. Prof. Walter Stühmer Hermann-Rein-Str. 3 D-37075 Göttingen

-

Germany

TWO POSTDOCTORAL POSITIONS

The National Institutes of Health, National Institute of Neurological Disorders and Stroke, is seeking two postdoctoral fellows (U.S. citizens, permanent residents or non-U.S. citizens) who have a Ph.D., M.D., or equivalent degree in molecular biology, biochemistry, neuroscience, or a related field and less than five years postdoctoral experience. The positions include being involved in projects focused on molecular mechanisms directing neurotransmitter release.

Position I: A strong background in molecular biology and biochemistry, and familiarity with molecular cloning (yeast two-hybrid system), and/or *in vitro* protein-protein interaction assays, immunocytochemistry, protein expression and purification are required. Candidates should have a strong desire to learn new techniques.

Position II: A strong background in electrophysiology and neuroscience, familiarity with and interest in voltage-clamp and other electrophysiological techniques to record neurotransmission in cultured neurons are preferred.

The appointments will be for two (2) years with a salary range between \$25,000 and \$38,000 per year, depending upon experience and qualifications. Please submit a curriculum vitae and names of three references by December 31, 1996 to:

Dr. Zu-Hang Sheng National Institute of Neurological Disorders and Stroke NIH

Building 36, Room 2B24 Bethesda, MD 20892-4130

GLOBAL CAREER OPPORTUNITIES

Request for Proposals from the International Spinal Research Trust The ISRT is a grant-giving charity (number 281325) with the purpose of funding research aimed at resolving the non- or partial-functioning of the injured spinal cord.

The field of spinal cord repair has developed to the stage at which we now have demonstrable regeneration of damaged nerve fibres in the adult mammalian cord. Accordingly, we feel that we have sufficient knowledge to plan a research strategy that will guarantee genuine progress. To proceed further it is recommended that ISRT funding is restricted to projects that are conducted in adult mammalian spinal cord and concentrated on three main research foci:

- Early Trauma and Inflammation: Prevention of the generation of obstacles to future regenerative repair, including aspects of scarring
- Trophic Stimulation of Neurite Outgrowth: Identification of the pattern and possible temporal cascade of the different factors required to achieve long-distance regeneration
- CNS Inhibitory Molecules: Masking of intrinsic mechanisms that are inhibitory to axonal regrowth in the CNS.

Besides these three main foci, ISRT will, in due course, support a complementary programme to address the hurdles that prevent a proper evaluation of the progress made on each project.

The Trust does not, at this time, have the resources to begin every aspect of this three-year programme. Accordingly, applications are invited for projects in the area of identifying differential gene expression between neuronal systems with growth potential and those lacking such capabilities (e.g. adults versus embryonic neurons, central versus peripheral neurons, regenerating versus non-regenerating neurons in experimental models). We are also interested in analogous comaparisons for nonneuronal support cells. Applicants should submit five copies of a letter of intent (c. two sides) summarizing the proposed research and background of the laboratory. Five copies of an approximate budget and the curriculum vitae of the principal investigator(s) should be appended. All letters should arrive by first post on 25th November. No faxed or electronic letters of intent will be accepted. Awards will average up to £250,000 over three years and, following a preliminary review, detailed proposals will be requested from a limited number of applicants.

Address letters of intent to: The International Spinal Research Trust, Unit 7 Bramley Business Centre, Station Road, Bramley, Guildford, Surrey GU5 0AZ. Email: isrt@dial.pipex.com.







Circle No. 7 on Readers' Service Card

Remodeling the extracellular matrix? There's only one place to find just the right enzyme.

Sigma has the specific enzyme you need for ECM research.

COLLACIEN FIBRILS

COLLAGENMOLEGULE Exploring the tissue architecture of the ECM is like any other project. The more appropriate and precise the tool for each application and activity, the more successful the result.

HYALUBONAL

That's why you'll turn to Sigma. And select exactly what you need om a group of enzymes with an extensive range of specific activities. Our comprehensive collection of enzymes for ECM research includes high purity collagenases,

leukocyte elastases, dispases, hyaluronidases, tissue plasminogen activator and cathepsin G. For guidance, contact our Technical Service experts. They'll rush literature to you by fax and mail to help you choose just the right enzymes to dismantle, SIGMA rebuild and remodel the ECM.

LAMININ: CELL ATTACHMENT

MLAGEN

Call 1-800-325-5832, 314-771-5750 or e-mail sigma-techserv@sial.com.

Sigma Chemical Co. P.O. Box 14508 St. Louis, MO 63178 USA 314-771-5750 http://www.sigma.sial.com Circle No. 42 on Readers' Service Card

Using the Human Transcript Map



Now you can place almost any human sequence in one of the 1,000 genetically anchored bins on the recently published radiation hybrid-based human transcript map¹. Armed with this knowledge, you can look up all of the transcripts that have been mapped to that bin and simply purchase transcriptspecific STS primer pairs, cDNA clones, and YAC clones for most of the transcripts. BAC clones containing the transcripts can be

determined by PCR-based or hybridization-based screening.

Over the course of the next year, tens of thousands of additional transcripts will be added to this resource which is being updated and released over the world wide web by Mark Boguski, Greg Schuler, and the staff at NCBI². Most of these new transcripts will be based on the invaluable cDNA resource made possible by the I.M.A.G.E. Consortium³, the end-sequencing of which is being performed by Washington University and has been made

possible by the generous support of Merck & Company⁴. The expansion of the transcript map is being accelerated by a significant donation from Sandoz to map 10,000 brain related transcripts⁵.

The resources needed to make the maximum use of this new tool are available from Research Genetics. Visit our web site at http://www.resgen.com or call and ask for Kay Swanson or Jim Hudson for more information.



References

- 1. Schuler, G., Boguski, M., et al, Science Oct, 25, 1996.
- 2. http://www.ncbi.nlm.nih.gov/SCIENCE96
- 3. http://www-bio.llnl.gov/bbrp/image/image.html
- 4. http://genome.wustl.edu/est/esthmpg.html
- 5. Research Genetics Resources, Vol. 3, No. 2, pg.1

Research Genetics, Inc. 2130 Memorial Pkwy, SW • Huntsville, AL • 35801 U.S. or Canada 800-533-4363 Worldwide 205-533-4363 U.K. 0-800-89-1393 FAX 205-536-9016 Homepage http://www.resgen.com Circle No. 39 on Readers' Service Card