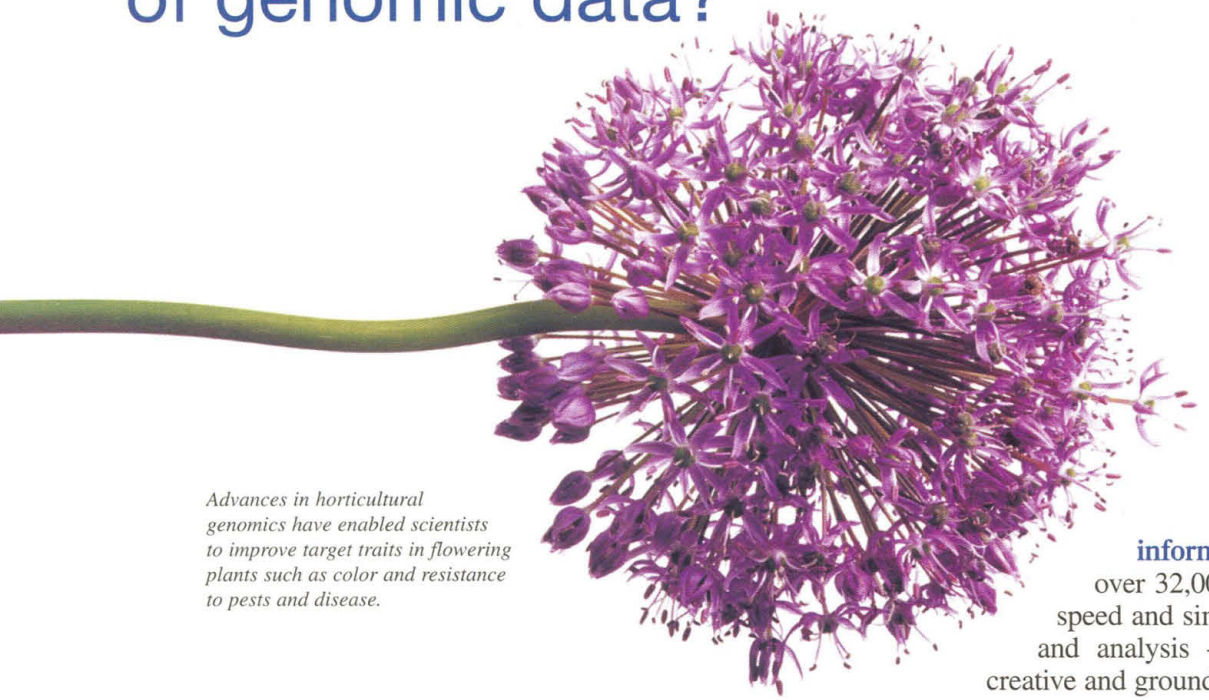
Do you see an exotic spring bloomer or a rich source of genomic data?



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IMPROVING ANNOTATION

Reference management is a task that many professional writers and scientists alike do not regard as their personal forte. Luckily, several software programs are available on the market to ease the task of filing references and helping with citations in manuscripts. EndNote has been a mainstay for this purpose since its first version. Recently, ISI ResearchSoft released the latest version of EndNote for PC and Macintosh. EndNote 6.0 for the Macintosh is specially designed for the operating system OS X and Microsoft Office X, but it can also be used with older versions of Office on machines with a G3 chip or better.

Since the release of version 5.0, a number of innovations have been made. For example, the program now allows the user to organize and attach images in several formats and files, such as PowerPoint presentations, to a manuscript. Once graphics are placed in EndNote files they can be embedded into Microsoft Word documents, and subsequently a list of figures can be generated automatically. Another enhanced feature of the new version is the manuscript template, which formats Word documents according to specific journal requirements.

If EndNote 6.0 is used with Macintosh Word for OS X, a streamlined version of citing references called "cite while you write" can be used. With this feature, a template wizard can be used to pre-define a manuscript format. To set up a new document, the user can manually enter the required information into the wizard's dialog box. This information ranges from author information, which can be retrieved from an existing address book, to keywords, running titles, and the format of subsections within the manuscript. Later, when a reference is inserted into the text, the citation finder scans the appropriate EndNote library and inserts the citation in the required format for the chosen journal. The bibliography is automatically generated at the end of the manuscript. EndNote uses place holders for its citations so that numbered citations can be seen as full citations throughout the text while the manuscript is being written. Using a single command, these citations can then be formatted in the desired style or unformatted again if the author wishes to edit the manuscript or use a different citation format.

Users can also enter unformatted citations into a document and ask EndNote to find the matching references from the database. EndNote will recognize any citation if it is placed within temporary curly braces and will search through the specified libraries to insert the correct citation, as long as the temporary braces contain enough information to specify an entry unambiguously. Of course, the cite-while-you-write function also handles with automatic reference formatting.

The program's traveling library allows the user of Word X documents to share references with colleagues who may not have the same EndNote library file. Likewise, to create a library with a subset of references that are contained in the traveling library of a document, these citations can be downloaded into a new EndNote file simply by using the export command.

The latest version of the program offers significant improvements over previous versions and is a very worthwhile upgrade.

—Andreas Madlung

The author is in the Department of Botany, University of Washington, Seattle, WA 98195, USA. E-mail: madlunga@u.washington.edu

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SNP ANALYSIS

The READIT version 1.1 SNP (single nucleotide polymorphism) Genotyping System makes use of an enzymatic background reduction method that enhances reliability and facilitates complete automation of the genotyping process. Equally suitable for laboratories with low and high throughput requirements, the new method enables analysis in a manual 96-well format or automated analysis in 96- and 384-well formats. READIT technology detects specific alleles by combining novel enzymatic reactions and sequence specific oligonucleotide hybridization. Versatile and flexible for the detection of sequence variation or genotype, the assay combines enzymatic fidelity, stringent probe hybridization, and an integrated data calculator for automated SNP scoring, error detection, and statistical analysis of the data. Validation studies reveal a genotyping accuracy of greater than 99.9%. The READIT system is suitable for the detection of SNPs, estimation of allelic frequencies and allele correlation studies, the detection of chromosomal translocations, mutation detection, and the interrogation of polymerase chain reaction products to determine the presence of a known sequence.

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CONTINUED ON PAGE 1046

ported in the concentration unit selected by the user. Results correlate with traditional titration methods. The Model 925 Titrator features microprocessor design, which automates calibration and measurement procedures for a wide variety of applications. Twelve acid and base titration templates are coded into the meter, and 30 actual sample methods that have been developed at Thermo Orion are also included to make the setup of new methods simple. These methods can be edited easily. Titration data can be sent to a personal computer for documentation.

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www.scienceproductlink.org

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The QSTAR XL LC/MS/MS System is an addition to a quadrupole time-of-flight mass spectrometry series. The QSTAR XL system is designed to provide improved sensitivity and resolution to proteomics researchers as well as improved sensitivity and mass accuracy to pharmaceutical drug discovery researchers seeking to identify and characterize low level drug and metabolite concentrations in biological samples. The system is designed for protein identification and characterization and drug metabolism studies, generating high-quality mass spectrometry data from both atmospheric pressure ionization and matrix-assisted laser desorption ionization techniques. High-mass ion transmission properties have been improved in this system, providing proteomics researchers with extended capabilities for analyzing larger intact proteins and allowing for superior sequence analysis of large peptides.

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New Jersey Commission on Spinal Cord Research
PO Box 360
Market and Warren Streets
Trenton, New Jersey 08625-0360
Tel: 609-292-4055 E-mail: njcscr@doh.state.nj.us

Closing Date for Grant Applications: January 3, 2003

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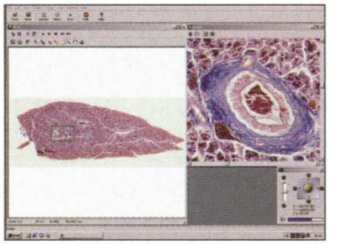

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LITERATURE

The *2002–2003 Life Science Catalogue* features inventive new sample preparation tools for genomics, proteomics, and drug discovery, as well as new ultrapure laboratory water systems. It includes more than 50 pages of new sample preparation solutions, protocols, data, and citations, and a variety of membrane disk and syringe-tip filters. The *2002–2003 Biopharmaceutical Catalogue* highlights filtration, purification, and viral clearance tools; new product and system configurations for easy scaling; and expanded quality control products and services.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS of any products or materials mentioned is not implied.Additional information may be obtained from the manufacturer or supplier by visiting www.scienceproductlink.org on the Web, where you can request that the information be sent to you by e-mail, fax, mail, or telephone.

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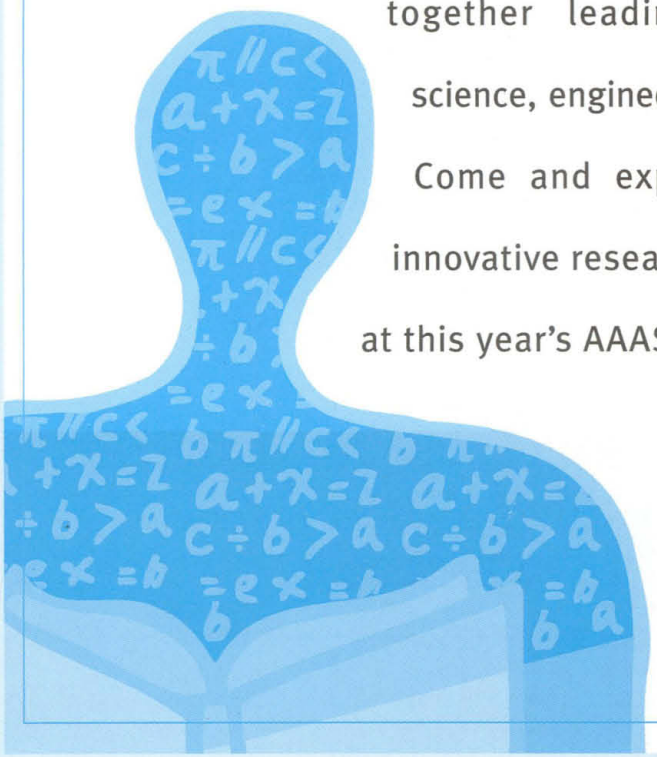
Information as of 10/01/02.

Welcome

November 2002

AAAS President Floyd Bloom invites you to attend the AAAS Annual Meeting 13–18 February 2003 in Denver, CO. The "Mile High City" will host this interdisciplinary scientific meeting that brings together leading researchers in science, engineering and technology. Come and explore the new and innovative research and applications at this year's AAAS Annual Meeting!



MEETING HIGHLIGHTS

PLENARY LECTURES

The Honorable Kofi Annan*
Secretary General, United Nations

Floyd E. Bloom
The Scripps Research Institute & AAAS President

Eric A. Cornell
National Institute of Standards and Technology and JILA

Raymond L. Orbach
U.S. Department of Energy

Anna C. Roosevelt
Field Museum and University of Illinois-Chicago

Carl E. Wieman
University of Colorado

**Invited, not yet confirmed*

17 Topical Lectures and More than 140 Symposia

Areas Include:

- Beyond the Human Genome
- Brain and Behavior
- By the Numbers
- Challenging and Changing Nature
- Cultural and Social Diversity
- Dealing with Global Change
- Educating the Next Generation
- Environmental and Biological Diversity
- Evolution and Evolutionary Ideas
- How the World Works
- Life of Science
- Looking Beyond Earth
- Public Health-Public Risk
- Science and Human Culture
- Science and Security
- Science and Society
- Science and Technology of Life
- Science and Uncertainty
- Science as a Career
- Science Innovation
- Science, Engineering, and Public Policy
- The Science and Technology Loop

Three Exciting Seminars

- Microarrays and Functional Genomics
- Nanotechnology 2003
- Neuroinformatics: Genes to Behavior

Poster Sessions

Career Development Workshops

Exhibition Hall and Workshops

Seminars

Nanotechnology 2003: Big Things in Little Packages

Thursday, February 13 12:30PM–5:30PM
Friday, February 14 9:00AM–5:40PM

Organized by: Charles W. Clark, National Institute of Standards and Technology; James Ellenbogen, MITRE; Robert Floran and Terry A. Michalske, Sandia National Laboratory; Peixuan Guo, Purdue University; Richard H. Smith, Institute for Alternative Futures

The 2003 Nanotechnology Seminar will examine areas where research is opening exciting new potentials for this developing technology. The intersection of physics, chemistry, engineering and biology at the nanoscale could lead to revolutionary approaches for medical diagnostics, treatment of disease, drug discovery, energy production, and computing. In information systems, circuits, connectors, displays, transistors and, ultimately, entire systems of "nanosized" parts are being designed, and some, like fullerene-based transistors, are already being tested. New tools capable of imaging, measuring, and manipulating individual atoms and molecules will be key to continued progress. These are already being used to isolate and explore biomolecular machines such as motor proteins that carry out numerous biological functions including providing locomotion for living organisms. This 2-day seminar brings together leading researchers in this rapidly advancing field of research.

Thursday, February 13

Molecular Machines 12:30PM–1:00PM

- Steven M. Block,* Stanford University

Nanotechnology and Infotechnology 2:00PM–5:30PM

SPEAKERS:
- James Ellenbogen, MITRE
- Robert J. Celotta, National Institute of Standards and Technology
- Evelyn Hu,* University of California-Santa Barbara
- Phil Collins, Covalent Materials
- Jim K. Gimzewski, University of California, Los Angeles

Friday, February 14

Nanobiotechnology 9:00AM–12:30PM

SPEAKERS:
- Angela Belcher,* University of Texas
- Chad A. Mirkin,* Northwestern University
- Jene A. Golovchenko,* Harvard University
- Jonathan A. King,* Massachusetts Institute of Technology
- Viola Vogel, University of Washington
- George D. Bachand,* Sandia National Laboratory

Molecular Motors 2:00PM–5:40PM

SPEAKERS:
- Eckhard Jankowski, Case Western Reserve University
- Stephen C. Kowalczykowski, Univ. of California, Davis
- Peixuan Guo, Purdue University
- Toshio Yanagida, Osaka, Japan
- Masasuke Yoshida, Japan
- Carlo D. Montemango, Univ. of California, Los Angeles
- Charles W. Clark

* *Invited Not Yet Confirmed*

Neuroinformatics: Genes to Behavior

Sunday, February 16 2:30PM–5:30PM
Monday, February 17 9:30AM–5:30PM

Organized by: Floyd Bloom, The Scripps Research Institute and AAAS; Stephen H. Koslow, NMH, NIH; Gordon Shepherd, Yale University

Studies of structure and function in the brain have yielded an ever-increasing flood of information in recent years. New technologies for imaging and monitoring brain activity have yielded powerful tools for understanding the chemical and biological bases for neurological function. With all of this has come the need to manage and understand the vast quantities of data being generated both in neuroscience and from other areas of biological investigation, such as genomics. Neuroinformatics represents a confluence of studies in neurological and cognitive functioning, and the science of managing and using data to reveal new understandings. This seminar provides an opportunity to hear about many of the leading areas of research in neuroscience that are emerging from the use of these powerful new informatic tools.

Sunday, February 16

Neuroinformatics 2:30PM–5:30PM

SPEAKERS:
- Floyd E. Bloom, The Scripps Research Institute and AAAS
  Opening Remarks
- Stephen H. Koslow, National Institute of Mental Health, NIH
  Why Neuroinformatics?
- Gabrielle LeBlanc, National Institute of Neurological Disorders and Stroke, NIH
- Gordon M. Shepherd, Yale University School of Medicine
  Database Standards
- Robert Strausberg,* National Cancer Institute
  Curated Databases

Don't forget about the Two-Day Seminar Pass!

Too busy these days to join your colleagues for a four-day conference? Consider a two-day seminar pass—a great way to stay in the loop!

Monday, February 17

The Brain — 9:30AM–12:30PM

SPEAKERS:

- Michael S. Gazzaniga, Dartmouth College
  Thought, Action, and Brain Imaging
- David C. Van Essen, Washington University
  Cortical Cartography: Mapping Cortical Structure and Function in Human, Monkey, and Mouse
- Glenn D. Rosen, Beth Israel Deaconess Medical Center
  The Mouse Brain Library: Neuromorphology and Neurogenetics
- Arthur W. Toga, UCLA School of Medicine
  The Neuroinformatics of Neuroimaging

Genes to Systems — 2:30PM–5:40PM

SPEAKERS:

- James Eberwine, University of Pennsylvania Health System
  mRNA Targeting to and Translation in Neuronal Dendrites
- Mark H. Ellisman, National Center for Microscopy and Imaging Research
  Neurostructure
- Kristen M. Harris,* Boston University
  Neuromicrostructure
- Leo M. Chalupa, University of California-Davis
  New Perspectives on the Role of Activity in Development of the Visual System
- Gwen Jacobs, Montana State University
  Invertebrate Structure and Simulations
- Gordon M. Shepherd
  Closing Remarks

Microarrays and Functional Genomics

Saturday, February 15 8:00AM–5:30PM
Sunday, February 16 8:30AM–5:30PM

Organized by: Microarray Gene Expression Database Group (MGED) and *Science* magazine

Analyzing gene expression, gene interactions, and gene organization at a global level are forming part of the revolution in our understanding that is represented in functional genomics. This 2-day seminar will provide practical discussions for researchers entering the field as well as stimulating pictures of the future. The first day, building on the highly successful MGED-4 (www.mged.org) held at the 2002 AAAS Meeting, will be a combination of tutorials and talks under the heading *Getting Into Microarrays: Everything You Need to Know*. There will be discussions of experimental design, standardization, avoiding artifacts and the progress in data standardization and databases. Day two will focus on the future of functional genomics. Recent advances in understanding the involvement of RNAs in gene regulation and in building regulatory networks will be examined by leading researchers. The application of basic research in proteomics and in microarrays to clinical medicine is coming closer to reality and we will be discussing the latest findings in these and other areas.

Saturday, February 15

Morning Tutorials — 8:00AM–11:30AM

Getting You into Microarrays: Everything You Need to Know

Plenary Session: Microarray Databases — 2:30PM–6:00PM

SPEAKERS:

- Barbara Jasny, *Science* magazine
  Introduction
- Alvis Brazma, EMBL
  Establishing the Infrastructure for Data Sharing
- John Quackenbush, TIGR
  Making It Happen (Tools)
- Sandrine Dudoit, Stanford University
  Experimental Design
- Gavin Sherlock, Stanford University
  An Historical View of Database Evolution
- Joel Greshock,* University of Pennsylvania
  CGH Arrays
- Isaac (Zak) Kohane, Harvard Medical School
  Comparing Different Data Sets: How Well Do They Correlate

Sunday, February 16

The Future of Functional Genomics — 8:30AM–11:30AM

SPEAKERS:

- Speaker TBA
  RNAi
- Rob Martiensson,* Cold Spring Harbor
  Gene Expression and Organization
- Barbara Wold,* CalTech
  Regulatory Networks
- E.M Marcotte, University of Texas
  The Proteomics World
- Ken Buetow, National Cancer Institute
  Director's Challenge for Cancer
- Jonathan Pevsner, Johns Hopkins
  Brain Microarrays

Functional Genomics and Microarrays — 8:30AM–11:30AM

SPEAKERS:

- George Stephanopoulos, Massachusetts Institute of Technology
  Gene Expression and Metabolic Engineering
- Speaker TBA
  Mouse and Human Comparisons
- Eric Hoffman, Children's Hospital, DC
  Heart, Lung, and Blood
- Howard Bilofsky, SmithKline Beecham
  Industry Databases
- Gary Schoolnik, Stanford University Medical School
  Bacterial Pathogeniicity
- Tom Griffin, Institute for Systems Biology
  Protein Profiling
- Trey Ideker, Whitehead Institute
  Systems Biology

Lectures

PLENARY LECTURES

Thursday, February 13 6:30PM
AAAS President's Lecture and Reception

Floyd E. Bloom
The Scripps Research Institute, AAAS and Science *magazine*

Friday, February 14 6:30PM

Raymond Orbach
U.S. Department of Energy
Genesis–Science and the Beginning of Time

Saturday, February 15 6:30PM

Anna C. Roosevelt
Field Museum and University of Illinois-Chicago

Monday, February 17 8:00AM

Kofi Annan*
Secretary General, United Nations

Monday, February 17 6:30PM

Eric A. Cornell
National Institute of Standards and Technology, JILA
and
Carl E. Wieman
University of Colorado
Bose-Einstein Condensation: New Results from the Ultracold Frontier

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TOPICAL LECTURES

Friday, February 14
■ 12:30PM–1:15PM

Elias Zerhouni
Director, National Institutes of Health

■ 1:30PM–2:15PM

Cherry Murray
Bell Laboratories-Lucent Technologies
Science and Communications

Kathy Reichs*
Author

Rudolph E. Tanzi
Massachusetts General Hospital
Alzheimer's Disease: Genes, Pathways, and Therapies

■ 1:30PM–2:15PM

GEORGE SARTON AWARDS LECTURE IN THE HISTORY AND PHILOSOPHY OF SCIENCE

Stephen Pyne
Arizona State University

Saturday, February 15
■ 12:30PM–1:15PM

Gale A. Norton*
Secretary, U. S. Department of the Interior

■ 1:30PM–2:15PM

Margaret S. Livingstone
Harvard University School of Medicine
Vision and Art

Fotini Markopoulou
Perimeter Institute for Theoretical Physics

■ 1:30PM–2:15PM

JOHN P. MCGOVERN AWARD LECTURE IN THE BEHAVIORAL SCIENCES

Lila Gleitman
University of Pennsylvania

Sunday, February 16
■ Special Lecture
12:30PM–1:15PM

Achilleas Mitsos
Director General, Research Directorate-General, European Commission

■ 1:30PM–2:15PM

Erich D. Jarvis
Duke University
Evolution of Vocal Communication

Kirk Johnson
Denver Museum of Natural History
Tropical Rainforests, Dinosaurs, and Drinking Water: The Odd Urban Geology of the Denver Basin

Lawrence Krauss
Case Western University
Scientific Ignorance as a Way of Life: From Science Fiction in Washington to Intelligent Design in the Classroom

Warren M. Washington
National Center for Atmospheric Research
Predicting the Climate of the 21st Century

Monday, February 17
■ 1:30PM–2:15PM

Barry C. Barish
California Institute of Technology
Gravity—Studying the Fabric of the Universe

Mohamed T. El-Ashry
Global Environment Facility
Global Sustainability: Scientific and Policy Considerations

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* *Invited Not Yet Confirmed*

Symposia

Beyond the Human Genome

The Evolving Genome in Clinical Development and Policy

Friday, February 14 8:30AM–10:00AM

Organized by Lila Feisee, Biotechnology Industry Organization; M. J. Finley Austin, Hoffman-La Roche

Toxicogenomics: At the Interface Between the Environment and the Genome

Friday, February 14 10:30AM–12:00NOON

Organized by Cheryl Lyn Walker, University of Texas, MD Anderson Cancer Center; Ray Tennant, National Institute of Environmental Health Sciences

The Promise of Pharmacogenomics in Medicine

Friday, February 14 2:30PM–4:00PM

Organized by Karen Antman, Columbia University

Challenges in the Statistical Analysis of Genomic Data

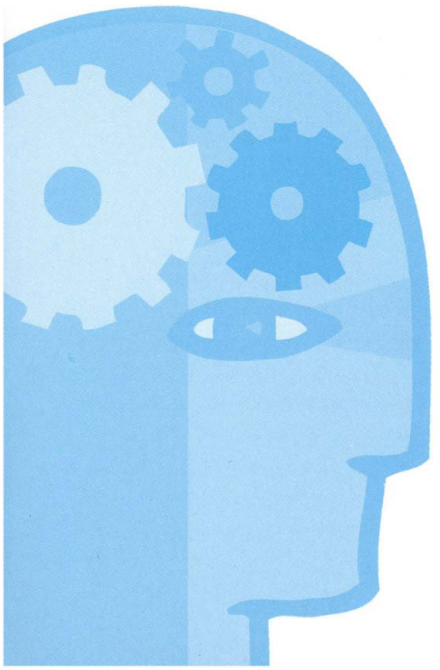
Friday, February 14 4:30PM–6:00PM

Organized by Sandrine Dudoit, University of California-Berkeley; Juliet P. Shaffer, University of California-Berkeley

Ethical, Social and Policy Implications of Studies of Human Genetic Variation: New Issues from the Human Genome Project

Saturday, February 15 8:30AM–11:30AM

Organized by Mildred K. Cho, Stanford University



Foods for Health: Integrating Agriculture and Medicine

Saturday, February 15 2:30PM–5:30PM

Organized by Carla Carlson, University of Minnesota

The Paradox of Medicine: Barriers to TranslatingResearch into Clinical Practice

Sunday, February 16 8:30AM–11:30AM

Organized by Alan N. Schechter, National Institutes of Health; Richard Rettig, RAND Corporation

Microbial Forensics: A Scientific Assessment

Sunday, February 16 2:30PM–5:30PM

Organized by Abigail Salyers, University of Illinois, Urbana-Champaign

Brain and Behavior

How and Why Brain Cells Boogie: Motility in Neural Development

Friday, February 14 8:30AM–10:00AM

Organized by Shelley Halpain, The Scripps Research Institute

Changing Views of Schizophrenia

Friday, February 14 8:30AM–11:30AM

Organized by Richard Warner, University of Colorado; Robert Freedman, University of Colorado Health Sciences Center

From Gene to Speech

Friday, February 14 10:30AM–12:00NOON

Organized by Faraneh Vargha-Khadem, University College London

Neurobiology of Depression: New Insights

Friday, February 14 2:30PM–5:30PM

Organized by Eric Nestler, U.T. Southwestern Medical Center

The Effects of Early Experience on Brain and Brain Development

Saturday, February 15 8:30AM–11:30AM

Organized by Charles Nelson, University of Minnesota; Thomas J. Tighe, University of South Florida

How the Nose Knows: Neural Circuits for Chemical Detection

Saturday, February 15 2:30PM–5:30PM

Organized by Stuart Firestein, Columbia University

How "Nature and Nurture" Impact Child Development

Sunday, February 16 8:30AM–11:30AM

Organized by Regina Pally, University of California-Los Angeles

Is Grammar "Designed" for Language Users?

Sunday, February 16 2:30PM–5:30PM

Organized by Frederick Newmeyer, University of Washington

Remembering Traumatic Experiences in Childhood: Reliability and Limitations of Memory

Sunday, February 16 2:30PM–5:30PM

Organized by Stephanie J. Bird, Massachusetts Institute of Technology

The Eyes Have It: Eye Movements and Spoken Language

Monday, February 17 10:00AM–1:00PM

Organized by Michael Tanenhaus, University of Rochester

Learning to Communicate: What Children Can't Afford to Miss

Monday, February 17 2:30PM–5:30PM

Organized by Christine Yoshinaga-Itano, University of Colorado-Boulder; Sharon E. Moss, American Speech-Language-Hearing Association

Systems Integration and Neuroimaging in the Neurobiology of Pain

Tuesday, February 18 8:30AM–11:30AM

Organized by Jon-Kar Zubieta, Mental Health Research Institute

By the Numbers

Game Theoretic Aspects of Internet Computation

Friday, February 14 8:30AM–11:30AM

Organized by Joan Feigenbaum, Yale University

Opening the Mind with Mathematics

Friday, February 14 2:30PM–5:30PM

Organized by Carson C. Chow, University of Pittsburgh

Bioinformatics: Challenges in Education, Research and Business

Saturday, February 15 8:30AM–10:00AM

Organized by Oscar N. Garcia, Wright State University

Symposia

Predictability and Randomness in Weather Forecasting

Saturday, February 15 10:30AM–12:00NOON

Organized by Cecile Penland, Prashant Sardeshmukh, and Matthew Newman, NOAA-CIRES/Climate Dianostics Center

Math Inside! ... An Industrial View

Monday, February 17 10:00AM–1:00PM

Organized by Fadil Santosa, University of Minnesota; Brenda Dietrich, IBM Research

Mathematical Models for Traffic Flow (Phantom Jams and Real Data)

Monday, February 17 2:30PM–5:30PM

Organized by Paul Nelson, Texas A&M University

Supercomputing and the New Biology

Tuesday, February 18 8:30AM–11:30AM

Organized by Grant Heffelfinger, Sandia National Laboratories; Marshall Peterson

Challenging and Changing Nature

Down to Earth: Geographic Information for Sustainable Development in Africa

Friday, February 14 8:30AM–11:30AM

Organized by Alan H. Bornbusch, AAAS

Tracking Ecological Overshoot: The Human Footprint on the Earth

Friday, February 14 2:30PM–4:00PM

Organized by Mathis Wackernagel, Redefining Progress

Geographical Information Science (GIS) as a Unique Dimension to Interpretation

Friday, February 14 4:30PM–6:00PM

Organized by Turkan K. Gardenier, Pragmatica Corporation

Nonpoint Source Water Pollution: Science and Public Policy

Saturday, February 15 8:30AM–10:00AM

Organized by Robert D. Day, Renewable Natural Resources Foundation; Ryan M. Colker, Renewable Natural Resources Foundation

Environmental Effects of Outdoor Lighting

Saturday, February 15 10:30AM–12:00NOON

Organized by David Crawford, International Dark-Sky Association

Removing Dams, Restoring Rivers

Sunday, February 16 8:30AM–11:30AM

Organized by John F. Shroder Jr., University of Nebraska-Omaha

Cultural and Social Diversity

Tribal Warfare: Revenge, Retaliation, Deterrence

Friday, February 14 8:30AM–11:30AM

Organized by Stephen Beckerman, Pennsylvania State University

Historical Linguistics Alive or Dead

Saturday, February 15 2:30PM–5:30PM

Organized by William J. Poser, University of Pennsylvania; Sarah G. Thomason, University of Michigan

Social Science and HIV/AIDS: Understanding Behavior Change

Sunday, February 16 8:30AM–11:30AM

Sunday, February 16 2:30PM–5:30PM

Organized by John Schoneboom

[Mis]understanding Village Abandonments in the Prehistoric North American Southwest

Monday, February 17 2:30PM–5:30PM

Organized by Margaret Nelson, Arizona State University

Dealing with Global Change

Cities in Transition: Climate Change Impacts, Adaptation and Mitigation

Sunday, February 16 8:30AM–11:30AM

Organized by Matthias Ruth, University of Maryland; Paul H. Kirshen, Tufts University; Thomas J. Wilbanks, Oak Ridge National Laboratory

Implications of Climate Change for Soil and Water Conservation

Sunday, February 16 2:30PM–5:30PM

Organized by Jean L. Steiner, USDA, Agricultural Research Service; Craig A. Cox, Soil and Water Conservation Society

Comparative Assessment: Carbon Sequestration as a Greenhouse Gas Mitigation Strategy

Monday, February 17 10:00AM–11:30AM

Organized by James Ekmann, Joe Culver, and Sarah Forbes, U.S. Department of Energy, National Energy Technology Laboratory

Understanding and Managing the Global Carbon Cycle

Monday, February 17 12:00NOON-1:30PM

Organized by Robert E. Dickinson, Georgia Tech; Ellen Druffel, University of California-Irvine

Climate Change Mitigation Strategy: Technical Challenges for Carbon Sequestration

Monday, February 17 2:30PM–4:00PM

Organized by Grant Bromhal, National Energy Technology Laboratory; Curt White, National Energy Technology Laboratory

El Nino, Monsoon, Arctic Oscillation, and Global Warming

Monday, February 17 4:30PM–6:00PM

Organized by David Halpern, Jet Propulsion Laboratory

Educating the Next Generation

Improving Students' Understanding of Health-Related Research Through Inquiry-Based Science Curricula

Friday, February 14 8:30AM–11:30AM

Organized by Nancy M. Landes, BSCS

Making Science Relevant to Undergraduates

Friday, February 14 2:30PM–5:30PM

Organized by Virginia G. Carson, Chapman University

Inquiry & the Development of Scientific Ideas: Selected Case Studies

Saturday, February 15 8:30AM–11:30AM

Organized by Vincent Lunetta, Penn State University; Joseph Krajcik, University of Michigan

Developing Student-Scientist Relationships Through Robotics

Saturday, February 15 2:30PM–5:30PM

Organized by Patricia Wang-Iverson, Research for Better Schools; Mark Yim, PARC

Environmental Science Education in a Tribal College

Sunday, February 16 8:30AM–11:30AM

Organized by Roberto Gonzalez-Plaza, Northwest Indian College; Emma Spenner, Northwest Indian College, Western Washington University

Science and Mathematics Education of American Indians and Alaskan Natives

Sunday, February 16 2:30PM–5:30PM

Organized by Yolanda Scott George, AAAS

Graduate Education: Building for the Future

Monday, February 17 10:00AM–1:00PM

Organized by Carol B. Lynch, University of Colorado-Boulder; Wyn Jennings, National Science Foundation

Changing Origins of U.S. Doctoral Scientists: Facts and Impacts on the Life of Science

Monday, February 17 2:30PM–5:30PM

Organized by Paula E. Stephan, Georgia State University

Environmental and Biological Diversity

Coal Fires Burning Around the World: A Global Catastrophe

Friday, February 14 8:30AM–11:30AM

Organized by Glenn B. Stracher, East Georgia College; Robert B. Finkelman, U.S. Geological Survey; Tammy P. Taylor, Los Alamos National Lab

Genebanks: Preserving Genetic Diversity for Earth's Future

Friday, February 14 8:30AM–11:30AM

Organized by Christina Walters, USDA-ARS National Center for Genetic Resource Preservation

The Changing View of Human Biodiversity

Friday, February 14 2:30PM–4:00PM

Organized by Michael A. Little, State University of New York-Binghamton; Cynthia M. Beall, Case Western Reserve University

Microbes Beneath the Earth's Surface

Friday, February 14 2:30PM–5:30PM

Organized by Louise Criscenti, Sandia National Laboratories; Martin R. Fisk, Oregon State University

Valuing the Environment in Agriculture

Friday, February 14 4:30PM–6:00PM

Organized by Albert G. Medvitz, McCormack Sheep and Grain

Science, Ecosystem Management and the American West

Saturday, February 15 8:30AM–11:30AM

Organized by Gary E. Machlis, University of Idaho

Impacts of Biotechnology on Biodiversity and Environment

Saturday, February 15 8:30AM–11:30AM

Organized by Calvin O. Qualset, University of California-Davis

Opening the Black Box: Understanding Ecosystem Dynamics in Coastal Oceans

Saturday, February 15 2:30PM–5:30PM

Organized by Bruce A. Menge, Oregon State University; Robert Warner, University of California-Santa Barbara; Jane Lubchenco, Oregon State University

Re-vegetating the West: Folklore, Science, and Policy

Saturday, February 15 2:30PM–5:30PM

Organized by Kenneth P. Vogel, USDA-ARS and University of Nebraska

Shifting Gears: Bycatch and Habitat Impacts of Fishing

Sunday, February 16 8:30AM–11:30AM

Organized by Elliott Norse, Marine Conservation Biology Institute; Ratana Chuenpagdee, Virginia Institute of Marine Science

Science for Watershed Management: Experiments from Around the World

Sunday, February 16 8:30AM–11:30AM

Organized by Lars Bromley, AAAS; Suteera Nagavajara, AAAS

Lines on the Water: A Conceptual Framework for Ocean Use Planning

Sunday, February 16 2:30PM–5:30PM

Organized by John C. Ogden, Florida Institute of Oceanography; Elliott Norse, Marine Conservation Biology Institute

Conserving Migratory Marine Organisms: Protecting Animals with Ocean-Sized Habitats

Monday, February 17 10:00AM–1:00PM

Organized by Larry B. Crowder, Duke University Marine Laboratory

Biodiversity Hotspots and Climate Change

Monday, February 17 2:30PM–5:30PM

Organized by Lee Hannah, Conservation International

Ecology of Infectious Diseases

Monday, February 17 2:30PM–5:30PM

Organized by Andrew Dobson, Princeton University; Leslie Real, Emory University; Richard Ostfeld, Institute of Ecosystem Studies

Discovering Hotspots for Conservation of Freshwater Fishes

Tuesday, February 18 8:30AM–11:30AM

Organized by Michael L. Smith, Caribbean Biodiversity Program

Evolution and Evolutionary Ideas

Artificial Agent Societies: A Computational Future for the Social Sciences

Friday, February 14 8:30AM–11:30AM

Organized by Robert Axtell, The Brookings Institution

New Light on the Scopes Trial

Saturday, February 15 10:30AM–12:00NOON

Organized by Edward B. Davis, Messiah College

Revolution and Evolution in Modern Human Origins: When, Where, Why?

Saturday, February 15 2:30PM–5:30PM

Organized by Alison S. Brooks, George Washington University, Smithsonian Institution; Richard Potts, Smithsonian Institution

Disruptions in Ancient Land Ecosystems: Lessons from the Fossil Record

Sunday, February 16 8:30AM–11:30AM

Organized by Anna K. Behrensmeyer, National Museum of Natural History; Scott L. Wing, National Museum of Natural History

Evolutionary Aspects of Gender and Sexuality

Monday, February 17 10:00AM–1:00PM

Organized by Joan Roughgarden, Stanford University

Symposia

How the World Works

The Drama of the Commons: How We Manage Resources

Friday, February 14 8:30AM–10:00AM

Organized by Thomas Dietz, George Mason University; Paul C. Stern, National Research Council, National Academy of Sciences

Putting Energy and Information to Work in Living Systems

Friday, February 14 10:30AM–12:00NOON

Organized by Robert A. Levin, Anne C. Bekoff, and Joseph Rosse, University of Colorado-Boulder

The Role of Climate Prediction in Disaster Mitigation

Saturday, February 15 2:30PM–4:00PM

Organized by Tim Killeen, National Center for Atmospheric Research; Lucy Warner, University Corporation for Atmospheric Research

Meeting the Nitrogen Management Challenge: Arresting the Nitrogen Cascade

Saturday, February 15 2:30PM–5:30PM

Organized by William R. Moomaw, Tufts University; James N. Galloway, University of Virginia; Ellis B. Cowling, North Carolina State University

Fires, Floods, and Freezes: Next-Generation Tools for Disaster Prevention

Saturday, February 15 4:30PM–6:00PM

Organized by Tim Killeen, National Center for Atmospheric Research; Kelvin Droegemeier, University of Oklahoma; Lucy Warner, University Corporation for Atmospheric Research

Promoting Clean Energy: Lessons from Abroad

Sunday, February 16 8:30AM–11:30AM

Organized by Elizabeth J. Kirk, AAAS; Allan Hoffman, Winrock International

Science and Sustainable Development

Sunday, February 16 2:30PM–5:30PM

Organized by Joan Dudik-Gayoso, Society for International Development-Washington Chapter; Richard W. Getzinger, International Science and Technology Policy

Roundtable on the World Summit on Sustainable Development: What Next?

Monday, February 17 10:00AM–1:00PM

Organized by Sage Russell, AAAS; Audrey R. Chapman, AAAS

Social Networks, Science and Society

Monday, February 17 10:00AM–1:00PM

Organized by Stanley Wasserman, University of Illinois

If the World Is Awash in Food, Why Are Millions Starving?

Monday, February 17 2:30PM–5:30PM

Organized by Per Pinstrup-Andersen, International Food Policy Research Institute

Life of Science

The Physician-Scientist: A Catalyst for Translational Medicine

Friday, February 14 2:30PM–5:30PM

Organized by Kenneth R. Chien, University of California, San Diego

A Time for Reform: Human Subjects' Protections

Saturday, February 15 8:30AM–10:00AM

Organized by Kate-Louise Gottfried, National Human Research Protections Advisory Committee

Could Science Do Without Its Disciplines? Perspectives Historical and Scientific

Saturday, February 15 8:30AM–11:30AM

Organized by Paul Forman, Smithsonian Institution; Tom Gieryn, Indiana University

HYPE! The Greatest Symposium Ever!!—Communicating Science in a Pressure Cooker

Saturday, February 15 8:30AM–11:30AM

Organized by Deborah C. Runkle, AAAS; Boyce Rensberger, MIT / Knight Science Journalism Fellowship

Collaborative Opportunities for Libraries in Advanced Networking

Saturday, February 15 2:30PM–4:00PM

Organized by Frederick Weingarten, American Library Association; Louis Fox, University of Washington; Elaine Albright, University of Maine

Is Science a Deteriorating Way of Life?: Workforce Trends

Saturday, February 15 4:30PM–6:00PM

Organized by Jolene Kay Jesse, AAAS; Eleanor L. Babco, Commission on Professionals in Science and Technology

NSDL: Progress toward Enhancing Education via Digital Libraries

Sunday, February 16 8:30AM–11:30AM

Organized by Dave Fulker, NSDL; Alice M. Agogino, University of California-Berkeley

Scientific Collaboration in Transition

Sunday, February 16 2:30PM–5:30PM

Organized by Edward J. Hackett, Arizona State University

Central European Science: Opportunities for European and Global Competitiveness

Monday, February 17 2:30PM–5:30PM

Organized by Manfred Horvat, Bureau for International Research and Technology Cooperation (BIT), Austria; Elizabeth J. Kirk, AAAS

Modelling the Internet and the World Wide Web

Tuesday, February 18 8:30AM–11:30AM

Organized by Jennifer Tour Chayes, Microsoft Research; Christian Borgs, Microsoft Research

Looking Beyond Earth

The Asteroid/Comet Impact Hazard: A Decade of Growing Awareness

Friday, February 14 8:30AM–11:30AM

Organized by David Morrison, National Aeronautics and Space Administration, Ames Research Center; Clark R. Chapman, Southwest Research Institute; Richard Binzel, Massachusetts Institute of Technology

Greenhouse Effects in Planetary Atmospheres

Friday, February 14 2:30PM–5:30PM

Organized by Caitlin Ann Griffith, University of Arizona

The Sun: Source of Life and Key to the Cosmos

Saturday, February 15 8:30AM–10:00AM

Organized by Sydney D'Silva, Iowa State University; Lee Anne Willson, Iowa State University

Space Weather: Science, Services, Latest Impacts

Saturday, February 15 10:30AM–12:00NOON

Organized by Steven M. Hill, NOAA Space Environment Center

Frontiers of Mars Exploration: Geology, Climate, and Life

Saturday, February 15 2:30PM–5:30PM

Organized by Bruce Jakosky, University of Colorado-Boulder

A Sharper Image: Adaptive Optics and Its Applications

Sunday, February 16 8:30AM–11:30AM

Organized by Claire E. Max, Center for Adaptive Optics; James Moran, Harvard-Smithsonian Center for Astrophysics; Alan Harris, Space Science Institute

Cosmic Ray Astrophysics

Sunday, February 16 2:30PM–5:30PM

Organized by Elizabeth S. Hafen

Probing the Universe for Gravity Waves: A First Look with LIGO

Monday, February 17 2:30PM–4:00PM

Organized by Rolf M. Sinclair, Chevy Chase, MD

Public Health-Public Risk

Current Issues in Medicine: Does Mammography Improve Survival?

Friday, February 14 8:30AM–10:00AM

Organized by Karen Antman, Columbia University

It's Time for Action for 42,000,000 Americans without Health Insurance

Friday, February 14 10:30AM–12:00NOON

Organized by Dorothy F. Bainton, University of California-San Francisco

Identifying and Targeting the Diversity of Oral Cancer

Friday, February 14 2:30PM–4:00PM

Organized by John J. Sauk, University of Maryland Dental School

Obesity: Molecular Causes and New Pathways for Treatment and Prevention

Friday, February 14 2:30PM–5:30PM

Organized by Paula A. Kiberstis, AAAS, Science

Developmental Effects of Deprived Caregiving

Saturday, February 15 8:30AM–11:30AM

Organized by Seth Pollak, University of Wisconsin-Madison

Child Neglect and Abuse: Preventing Costs to Society

Saturday, February 15 2:30PM–5:30PM

Organized by Andrew Hsi, University of New Mexico Health Sciences Center

Antibiotics, Resistant Bacteria and Our Environment

Sunday, February 16 4:30PM–6:00PM

Organized by Stuart Levy, Alliance for the Prudent Use of Antibiotics and Tufts University School of Medicine

Malaria, Mosquitoes, and Insect-Borne Disease

Monday, February 17 10:00AM–1:00PM

Organized by Barbara Jasny, AAAS; M. James Cosentino, International Organization for Chemical Science in Development; Orla Smith, AAAS; Lily Schuermann, American Society for Microbiology

Science and Human Culture

Taking Off: A Century of Human Flight

Friday, February 14 2:30PM–5:30PM

Organized by Jonathan Coopersmith, Texas A&M University; Roger Launius, National Air and Space Museum, Smithsonian Institution

The Double Helix at 50: History, Memory, and Moral Genealogy

Saturday, February 15 8:30AM–11:30AM

Organized by Margaret Rossiter, Cornell University; Pnina G. Abir-Am, Harvard University

Doing Public History of DOE Weapons Programs

Saturday, February 15 2:30PM–5:30PM

Organized by Sharon Ghamari-Tabrizi, Independent Scholar

Causation in Law, Science and Everyday Speech

Sunday, February 16 8:30AM–11:30AM

Organized by Lawrence Solan, Brooklyn Law School

Heroes and Heroism in Engineering

Sunday, February 16 2:30PM–5:30PM

Organized by Rachelle D. Hollander, National Science Foundation

Symposia

Science and Security

Biosecurity—Science in the Balance

Saturday, February 15 2:30PM–5:30PM

Organized by Gigi Kwik, Center for Civilian Biodefense Strategies

Security for Life: The Science Behind Security Technologies

Sunday, February 16 2:30PM–5:30PM

Organized by Anice I. Anderson, Arizona State University; Abolhassan Astaneh-Asl, University of California-Berkeley

After the 9/11 Terror—The Impact on New York

Monday, February 17 10:00AM–1:00PM

Organized by Alan R. Fleischman, The New York Academy of Medicine

Post Traumatic Stress Disorder: Prevalence, Pathophysiology, Prevention and Treatment

Monday, February 17 2:30PM–5:30PM

Organized by Dennis S. Charney, National Institute of Mental Health

Nuclear Waste: File and Forget?

Tuesday, February 18 8:30AM–11:30AM

Organized by Radford Byerly, University of Colorado; Michael L. Telson, University of California

Science and Society

Listening to the Earth: Infrasound in Science and Nuclear Nonproliferation

Friday, February 14 8:30AM–11:30AM

Organized by Kenneth E. Gilbert, University of Mississippi; Alfred J. Bedard Jr., NOAA/Environmental Technology Laboratory

School Violence and Predicting At-Risk Youth: Scientific and Practical Issues

Friday, February 14 2:30PM–5:30PM

Organized by Snehalata Huzurbazar, University of Wyoming

Social Dimensions of Food Safety: A Comparative Perspective

Saturday, February 15 8:30AM–11:30AM

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

Science's Shrinking Public Domain?

Saturday, February 15 2:30PM–5:30PM

Organized by John S. Gardenier, Independent Researcher

Does All Water Flow Towards Money in the West?

Sunday, February 16 2:30PM–4:00PM

Organized by Robyn Hannigan, Arkansas State University

The Science of Snow and Skiing

Monday, February 17 2:30PM–5:30PM

Organized by David Lind, University of Colorado; Saul Krasner, U.S. Coast Guard Academy

Science and Technology of Life

Biotechnology Beyond Medicine

Friday, February 14 2:30PM–5:30PM

Organized by Joel M. Schnur, Center for Bio/Molecular Science and Engineering

Shining Light on Signal Transmission between Cells of the Nervous System

Sunday, February 16 8:30AM–10:00AM

Organized by George P. Hess, Cornell University

Human and Animal Vocalization: Making Sound with Biological Tissue

Sunday, February 16 10:30AM–12:00NOON

Organized by Ingo R. Titze, University of Iowa, The Denver Center for the Performing Arts

Biologically Inspired Intelligent Robotics

Sunday, February 16 2:30PM–4:00PM

Organized by Yoseph Bar-Cohen, Jet Propulsion Lab; Cynthia Breazeal, MIT Artificial Intelligence Laboratory; David Hanson, University of Texas-Dallas

Design for Life: Technologies for Rehabilitation

Sunday, February 16 4:30PM–6:00PM

Organized by Ted A. Conway, University of Central Florida; Virginia Stern, AAAS

The 'New' Nucleus: Mothership of the Human Genome

Monday, February 17 10:00AM–1:00PM

Organized by Katherine L. Wilson, John Hopkins School of Medicine

Face and Object Recognition in Man, Monkey, and Machine

Monday, February 17 2:30PM–5:30PM

Organized by Maximilian Riesenhuber, Massachusetts Institute of Technology; Tomaso Poggio, Massachusetts Institute of Technology

Bigger, Faster, Stronger: Genetic Enhancement and Athletics

Tuesday, February 18 8:30AM–11:30AM

Organized by Brent Garland, AAAS; Theodore Friedmann, University of California-San Diego

Science Innovation: Physical Science Frontiers

The Next Generation of Atomic Clocks

Friday, February 14 2:30PM–5:30PM

Organized by Leo Hollberg, National Institute of Standards and Technology

The Physics of Extra Dimensions

Saturday, February 15 8:30AM–11:30AM

Organized by Maria Spiropulu, The Enrico Fermi Institute

Phases and Phase Transitions of Quantum Materials

Saturday, February 15 2:30PM–5:30PM

Organized by Subir Sachdev, Yale University

Experiments with Ultra Short Pulses: Shining Light on Ultra Fast Processes

Sunday, February 16 8:30AM–10:00AM

Organized by Michael D. Crisp, U.S. Department of Energy

Collisions and Condensates: The World of Ultracold Molecules

Sunday, February 16 10:30AM–12:00NOON

Organized by John L. Bohn, JILA, University of Colorado

High Intensity Laser Science

Sunday, February 16 2:30PM–5:30PM

Organized by Louis F. DiMauro, Brookhaven National Laboratory

Gravity: a New Tool for Measuring Global Change

Monday, February 17 10:00AM–1:00PM

Organized by Charles W. Clark, National Institute of Standards and Technology

Science, Engineering, and Public Policy

Legal Constraints on How Scientists Do Science

Friday, February 14 8:30AM–11:30AM

Organized by Wendy Wagner, University of Texas School of Law; Susan R. Poulter, University of Utah College of Law

Socio-Political Influences on the (Ab)use of Science in Environmental Policy

Friday, February 14 2:30PM–5:30PM

Organized by Michael B. Mascia, US Environmental Protection Agency; Art Blundell, USAID-Forestry Team

International Studies Can and Should Inform Policy and Practice

Saturday, February 15 8:30AM–11:30AM

Organized by Patricia Wang-Iverson, Research for Better Schools; Richard Askey, University of Wisconsin

The Politicization of Science: Learning from the Lomborg Affair

Sunday, February 16 8:30AM–11:30AM

Organized by Roger A. Pielke Jr., University of Colorado/CIRES

Influencing Congress' Understanding of Science and Technology

Sunday, February 16 2:30PM–5:30PM

Organized by Raymond Garant, American Chemical Society; Tamara Nameroff, American Chemical Society; Laurie Fathe, George Mason University

Science and Technology Policy and Its Publics: Challenges for Democracy

Monday, February 17 10:00AM–1:00PM

Organized by Clark A. Miller, University of Wisconsin-Madison

Global Inc.: Geography, History, Impacts, and Governance of Multinational Corporations

Monday, February 17 2:30PM–4:00PM

Organized by Medard Gabel, Global Links Consulting

Strategies for the Emerging "Innovation Space of the Americas"

Monday, February 17 4:30PM–6:00PM

Organized by Jeff Kinder, Carleton University; John de la Mothe, University of Ottawa

Who Leads American Science?

Tuesday, February 18 8:30AM–11:30AM

Organized by Jon D. Miller, Northwestern University; Joe Culver, U.S. Department of Energy, National Energy Technology Laboratory

General Information

Meeting Location

Meeting events will be located in the Colorado Convention Center, Denver Marriott City Center, Hyatt Regency Denver Downtown, and the Holiday Inn Denver Downtown. The Marriott is the headquarters hotel.

On-Site Registration

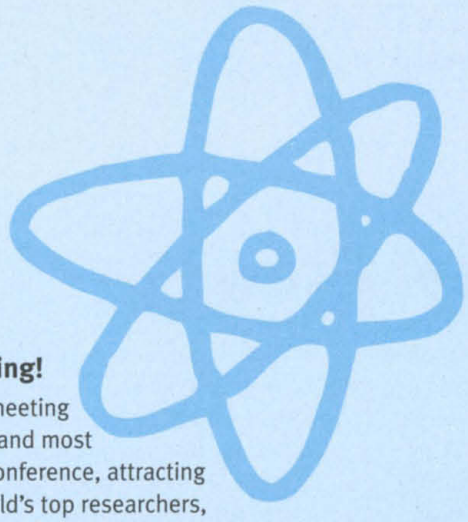
Registration will be located in Lobby A of the Colorado Convention Center.

Hours are as follows:

Thursday	
February 13	11:00AM–6:00PM
Friday	
February 14	7:30AM–6:00PM
Saturday–Monday	
February 15–17	7:30AM–5:00PM
Tuesday	
February 18	No registration is required to attend Tuesday's sessions

Internet Access Center

The Internet Access Center, located within the AAAS Exhibition, will be open during all exhibition hours. Multiple workstations will be a vailable for attendees to check email or surf the web. Sponsored by Apple Computer Co., Inc.



Attend the Meeting!

"The AAAS annual meeting is the year's largest and most important science conference, attracting hundreds of the world's top researchers, policy makers and educators in dozens of cutting-edge fields."

— Tim Lucas, News Services, North Carolina State University

Exhibition

The Exhibition will be located in Exhibit Hall A of the Colorado Convention Center.

Hours are as follows:

Friday	
February 14	12:00NOON–6:00PM
Grand Opening Reception	4:30PM–6:00PM
Saturday–Sunday	
February 15–16	10:00AM–3:00PM
Monday	
February 17	9:00AM–1:00PM

Barrier-Free Environment

Accommodations for persons with disabilities will be provided upon request at all general lectures and sessions. Services include interpreters or real-time captioning for persons who are deaf or hard-of-hearing, audio-taped highlights and mobility assistance within and outside the conference facilities as needed. In addition, a Resource Room for Persons with Disabilities will be available in Room A210 at the Colorado Convention Center.

Discount Airfares to Denver

United Airlines, the official carrier for the 2003 AAAS Annual Meeting, is offering discounts of up to 15% on travel to and from the meeting. For details, go to www.aaasmeetings.org and click on "General Information." Or call United's Specialized Meetings Reservations Center at 1-800-521-4041 (7 days a week, 8AM–10PM ET) and mention Meeting ID Code: 598BY.

Airport Transportation

For information about transportation from the airport, see www.aaasmeeting.org.

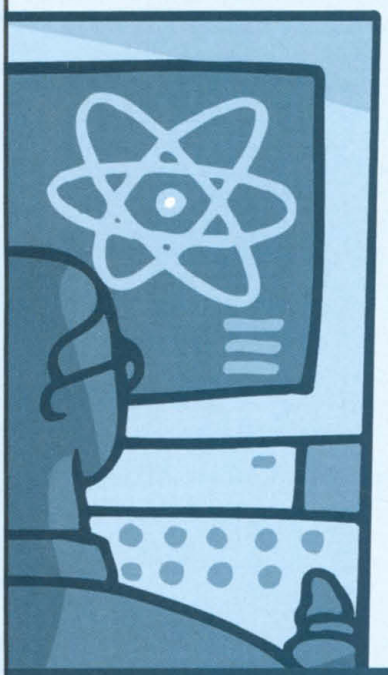
Rental Car Discounts

AAAS members can get discounts with Dollar and Hertz. Information is available at www.aaas.org/membership/car-ren.shtml

Examine Your Options!

In today's economic environment it's smart to examine your sales and marketing options and choose the proven – the AAAS Annual Meeting. Consistently, our meeting touts throngs of scientists, engineers, and media representatives who come to learn, inspire and inquire about the latest knowledge, technological advances and products!

If your organization is looking to make a strong impression on a large science and engineering professional audience, the AAAS Annual Meeting is your venue. Join us in Denver. Don't miss out—call today!



For more information:

Contact Jill C. Perla
AAAS Exhibit Sales Manager

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jperla@aaas.org

2003 AAAS Exhibitors as of 10/2002

- Academia books
- Alexander von Humboldt Foundation
- Amersco, Inc.
- American Speech Language Hearing Association
- Apple Computer
- American Association of University Presses
- Arizona Collaborative for Excellence in the Preparation of Teachers (ACEPT)
- Center for Applied Biodiversity Science at Conservative International
- Chemical Heritage Foundation
- Community of Science
- Council for the Exchange of Scholars
- Defense Advanced Research Projects Agency (DARPA)
- Ecumenical Roundtable
- Ecological Society of America
- GalaxyGoo
- Geico Direct
- Information Society Communications (ISC –Europe)
- Island Press
- John Templeton Foundation
- Monsanto
- NASA Ames Research Center
- NASA/EOSDIS
- NASA Goddard Space Flight Center
- NASA Living with a Star Program
- NASA Space Science
- National Institute of Standards and Technology (NIST)
- National Science & Technology Medals Foundation
- National Academies Press
- NIH, National Complementary and Alternative Health Medicine
- National Library of Medicine
- National Oceanic & Atmospheric Administration
- National Science Foundation
- National Sea Grant College Program
- Proceedings of the National Academy of Sciences
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- Prometheus Books
- Robarts Research Institute
- Subaru of America, Inc.
- Teach for America
- The MIT Press
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13–18 February 2003 • Denver, CO

Reserve online at www.aaasmeeting.org

Deadline: 14 January 2003

Please use one form per room. Make copies as needed.

1. HOTELS AND RATES:

Meeting events will be located in the Colorado Convention Center, Denver Marriott City Center, Hyatt Regency Denver Downtown, and the Holiday Inn Denver Downtown. The Marriott is the headquarters hotel.

Marriott City Center — 1701 California Street, Denver CO 80202
AAAS Annual Meeting Rates:
Standard room: $142 single or double — *Additional persons:* $10 each

Hyatt Regency Denver Downtown — 1750 Welton Street, Denver CO 80202
AAAS Annual Meeting Rates:
Standard room: $150 single/$170 double — *Additional persons:* $20 each

Holiday Inn Denver Downtown — 1450 Glenarm Place, Denver CO 80202
AAAS Annual Meeting Rates:
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Please note: *All rates are per room, per night and are subject to a 13.45% tax (subject to change). Hotel rates include an assessment to help defray the cost of bus transportation and the convention center.*

2. HOW TO MAKE RESERVATIONS:

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The special AAAS rates are available only through the AAAS Housing Bureau.

INTERNET	Book your reservation online: www.aaasmeeting.org
FAX	Send a completed form (one copy per room) to 303-571-9435
MAIL	Send a completed form (one copy per room) to: AAAS Housing Bureau, 1555 California St, Suite 300, Denver CO 80202-4264

Changes/Cancellations/Inquiries Only (Until February 5th)
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PHONE	303-892-1112 x601 *Hours:* 9:00AM–4:45PM MT, Mon–Fri **Please note:** Reservations will NOT be accepted by phone.
E-MAIL	dmcvb-housing@dmcvb.org

3. RESERVATION INFORMATION:

ARRIVAL DATE _____ DEPARTURE DATE _____

HOTEL SELECTION (Please write out hotel name)

First Choice _____

Second Choice _____

Third Choice _____

ROOM TYPE *Number of adults in room* _____

Number of beds in room: ☐ one ☐ two *Preference:* ☐ Smoking ☐ Non-Smoking

SPECIAL REQUEST _____

☐ Check here if you have special needs due to a disability.

List all additional room occupants: (specify if occupant is a child under age 18)

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2. _____
3. _____

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►►► **A deposit of one-night's room and tax is required with each reservation request.**

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Checks – (Do not send check deposits to the Housing Bureau). I understand that upon receipt of my reservation form, the Housing Bureau will process my request and send me an acknowledgement instructing me to send my check deposit directly to the hotel. I also understand that if I do not send a check to the hotel my reservation will be canceled.

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(name as it appears on card)

SIGNATURE _____
(Cardholder's signature)

5. DEADLINE FOR RESERVATIONS:

Reservation requests should be made as soon as possible, but no later than **Tuesday, January 14, 2003.** Rooms are assigned on a first-come, first-served basis and may sell out prior to the deadline.

6. ACKNOWLEDGEMENT:

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☐ E-mail ☐ Fax ☐ Mail

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Cancellations made after the reservation deadline of January 14, 2003 will incur a charge of $25, regardless of when the initial room request was received. Cancellations within 72 hours of the confirmed arrival date will result in forfeiture of the entire deposit.

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(confirmation will be sent to this guest)

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Last Name _____

E-mail _____

Company _____

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(If outside the USA, please also include country and city codes.)

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Sign up online at www.aaasmeeting.org

Deadline: 10 January 2003

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B. Seminar only: Specified seminar plus career workshops, plenary events and exhibit hall only.

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Nanotechnology Seminar	☐ $205	☐ $265
Neuroinformatics Seminar	☐ $205	☐ $265

C. One Day Passport: Passport access for one day only.

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Please specify day:	☐ Fri ☐ Sat ☐ Sun ☐ Mon/Tue	

D. Exhibit Hall and Career Development only: Exhibit hall, career workshops, and plenary events only.

All Registrants	☐ $0	☐ $0

NOTE: For registrations received after January 10, onsite rates apply!

2. Member/Special Rate Verification[1]

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

To qualify for student rate, indicate:
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Institution _____

To qualify for postdoc or K-12 teacher rate, indicate:
Institution _____
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To qualify for emeritus rate, indicate:
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Postdoc	☐ $ 93	☐ $158.36	☐ $148	☐ $178
K-12 Teacher	☐ $ 93	☐ $158.36	☐ $148	☐ $178
Emeritus	☐ $ 90	☐ $155.15	☐ $145	☐ $175

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Please add the amounts from the box(es) you have checked in sections 1 and 3 and write in the total amount due below:

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☐ Check Enclosed (made payable to "AAAS")[4] ☐ Original Purchase Order Enclosed

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(No other cards accepted)

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Expiration Date _____ Signature _____

5. How to Register

Do NOT mail hard copy if you register via fax, phone or the web.

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Fax: (credit card payment only) Fax this form to 202-842-1065

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

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Washington, DC 20005 USA

Important Notes:

(1) Members, students, postdocs, K-12 teachers, and emeritus must complete the verification information in section 3 to qualify for the special registration rates.
(2) $66 of dues plus international postage are allocated to *Science*. Please allow up to four weeks for receipt of your first issue. Canadian rates include GST #125488122.
(3) Cancellations must be received in writing by January 10, 2003. No refunds will be made for cancellations received after this date. Refunds are subject to a $25 processing fee and will be issued after the meeting.
(4) Checks must be in United States currency and be payable on a United States bank.

6. Contact Information

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Fax _____

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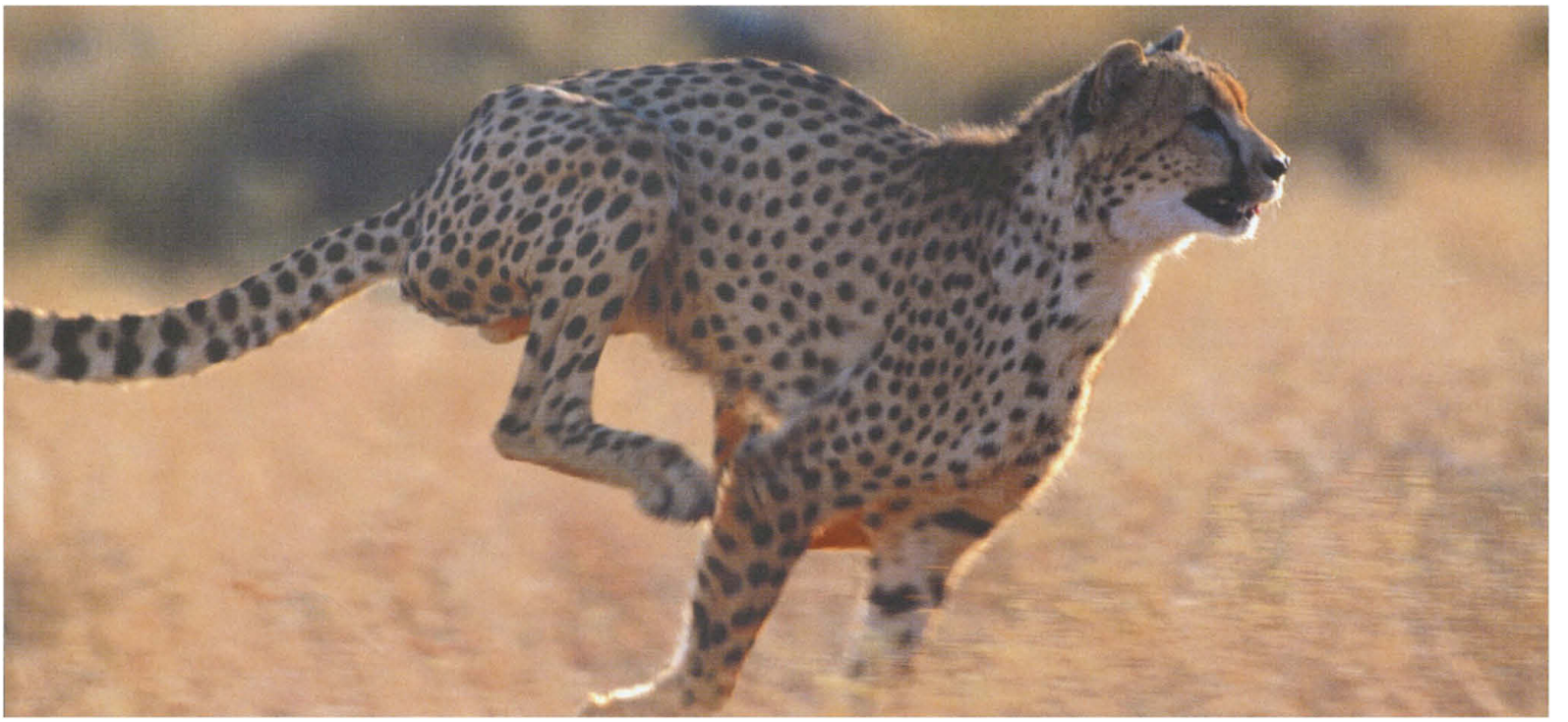

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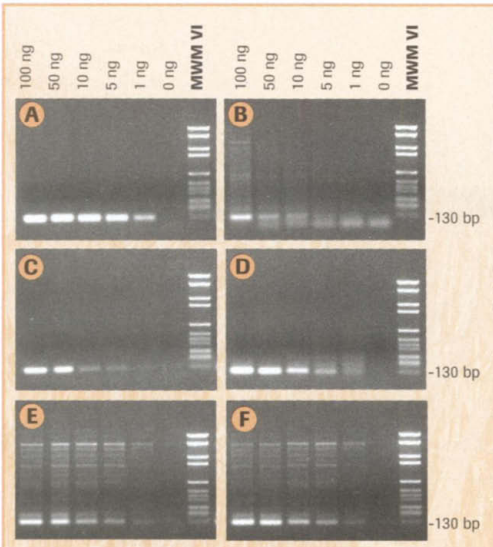

Figure 1: Specificity and sensitivity comparison in PCR using commercially available hot start systems.

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- 60°C for 30 seconds
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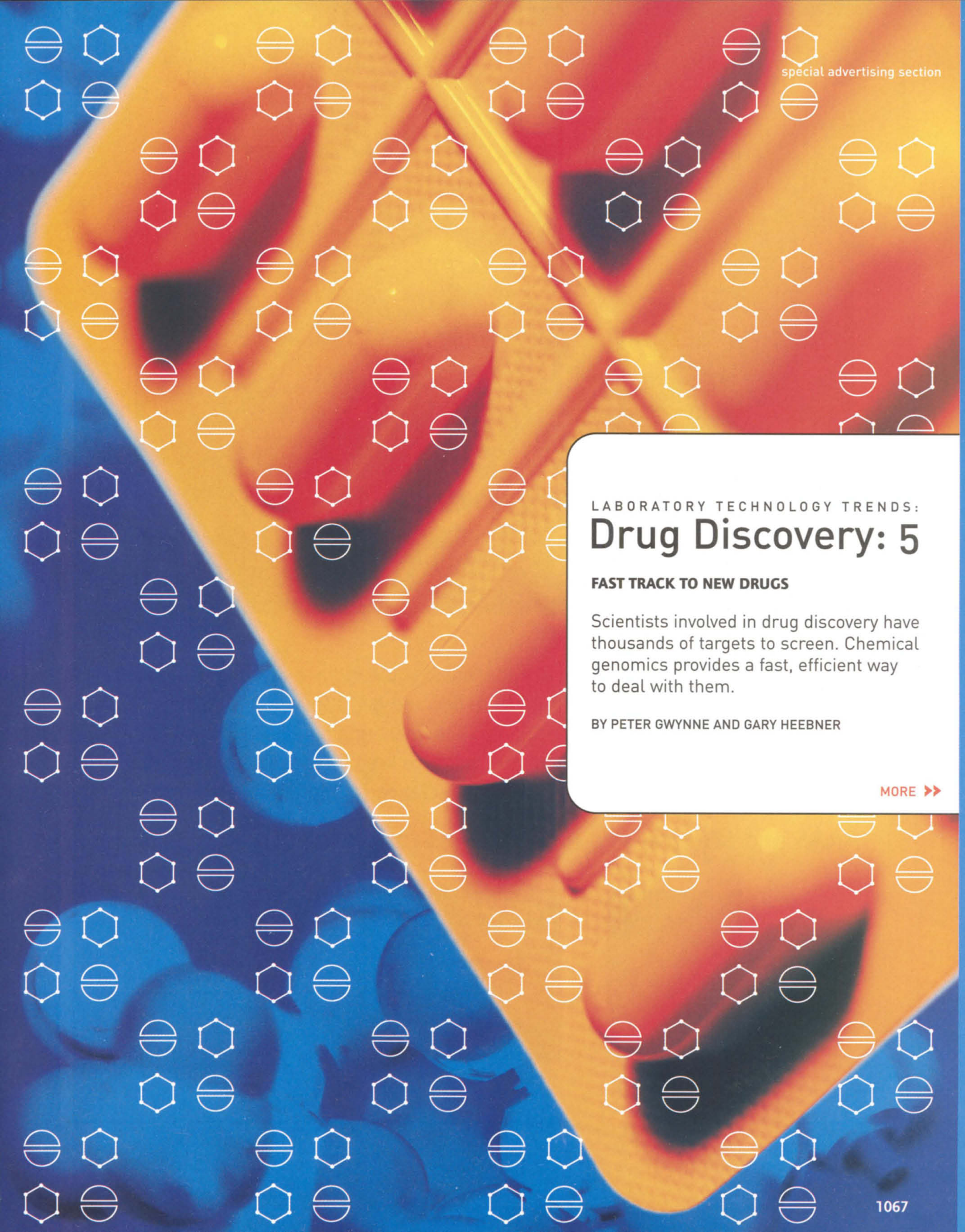

LABORATORY TECHNOLOGY TRENDS:

Drug Discovery: 5

FAST TRACK TO NEW DRUGS

Scientists involved in drug discovery have thousands of targets to screen. Chemical genomics provides a fast, efficient way to deal with them.

BY PETER GWYNNE AND GARY HEEBNER

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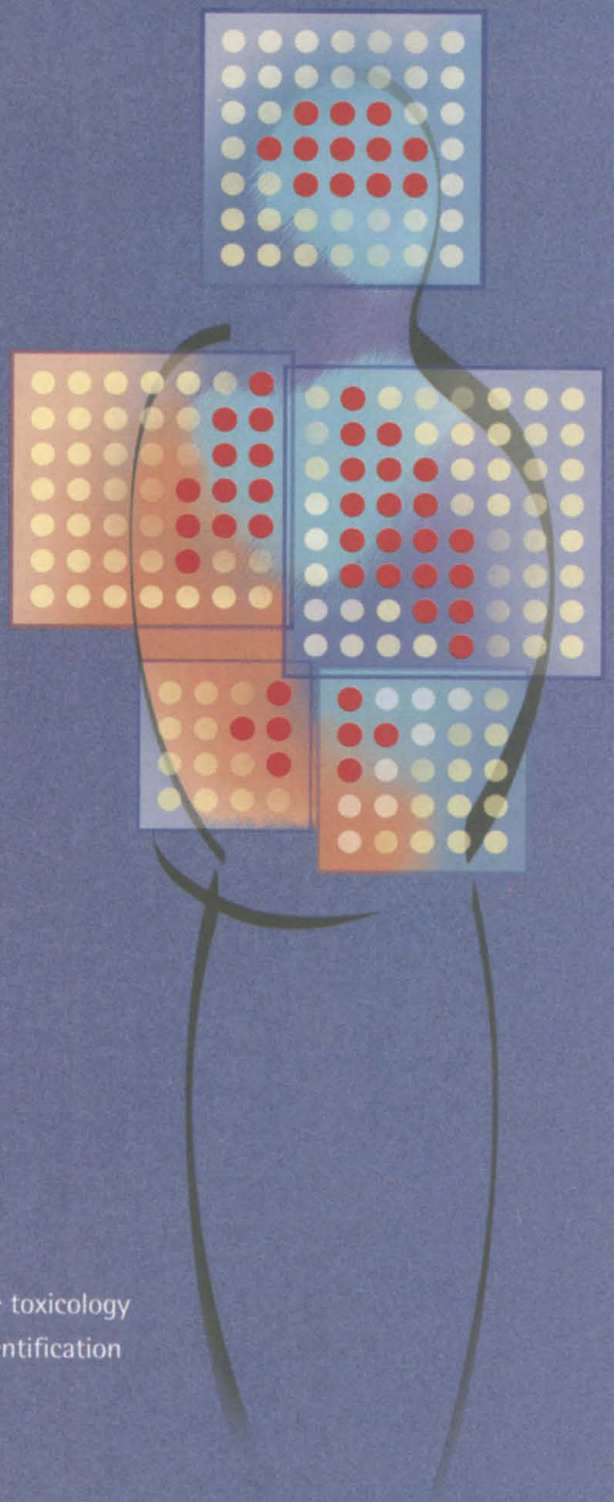

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LABORATORY TECHNOLOGY TRENDS:

Drug Discovery: 5

SECTIONS:

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This is the last of a five-part series. The first four parts appeared in the 15 February, 29 March, 26 July, and 20 September issues of Science.

- Today's pharmaceutical industry faces several challenges and opportunities. For example, the increasing and successful use of drugs has helped to increase the life expectancy of the general population. But as the number of octogenarians and nonagenarians grows, political pressure rises for decreases in the costs of health care, mainly by reducing the price of pharmaceuticals. At the same time, many of the most effective drugs are within a few years of losing their patent protection, presenting large pharmas with the problem of finding new items for their pipeline.
- Solutions don't come cheap. Done in the traditional way and averaged over the general budget for drug development, each new drug that reaches the market costs $800 million and takes 15 years to become available to the public. Much of the cost stems from failures of promising compounds that get as far as clinical trials in humans but cannot pass that barrier for reasons of toxicity, side effects, or poor performance. "Seventy-five percent of the $800 million cost to develop just one drug is attributed to failures along the way," says Mike McKenna, vice president of collaborative research at **CuraGen Corporation**. "Approximately $200 million could be saved through more productive discovery programs or better preclinical screens that boost clinical success rates."
- John Danner, vice president and general manager of the high throughput systems division at **PerkinElmer Life Sciences** extends that thought. "Pharmas and biotechnology companies are under a tremendous amount of pressure to increase their R&D productivity, as a look at five-year trends shows R&D spending increasing at double digit rates while approved NCEs [new chemical entities] have actually decreased," he says.

NEW APPROACH NEEDED

In the effort to save money through increased efficiency, pharmaceutical firms have undergone a series of mergers during the past half dozen years. But that continuing consolidation can reduce only a small proportion of the industry's cost of developing new therapies. What is called for is a new approach to drug discovery and development.

One of the most promising approaches is based on genomics. The process offers efficiencies all along the route to drug development, from target identification and validation to lead screening and optimization to preclinical development and clinical trials. Over the next few years, pharmaceutical and biotechnology companies hope to use genomics to bring more new chemical entities to market at lower costs. But achieving this increase in productivity and decrease in cost will certainly demand new thinking and willingness to understand and apply the powerful genomics tools that have recently emerged in the marketplace.

In part, the new approach involves thinking small. "We've moved into a new area of using genomic data in the drug discovery process," says Lynn Doucette-Stamm, vice president and general manager of GenomeVision Services for **Genome Therapeutics Corporation**. "Two or three years ago the idea was that there weren't enough targets to screen for drug discovery. Now we have too many. So we have to have the tools and capabilities to sift through the target data to determine the best targets to use for drug discovery." Jeff Stuckey, general manager of **Universal Imaging Corporation**, agrees. "In the past several years," he says, "efforts were to screen as many compounds as possible. Now people are asking: 'What can we do to look for more selective targets at the genomic level?'"

WHAT IS CHEMICAL GENOMICS?

Life scientists are hotly pursuing one answer to that question. They have embarked on a powerful effort to apply chemical genomics to drug discovery. "It is a revolutionary approach to discovering new drugs," says Mark Velleca, vice president of research at **Cellular Genomics, Inc**. (CGI).

The term chemical genomics can imply different things to different scientists – and vendors. "What it means to one company is very different from what it means to another," says Scott Hutton, president and CEO of **ChemNavigator**. "The single consistent concept is that some aspect has to do with looking at biological signals caused by a small molecule."

In its most general definition, chemical genomics is the discovery and characterization of all possible drug compounds directed at all possible drug targets – the thousands of proteins coded by the human genome. "The promise of chemical genomics is that it can offer a potentially rigorous, high throughput way to address the increase from the approximately 500 currently known targets to the thousands of potential new targets that have emerged as a result of human genome sequencing," says Louis Matis, president and CEO of CGI. "The through-

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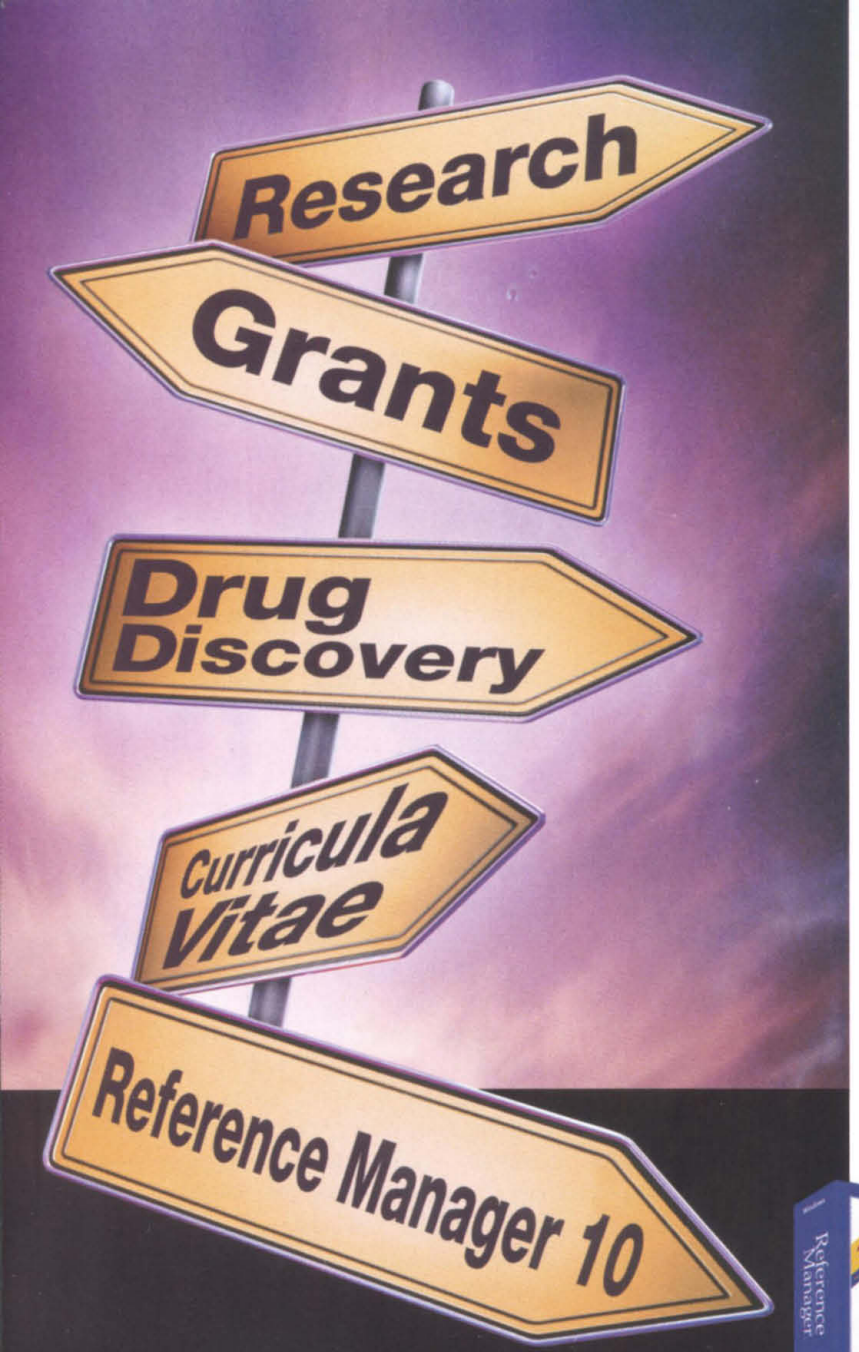

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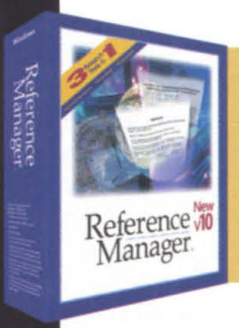

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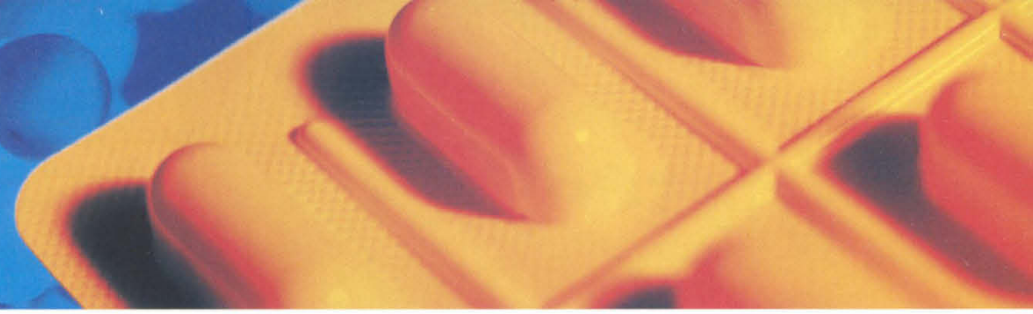
LABORATORY TECHNOLOGY TRENDS:

Drug Discovery: 5



put and diversity of chemistry can be used to probe the genome."

One chemical genome strategy involves first generating multiple classes of potential drug compounds that bind to any one protein target in a gene family and then using structural information to make compounds specific for a different protein target in the same family. Because of the difficulty that may be encountered in readily identifying small molecules with sufficient specificity to assess individual protein targets, CGI employs a unique approach that uses a single class of drug compounds to probe a whole family of genetically modified but functionally intact protein drug targets. This approach directly couples small molecule chemistry to the specificity of genetics.

Chemical genomics initially involves sorting molecular targets — usually cellular proteins — according to their respective gene families. It allows researchers to apply highly specific biophysical and chemical information gained on one protein target to structurally similar targets in the same family. "The biggest thing it's doing from a cell biology standpoint is driving drug discovery efforts to a lower level of reductionism," says Universal Imaging's Stuckey. "It is really a subset of cell based assays that provide a great opportunity for real understanding of cell biological processes and the various compounds involved in them."

Drug Discovery Online

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EVERYTHING OLD IS NEW AGAIN

Despite its 21st century title, chemical genomics is hardly a new scientific pursuit. "It's a cute phrase but an old idea, in the same way that chemical biology used to be biological chemistry," says Pete Schultz, director of the **Novartis Research Foundation's** Genomics Institute. "Chemical genomics is a new name for something that's been around for a hundred years. I would hate to try to guess how many cell based assays the pharmaceutical industry has done in the past century." Peter Hecht, senior vice president of **Tripos** and managing director for Tripos Research Operations, takes a similar view. "Chemical genomics is defined as using chemical compounds to probe biological systems," he explains. "We have always used small molecules to probe biology. Originally we did it in the later stages of preclinical research. Today we face the challenge of moving it forward in the drug discovery process. We will have more targets; we need this type of validation earlier to select between the targets."

Whatever its provenance, the approach offers the promise of greater efficiency in drug discovery. "Chemical genomics will contribute to the acceleration of the drug discovery process by incorporating functional assays earlier on to allow identification of targets that have drug-like chemistry," says Peter Louie, strategic marketing product manager for **Beckman Coulter**. "It will make chemistry more available in the drug discovery process earlier on. It's a parallel approach rather than a serial one."

In addition, chemical genomics has the potential to cover a broad range of therapeutic areas. The reason: While gene families code for structurally similar proteins, each protein in a gene family can have a very different biological function. Different targets within a gene family can be implicated in widely different diseases. The kinase family, for example, contains thousands of proteins implicated in a broad range of ills, including inflammation, neurological disease, and cancer. "Drug discovery used to be done by chemists," summarizes Doucette-Stamm of Genome Therapeutics. "Now we're trying to do it with genomically discovered targets."

FROM NATURAL TO SYNTHETIC

Scientists have made a great deal of progress in drug discovery over the last several decades. Early discovery efforts were almost entirely based on identifying natural products found in plants and other organisms. Such compounds make for likely drug candidates because many have the explicit purpose in nature of fighting off attacks from other organisms. Taxol, from the Pacific yew tree, provides a typical example of a natural product that has been developed as a successful drug.

The number of such natural products is limited, however, and pharmaceutical scientists have already tested the drug potential of a large proportion of them. So today, synthetic chemists emphasize the use of rational drug design to synthesize bioactive molecules that can act on target proteins.

One significant component of the science of drug development involves methods of chemically adapting compounds with known therapeutic power to work more effectively. While not unknown in the era of drugs derived from natural products, that approach has expanded rapidly with the emergence of drug design. It relies on a relatively new method of developing families of compounds with potential biological activity. Combinatorial chemistry uses automated processes to create huge numbers of related chemical compounds. The technique results in large families of chemicals that, because they have a high degree of structural diversity, provide medicinal chemists with several opportunities to select and develop those with the greatest therapeutic effect. Companies that offer combinatorial chemistry services include **Discovery Partners International** and **MDS Pharma Services**.

This approach has evolved over time. In the past, an organic chemist might have worked in a laboratory to produce a huge number of synthetic molecules without having a great deal of understanding of the ideal compound. Today that same chemist has a more refined process in place. She or he works with a biologist to understand better the process and mechanisms of the target disease before starting to synthesize potential drug candidates in the laboratory.

THE DATA DIMENSION

Chemistry isn't the only aspect of drug discovery to have changed. Data and methods of handling it have taken on key roles in the process.

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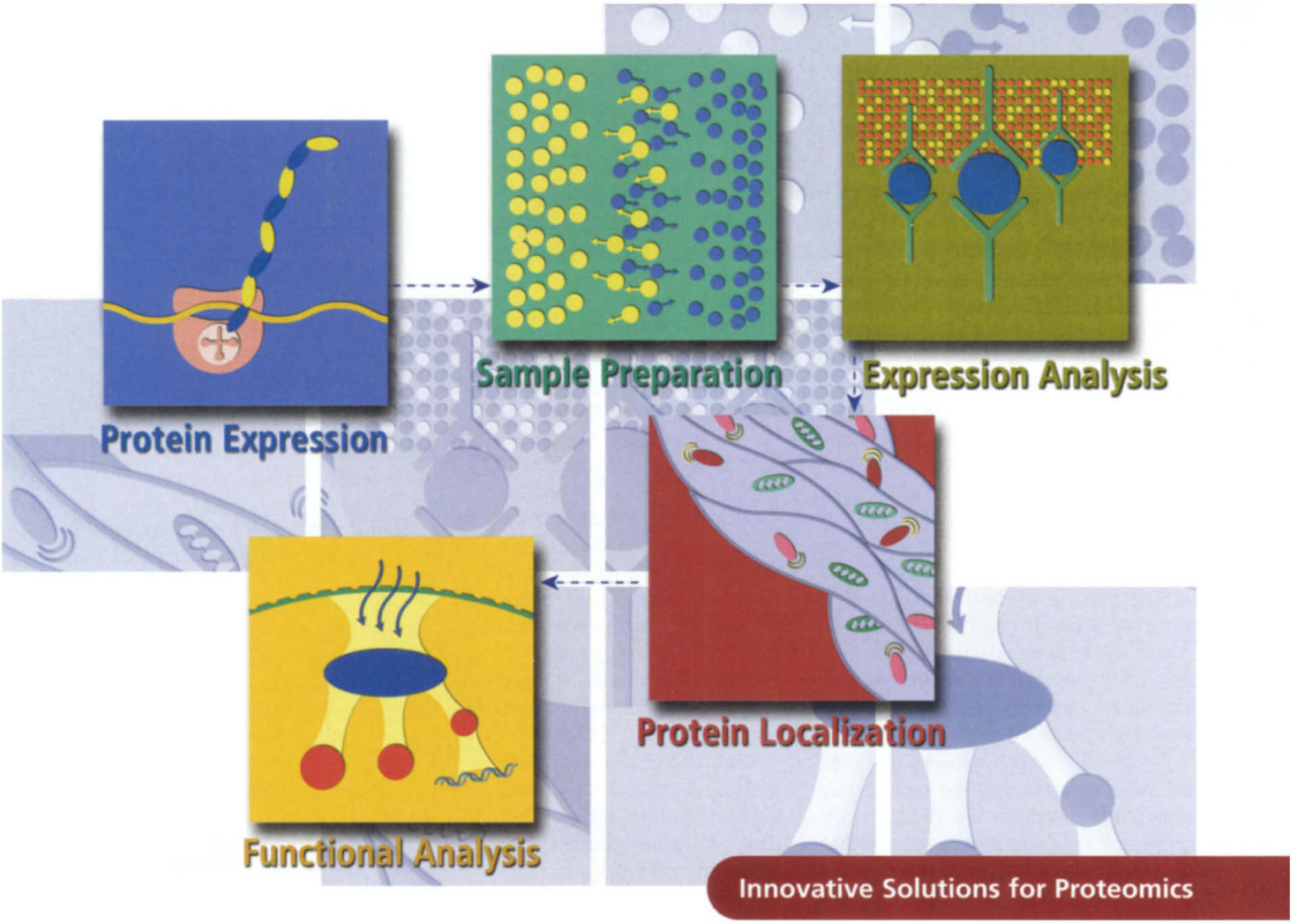

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LABORATORY TECHNOLOGY TRENDS:

Drug Discovery: 5

Early efforts in drug discovery relied on screening natural products derived from plants and microorganisms and testing them for activity in animal models. This was a slow and labor-intensive process carried out mostly in the wet lab. The new paradigm of drug discovery and design relies heavily on computational power, and shifts scientists' efforts from basic lab work to virtual research in silico. In other words, drug discovery has moved out of the wet lab to the virtual study of bioactive molecules and the use of that methodology to design drug candidates with attributes similar to those of known bioactive compounds. Indeed, companies such as **CombiChem** offer virtual libraries of compounds that can be searched for a number of properties.

Molecular modeling demands both high-speed, powerful computers and sophisticated programs that determine the structures and properties of molecules of interest and then intelligently analyze that information to predict the structure of an ideal drug candidate. The programs help to overcome two potential problems in synthetic drug design: the existence in many formats of the data that characterize molecules, which makes integration and analysis very challenging, and the sheer volumes of data. "We have more data than ever from more scientific disciplines," points out Hecht of Tripos. "It requires integration and a strategy to turn this data into information that bench scientists can use to determine what to do next."

Several companies, among them **CAChe**, **Hypercube**, and **Accelrys**, as well as Tripos, have developed computer programs that help scientists to design synthetic molecules likely to have the desired biological properties while minimizing the risks of such adverse effects as toxicity. The use of those programs saves time and the expense of actually screening a huge library of compounds for activity against a target. "Part of the process involves understanding not only what you should make but what you can make," says Hecht. "You need cheminformatic solutions that tell you what you have in what location and what you have tried before with or without success. The ultimate goal is to be more focused in your iterations, so that you essentially need fewer of them. It's about making better decisions faster."

INDUSTRIAL STRENGTH TOOLS

New tools and techniques related to chemical genomics and other cell-level approaches to speeding up the drug discovery process have clearly enabled pharmas to pursue new programs and to streamline their operations. As a result, they work on a larger stage than the basic research laboratory. Several of the techniques, including laboratory automation products, DNA microarrays, and a host of informatics related software programs, have truly industrialized the process of drug discovery.

DNA chips, also known as microarrays, have revolutionized the drug discovery process in the decade since they first emerged. These tiny, slide-like tools with thousands of small samples arranged in regular patterns enable researchers to conduct massively parallel studies. Scientists can now use a single DNA microarray to compare the expression of thousands of genes from healthy and diseased tissues at the same time and under identical experimental conditions. **Amersham Biosciences**, **BioRobotics**, and **Genetix**, among other companies, offer tools to fabricate DNA microarrays. Other vendors such as **Affymetrix**, the Clontech unit of **BD Biosciences**, and **Sigma-Aldrich** provide premade microarrays. Combined with automated handling systems and bioinformatics programs, DNA microarrays industrialize the drug discovery process with their ability to automate it.

Increasing productivity means more samples must be screened in less time, preferably using less labor. To accomplish this, manufacturers have developed faster and more capable screening systems. These range from semiautomated work stations to fully automated robotic systems.

SCALING UP

At the low end of this range of products scientists find liquid handling systems such as multichannel pipetters and 96-well plate washers. These are intended for use in the research lab. As the process of drug discovery moves from R&D to scale-up, such systems become too labor-intensive to work efficiently. At this point larger, more automated tools take over liquid handling. **Eppendorf**, **Harvard Apparatus Bioscience**, **Wheaton Science Products**, and others provide many of the basic systems used for semiautomated liquid handling.

Work stations and related systems offered by **Hamilton Company**, PerkinElmer Life Sciences, and other vendors have the versatility to carry out several functions in addition to basic liquid handling. Some of those units can fill, wash and rinse, and read fluorescence or other characteristics of a sample. They can often run unattended, thereby greatly reducing the amount of manual labor required to fill and dose plates with reagents. The units don't threaten to take over from lab technicians, however, as most are designed to perform only a somewhat limited range of tasks.

The high end of the range of automated handling devices consists of robotic systems designed by such companies as Beckman Coulter, **Cell Robotics**, and **Zymark**. Such sophisticated systems can perform many of the functions needed to screen compounds for biological activity. "Liquid handling is just one step in the process. You fold it into the software and the detection mechanism for chemistry," explains Beckman Coulter's

Young Site on Aging Research

Last month marked the first birthday of an online resource run by *Science*. The **SAGE Knowledge Environment** represents a pioneering effort to help the broad community of scientists interested in aging stay up-to-date on research in their field. "Specialists in aging are spread over a wide range of disciplines," says Kelly LaMarco, the site's editor. "We thought that this was a research community that would benefit from having an electronic community."

The site has four main sections: literature and news; community; resources; and highlights. Original content in the literature and news section includes commentary and review articles written by scientists as well as news articles written by journalists. Site editors rely partly on an active scientific advisory board to keep SAGE KE current in terms of coverage of new findings. Items accessed by visitors divide about evenly between articles by scientists and news articles by journalists. "We're happy we decided to include news," LaMarco says. "Our Noteworthy This Week section is quite popular with our readers." In fact scientists seem to like the entire site. About 5,000 different individuals visit the site each month, each staying there for 25 to 35 minutes on average.

As to subject matter, LaMarco says, "We focus mainly on basic mechanisms of aging and less on pure clinical papers." However, she adds, AAAS and the American Society for Family Physicians plan to introduce a website on aging for practitioners that will contain coverage of clinical studies on aging and age related diseases.

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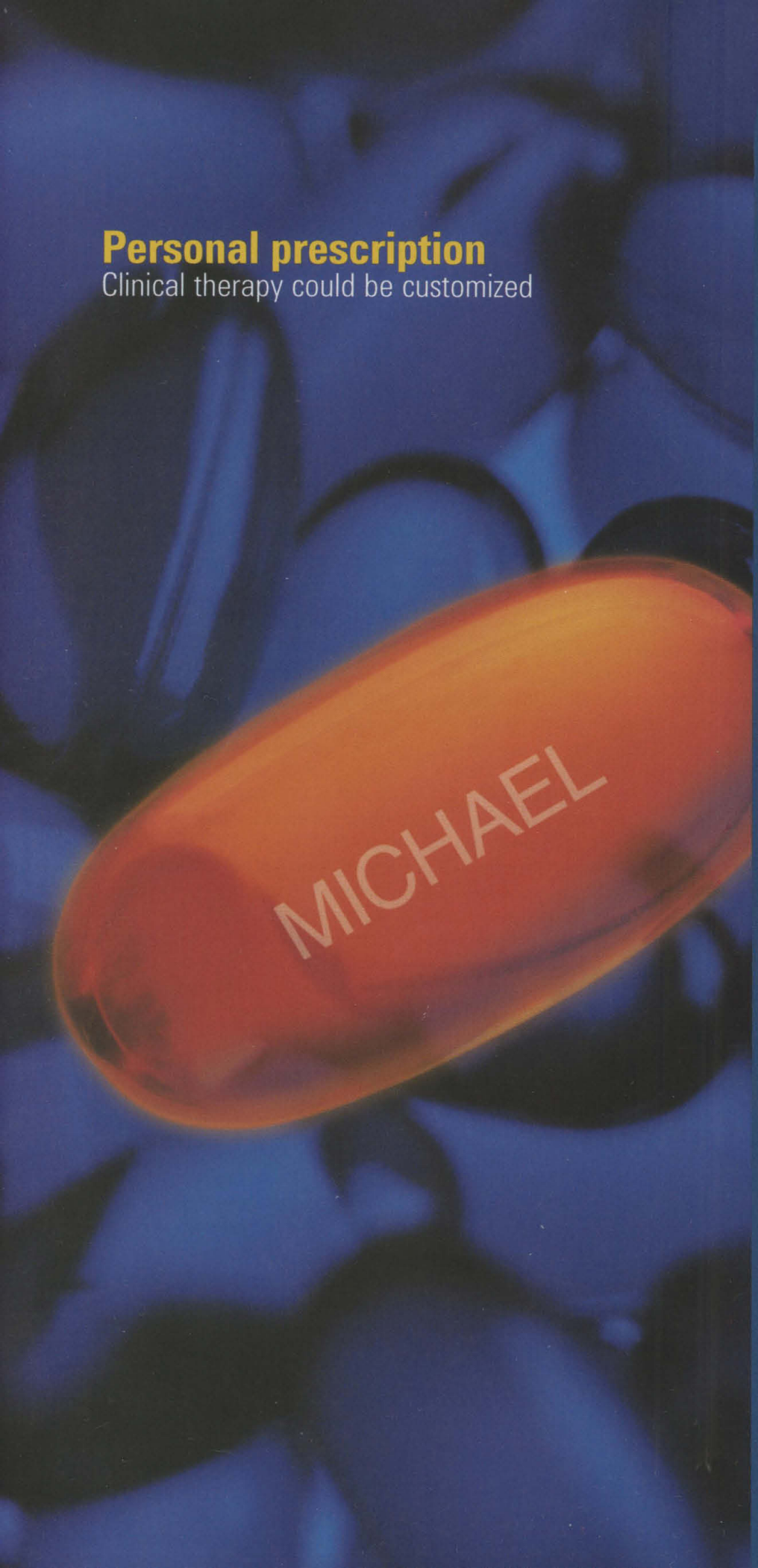

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Louie. "We have several systems such as the easily adaptable Biomek FX Workstation and the SAGIAN Core systems for ultimate flexibility. We also offer our own differentiated chemistry, such as the CellProbe HT whole cell caspase activity assay kits as well as chemistries from our leading partners such as **Promega** and **Cellomics** for the drug discovery process."

PerkinElmer Life Sciences has just introduced its SmartScreen Workstation. This system, says Danner, "combines our flagship multilabel plate reader with an integrated liquid handling system and integrated software designed to automate assays across PerkinElmer's six reagent platforms." Deb Brusini, PerkinElmer's business director for the high throughput screening range of technologies, points out the advantages of such integration. "You're trying to get very accurate results in chemical genomics as well as doing it fast," she says. "You need a lot of flexibility for multiple dilutions and multiple targets in one place."

SEPARATING AND CHARACTERIZING

Separating and characterizing biomolecules play a basic role in drug discovery. Researchers often use high performance liquid chromatography (HPLC) to determine a compound's purity and liquid chromatography-mass spectrometry (LC-MS) to determine the identity of unknown compounds based on predictions from the nature of the anticipated compound to be synthesized. "For analytical work it's nearly always HPLC, and nearly always with mass spectrometry attached," says Udo Huber, senior applications chemist for pharmaceutical solutions in the German branch of **Agilent Technologies**.

Agilent, Amersham Biosciences, **Shimadzu**, and other vendors often integrate their HPLC and LC-MS units with personal computers and powerful data analysis systems to yield a more automated approach to separation and identification. "In early drug discovery with a high number of samples it's important that everything be in one process," Huber explains. "We now have complete solutions rather than individual components."

Automatic liquid handling represents one means of increasing efficiency and reducing the costs of early drug discovery. Another involves reducing the size of the samples that scientists screen. While a typical assay might have required samples of one milliliter in the past, assays are now routinely performed in the microliter range. Reducing the sample size in screening assays has many advantages. As the sample volume decreases, so does the cost of reagents and even the size of a laboratory needed to process the work. Microwell plates from companies such as **Corning** and **Nalge Nunc International** have shifted from 96-well to 384-well to 1,536-well plates, and the volume of samples required for them has fallen from hundreds of microliters to nanoliters in some cases. Agilent has just brought out a system for nanoflow rates that, Huber says, "is mostly built for analysis and identification of proteins where you have low sample amounts."

AUTOMATED RESEARCH

Other vendors, including **Evotec**, **MWG Biotech**, and **Qiagen**, have developed systems for high throughput screening of several different types of compounds. Some of the companies sell instruments or systems that conduct this screening work. Others offer the screening simply as a service. Certain firms, such as PerkinElmer Life Sciences and **Novagen**, have partnered to provide researchers with complete systems of both screening instruments and all the reagents needed to perform screening work.

Once they have proved the potential of a compound in a molecular or biochemical assay, scientists subject it to a cell based assay to develop a more realistic sense of how the compound will perform in a cellular system. What used to be a very difficult and tedious procedure has become much more automated and consistent.

Companies such as **Applied Biosystems** and Cellomics have developed highly automated systems for cell based assays. These instruments allow scientists to culture living cells that can be very closely related to the cell types found in specific organs. That gives researchers a better understanding of how cell type may affect the activity of the compound being evaluated. The cell based assay can also provide an indication of cytotoxicity. That's critically important because the earlier drug discovery teams can turn down potential drug candidates, the more time and money they will have to explore more promising compounds.

Universal Imaging takes the process a step further. "We offer Discovery 1, a fully automated system that can acquire image data from cells and microtiter plates; it automatically obtains data from each well," says screening systems technical manager Doug Bowman. "The system acquires the data and our software allows scientists to analyze it ad nauseam afterward."

IT-BASED SOLUTIONS

Scientists have moved to the molecular level in their attempts to understand cellular functions. They can now determine the DNA sequence of a gene and the amino acid sequence of a protein or peptide and enter the details of those findings in databases for other scientists to peruse and use. "There is a tremendous amount of information available," says Sharon Nunes, senior manager in the services, applications, and solutions department of **IBM Life Sciences**. "There used to be about 500 targets. Now, with the results of human genome sequencing helping us to understand biological targets, we have about 5,000 to 10,000. High throughput screening capabilities give us other ways of making drug targets."

The huge and growing amounts of data have an obvious implication. "Scientists can't work with the data in an unstructured way. They need solutions based on information technology," Nunes continues. "The role of IT is to provide the underlying infrastructure so that scientists have the databases to host the information and the tools over the databases that allow them to extract the information. IT also enables sharing information across all parts of the drug discovery process."

Dealing with and distributing the multitudes of data isn't easy even for the best IT tools. The many databases that hold the billions of bytes of information use a variety of different design architectures and processing systems. That's where firms that specialize in IT make their appearance. "We have the DiscoveryLink technology that allows you to integrate databases," Nunes says.

In addition to working on database sharing on an individual basis, several IT firms collaborate in the Interoperable Informatics Infrastructure Consortium (I3C). The consortium has the goal of creating information standards that will give life science researchers easy access to each other's data as well as that in public and private databases. "We've been getting very good traction in the past three or four months," says Nunes. "We have people working on nomenclature. Now we really need to help drive some sort of integration in types of data and the way they are described." In addition to Big Blue, I3C members include **Biogen**, **HP**, and **The Protein Data Bank**.

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USING THE DATA

How do scientists involved in drug discovery plan to use the information derived from genome sequencing? Typically they query the databases to discover genes related to specific diseases. Companies such as **Celera Genomics**, **Incyte Genomics**, and **InforMax** provide tools to analyze sequence data for drug discovery research.

Key information isn't restricted to that derived from the human genome. Last year, the **Baylor College of Medicine's** Human Genome Sequencing Center started a collaborative effort with Celera, Genome Therapeutics, **The Institute for Genome Research**, and the **University of British Columbia** to sequence the genome of the rat. "For medical studies the rat is more often a model organism for major conditions such as heart disease than the mouse," explains Doucette-Stamm of Genome Therapeutics. "We're shooting to do a full assembly of the genome in the not-too-distant future."

In past times, locating possible drug candidates required a lot of manual effort. Today, companies have developed databases and powerful search engines that allow researchers to enter the characteristics of a compound and search for substances with similar properties. ChemNavigator, **MDL Information Systems**, and **CambridgeSoft** provide scientists with these searchable chemical databases and also provide sources for the hits from these searches. "In addition to building numerous chemical structure databases containing millions of pharmaceutically relevant records, we've developed a strategy for cross-referencing different databases based on chemical structure similarity," says Hutton of ChemNavigator. "This provides researchers with a means of learning automatically when chemical information is available about their research without having to spend time looking for it."

ChemNavigator has recently added a new wrinkle, called three-dimensional protein ligand mapping technology. "Using 3-DPL Map, we establish a proprietary map characterizing a protein's surface. We use this map to rapidly search chemical databases for small molecules likely to bind to the protein surface," says Hutton. "Each small molecule is flexed on the fly and docked against each likely binding site identified by 3-DPL rather than against a single site per protein, giving us the opportunity to identify drug candidates overlooked by other technologies."

Hecht of Tripos summarizes the goal of the cheminformatics approach to drug discovery. "We have to develop new information technologies to capture the vast number of compounds and make them searchable, and to understand what it takes to go from a virtual hit to a real compound in your hands," he says. "It involves understanding not only what you should make but what you can make."

IT'S A SNP

"There are two forks in the pathway for any drug development process," explains CuraGen's McKenna. "One is the efficacy of the molecule: Why does it make the patient healthy? The other is to look at how the drug is absorbed and processed in the body." By helping scientists to pinpoint specific molecules' efficacy and toxicity at an early stage, chemical genomics promises to save the cost and effort of developing potential drugs destined to fail at the clinical trial stage.

Single nucleotide polymorphisms (SNPs) will make a significant contribution to this form of molecular diagnostics, as several of these DNA base changes play a role in determining an individual's risk of developing a specific disease. "SNPs are an important component of a complex problem," says McKenna. As they associate specific SNPs with various diseases, scientists will enable the development of diagnostic tests that they can use to screen populations of individuals for those at increased risk of disease. The tests will also prove valuable in screening individuals who are asymptomatic at the time of screening for the early stages of diseases.

Several companies that specialize in SNP analysis, including CuraGen, Genome Therapeutics, and **Gene Logic**, have emerged in recent years. Their goals include realizing the concept of personalized medicine – a means of tailoring drugs to specific subpopulation of individuals most likely to benefit from them, because those drugs yield better therapeutic effects or minimize side effects for the individual patients.

CHEMICAL GENOMICS IN ACTION

Several pharmaceutical and biotechnology companies have started to apply chemical genomics to their drug discovery programs. CGI, for example, has developed a unique chemical-genetic approach for kinase drug discovery. The approach is based on the discovery of analog sensitive kinase alleles (ASKAs) – genetically modified kinases that retain functionality but can be modulated with exquisite specificity by complementary analog compounds. For example, the ASKAs can use complementary ATP analogs to tag the direct substrates of a kinase, allowing elucidation of downstream signaling pathways as well as identification of novel drug targets. ASKAs can also create ASKA "knock-in" mice in which the ASKA replaces the native kinase. In these animals, systemic administration of small molecule analog kinase inhibitors produces highly specific, reversible kinase inhibition, thereby providing a powerful in vivo target validation strategy that can establish efficacy and therapeutic index in relevant murine models of disease.

Graffinity's chemical genomics approach, meanwhile, uses microarrays with small molecules immobilized on gold-coated glass chips whose surfaces are treated to prevent the nonspecific binding of proteins. Scientists rapidly screen the molecules against target proteins and gather information about the molecular interactions. The company also has a proprietary library of low molecular weight compounds that it uses in its screening work.

Large pharmas are equally aware of the potential value of the emerging subdiscipline. "Chemical genomics is one starting point that requires a lot of chemistry," says Schultz of the Novartis Research Foundation's Genomics Institute. "We're doing cell based screens with molecules in the interest of finding therapeutic molecules. Once you get those molecules you generally have to optimize them, make them more potent, and figure out what the targets are. When you get a small molecule, it offers a lot of advantages once you put it in an animal."

By using genomic findings in their drug discovery efforts, biotechnology and pharmaceutical companies hope to increase the productivity of their research and development substantially. The new tools and techniques developed from genomics – microarrays, high throughput screening and bioinformatics – show the way to better drugs at lower costs not too long in the future.

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MICROBIOLOGY. The Department of Biology at the University of San Francisco invites applications for a tenure-track position (pending approval) at the **ASSISTANT PROFESSOR** level beginning August 2003 to teach upper-division courses in microbiology, participate in lower-division courses for majors and nonmajors, and establish a research program in the biology of microorganisms that applies molecular approaches. For details, please see **website: http://www.usfca.edu/hr**. *University of San Francisco is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

DEVELOPMENTAL BIOLOGIST/EMBRYOLOGIST/COMPUTATIONAL BIOLOGIST: West Virginia University invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level in the Department of Biology effective August 16, 2003. We are seeking applicants to complement existing programs at West Virginia University. Emphasis is on excellence rather than a particular area, although applicants with research focusing on evolution/development, neurodevelopment/embryology, or integrating computational techniques with cell and molecular techniques are encouraged to apply. Existing programs in the Department emphasize developmental questions pertinent to the fruit fly, vertebrate, and *Arabidopsis* models. At the university level, broader interactions with programs emphasizing biotechnology relevant in biometrics and neuroscience would be encouraged. West Virginia University is located in Morgantown, West Virginia, which was recently voted 'Best Small City in the East' by the *Rating Guide to Life in America's Small Cities*. The Department of Biology has recently moved into a state-of-the-art Life Sciences Building with excellent research facilities. Successful applicants are expected to maintain an active, externally funded research program and to participate in teaching at the undergraduate and graduate levels. Qualified applicants should submit their application materials in pdf files and paper format. Application materials include statements of research qualifications, objectives, and estimated start-up costs; teaching philosophy; curriculum vitae; representative publications; and three letters of recommendation. Review of applications will commence on November 15, 2002, and continue until the position is filled. Applications should be sent to: **Developmental Biologist Search Committee, Department of Biology, West Virginia University, P.O. Box 6057, Morgantown, WV 26506**. For more information: departmental **website: http://www.as.wvu.edu~biology; Telephone: 304-293-5201**. *West Virginia University is an Equal Opportunity/Affirmative Action Employer and does not discriminate on the basis of race, color, religion, sex, age, marital status, disability, veteran status, national origin, or sexual orientation.*

FACULTY POSITIONS (RANK OPEN)
Cell Biology and Developmental Biology
Northwestern University

The Department of Biochemistry, Molecular Biology, and Cell Biology seeks outstanding candidates for two full-time faculty appointments (rank open) in the areas of cell biology and developmental biology. Those using vertebrate model systems are urged to apply for the developmental position, although other model systems will be considered. Review will commence December 1, 2002, but the search will remain open until the positions are filled. Candidates should submit curriculum vitae, a list of publications, a research summary and statement of future research objectives, a statement of teaching experience and interests, and four letters of reference to: **Faculty Search Committee, Department of Biochemistry, Molecular Biology, and Cell Biology, Northwestern University, Evanston, IL 60208-3500**. *Women and members of minority groups are urged to apply. Affirmative Action/Equal Opportunity Employer.*

ECOLOGY/INVERTEBRATE BIOLOGY

The Department of Biology invites applicants for a tenure-track **ASSISTANT PROFESSOR** position in ecology beginning in August 2003. A Ph.D. is required. The successful candidate will have a strong commitment to teaching at the undergraduate level and will develop a research program that includes mentoring undergraduates. Teaching assignments include ecology, invertebrate biology, and general biology. Saint Anselm College, a Catholic undergraduate institution in the Benedictine tradition, emphasizes excellence in undergraduate teaching. Send curriculum vitae; statement of teaching and research interests; and three letters of recommendation no later than December 24, 2002, to: **Ecology Search Committee Chair, Biology Department, Saint Anselm College, 100 Saint Anselm Drive, Manchester, NH 03102-1310**.

Roche

Pharmaceuticals

Laboratory Head in Lipoprotein Metabolism

Who we are

F. Hoffmann-La Roche Ltd, one of the world's leading pharmaceutical companies, has a long-standing reputation for successful and innovative drug development. Our Pharma Preclinical Research Department in Basel, Switzerland, is seeking a biochemist with research expertise in lipoprotein metabolism to lead a laboratory focusing on dyslipidemia.

The position

You will head a research laboratory dedicated to establishing and implementing new in vitro models to evaluate concepts and mechanisms for novel drug treatments for lipid disorders. Scientific excellence, team spirit, creativity and enthusiasm for the drug discovery process are prerequisites for this challenging position.

Who you are

You have a PhD in biochemistry or molecular biology and are a motivated and talented scientist with in-depth knowledge in the field of lipoprotein metabolism. Direct experience with the state-of-the-art techniques and methodologies employed in lipid research is essential. A strong background in the biochemistry of high density lipoproteins and reverse cholesterol transport would be an advantage. Previous experience in the pharmaceutical industry is desirable. You enjoy working in a multidisciplinary research team and have good written and verbal communication skills in English.

Who to contact

If your background fits the above profile and you are interested in this challenging position, please forward your application, with full supporting documentation, to: F. Hoffmann-La Roche Ltd, Mr. Werner Aschwanden, PSPB, Building 52/205, P.O. Box, CH-4070 Basel, quoting reference: As6140. For further information, please contact Dr Jacques Mizrahi, phone 0041-61- 688 18 30.

Senior Faculty Position
Department of Cell Biology and the Winship Cancer Institute
Emory University School of Medicine

The Department of Cell Biology and Winship Cancer Institute invite applications from established investigators with an outstanding record and demonstrated leadership in the study of fundamental cell biology, with emphasis on mechanisms related to cancer. A wide range of problems, approaches and model systems will be considered.

Exceptionally generous financial resources will support the successful candidate's research program and infrastructure, with laboratory space in the new Whitehead Biomedical Research Building. The primary faculty appointment will be in the Department of Cell Biology (for specific questions contact: **searchb@cellbio.emory.edu, www.emory.edu/CELLBIO**), with a joint appointment in the Winship Cancer Institute (**www.winshipcancerinstitute.org**).

Emory University is experiencing rapid growth in all academic programs, with particular emphasis in the biomedical sciences. The School of Medicine has attracted new leadership throughout all administrative and academic levels. The search will continue until the position is filled. Please send a curriculum vitae, including funding history, and most representative publications to:

Winfield S. Sale, Ph.D., Chair
Search Committee
Department of Cell Biology
Emory University School of Medicine
Whitehead Biomedical Research Building
615 Michael Street
Atlanta, GA 30322

Faculty Positions in Cell/ Developmental Biology
Department of Cell Biology
Emory University School of Medicine

The Department of Cell Biology invites applications from outstanding cell/developmental biologists for tenure-track faculty positions at the ASSISTANT or ASSOCIATE PROFESSOR level. Our particular areas of interest include the use of genetic model systems to study:

- **development**
- **stem cell biology**
- **human disease**

However, individuals in all contemporary areas of cell and developmental biology will be considered. Six new investigators, including a new Chair, have joined the Department of Cell Biology within the past five years. Our faculty participate in several rapidly growing, interdepartmental predoctoral training programs. This year Cell Biology and several other basic science departments relocated into the new Whitehead Biomedical Research Building. For more specific questions, contact: **searcha@cellbio.emory.edu**, or see: **www.emory.edu/CELLBIO/**. Interviews begin January 2003. Send curriculum vitae, research plan, representative reprints and three reference letters by December 1, 2002, to:

Kevin Moses, Ph.D., Chair
Search Committee
Department of Cell Biology
Emory University School of Medicine
Whitehead Biomedical Research Building
615 Michael Street
Atlanta, GA 30322-3030

Emory University is an Equal Opportunity Employer. Women and members of under-represented racial and ethnic groups are encouraged to apply.

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The University of Illinois at Urbana-Champaign
College of Medicine and
School of Molecular and Cellular Biology
Faculty Position in Genetics

The School of Molecular & Cellular Biology and the College of Medicine at the University of Illinois at Urbana-Champaign invite applications for a faculty position in Genetics. We are seeking outstanding candidates whose research uses genetic approaches to solve important questions in biology. This includes mammalian systems, human genetics, and genetic approaches using model organisms.

This is a full-time, tenure-track appointment in both the College of Medicine and one of the following departments within the College of Liberal Arts and Sciences: Biochemistry; Cell and Structural Biology; Microbiology; or Molecular & Integrative Physiology. Although we anticipate that this appointment will be made at the Assistant Professor level, applications for positions at the Associate and Full Professor levels will also be considered, and highly qualified scientists at these levels are encouraged to apply. The starting date for this position is August 2003. Appointment at the Assistant Professor level requires a doctoral degree, postdoctoral experience, and evidence of outstanding research potential. Appointees at this level will be expected to develop a vigorous, independently funded research program. Appointment at the higher levels requires evidence of outstanding research accomplishments, including extramural funding and national recognition. Applicants at all levels will be responsible for teaching a first-year course in human genetics in the College of Medicine.

The University of Illinois at Urbana-Champaign has added significant faculty strength in the biological sciences over the last four years and we anticipate additional hires in these and related areas each year for the next several years. Successful candidates will be provided with excellent laboratory facilities, substantial start-up funds, and a salary commensurate with experience. The University of Illinois at Urbana-Champaign offers a highly interactive, interdisciplinary research environment and state-of-the-art research support facilities. Urbana-Champaign offers the residential advantages of a medium-sized university city, excellent cultural opportunities, and easy access to Chicago and St. Louis. Information concerning the School of Molecular & Cellular Biology at the University of Illinois can be found at **http://www.life.uiuc.edu/mcb/** and for the College of Medicine at **http://www.med.uiuc.edu/**.

Applications should be submitted to: **School of Molecular & Cellular Biology, University of Illinois at Urbana-Champaign, 393 Morrill Hall, 505 S. Goodwin Ave., Urbana, IL 61801**. Please indicate in your cover letter that you are applying for the genetics position. An application must include a curriculum vitae, with a complete list of publications and a concise summary of past research accomplishments and future plans. Please arrange to have four letters of recommendation sent to the same address.

Electronic submissions in PDF or Microsoft Word format are encouraged and should be sent to **mcbsearch@life.uiuc.edu**. To ensure full consideration, applications should be received by December 3, 2002. Interviews may be conducted before the closing date but no hires will be made until after the search is closed.

The University of Illinois at Urbana-Champaign is an Affirmative Action, Equal Opportunity Employer

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FACULTY POSITIONS
BIOLOGICAL SCIENCES
FLORIDA ATLANTIC UNIVERSITY

The Department of Biological Sciences, Charles E. Schmidt College of Science, Boca Raton Campus, invites applications for tenure-track appointments at the Assistant or Associate Professor levels in the following fields: ecology, marine biology, and plant molecular biology. Successful candidates will have a Ph.D., competence in teaching at the university level, and strong evidence of ability to support an externally funded research program. Postdoctoral research training is preferred. Individuals desiring appointment at the Associate Professor level are expected to have current research funding.

Ecology. A wetland ecologist with a research focus at the community or ecosystem level. The candidate will have a unique opportunity to investigate system-level processes in the Florida Everglades and other wetland systems in close proximity to FAU. Preference will be given to candidates who can develop advanced undergraduate courses in wetland ecology and conservation biology, as well as a graduate course in their research specialization. (search committee chair: **Dr. John Volin**)

Marine Biology. The area of research interest is not specified, but will be expected to complement current expertise in areas such as cell and molecular biology, physiology, and ecology of marine species. The successful candidate will be expected to make a major contribution to Florida Atlantic University's Marine Biology Program at the Boca Raton Campus of FAU and help foster the newly-established FAU-Harbor Branch Oceanographic Institution partnership in research and education. (search committee chair: **Dr. Peter Lutz**)

Plant Molecular Biology. Applications are invited from individuals studying molecular mechanisms underlying fundamental questions in plant biology. Areas of interest may include, but are not limited to development, genetics, evolution, plant-insect or microbial interactions. Opportunities are available for participating in programs of the Center for Molecular Biology and Biotechnology at the Charles E. Schmidt College of Science. Applicants will be expected to develop an extramurally funded research program and contribute to the department's instructional program in plant sciences and molecular biology. (search committee chair: **Dr. Craig LaMunyon**).

The application deadline for this position is **December 9, 2002**. Applicants should submit a curriculum vitae, a statement of teaching and research interests, copies of up to three representative publications, and names and contact information of three references to **Faculty Search Committees, Department of Biological Sciences, 777 Glades Road, P.O. Box 3091, Florida Atlantic University, Boca Raton, FL 33431**.

Florida Atlantic University is an Equal Opportunity/Equal Access Institution.

UMDNJ - THE CANCER INSTITUTE OF NEW JERSEY

POSTDOCTORAL POSITION

The Dean and Betty Gallo Prostate Cancer Center

Exciting opportunity for a motivated individual to conduct translational research in prostate cancer. Postdoctoral fellow will have the unique opportunity to train in a molecular biology laboratory (Dr. Eileen White, Howard Hughes Medical Institute, Center for Advanced Biochemistry and Medicine, Rutgers University) as well as in clinical research laboratory (Dr. Robert DiPaola, UMDNJ-Robert Wood Johnson Medical School/The Cancer Institute of New Jersey). Research will include detailed study of the apoptotic pathway in vitro and in human tumors. Individual should be a Ph.D. and/or M.D. as well as have prior experience in molecular biology, and/or cancer biology.

Please forward CV and three letters of reference to: **Linda Van Derveer, The Dean and Betty Gallo Prostate Center at The Cancer Institute of New Jersey, 335 George Street, New Brunswick, NJ 08901.**

The Cancer Institute of New Jersey is the state's only NCI-designated Comprehensive Cancer Center. UMDNJ is an AA/EOE, M/F/D/V. For more information **visit www.umdnj.edu/hrweb.**

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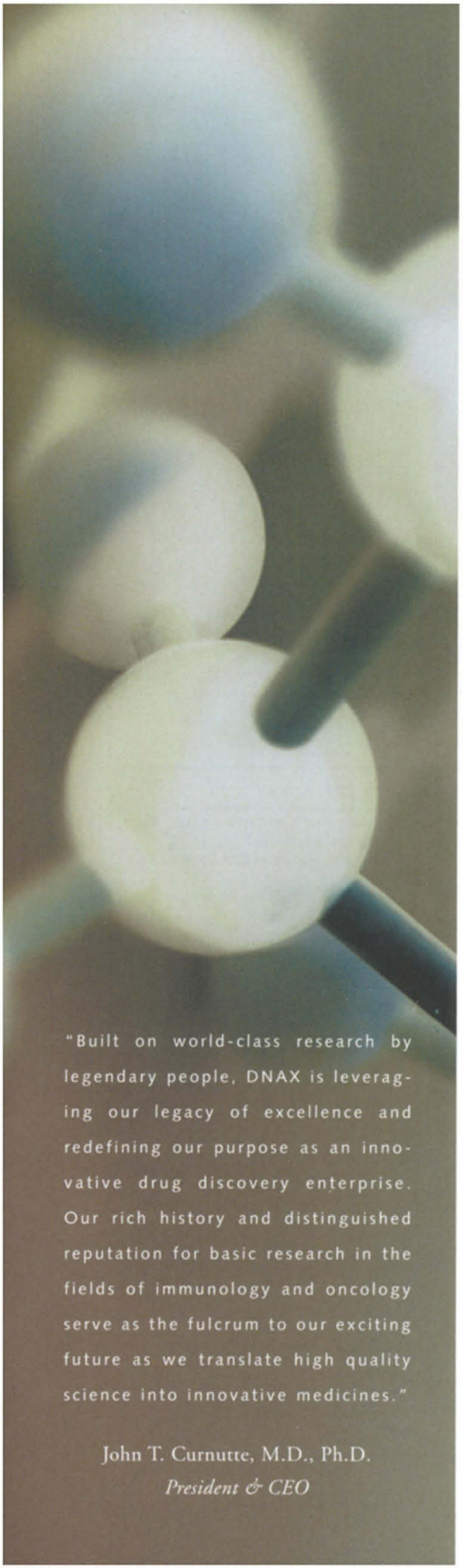
UNIVERSITY OF MEDICINE & DENTISTRY OF NEW JERSEY



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Research Opportunities

Staff Scientist – Human Pathologist

This senior-level position will lead and manage the research efforts of the Pathology Program, which provides support for an expanding DNAX translational research effort. The Head of Pathology will oversee the histopathologic evaluation of discovery targets in biologic systems seeking relevance to human disease. Responsible for reading and interpreting pathology cases and supervising both anatomic and clinical pathology. Extensive expertise in human pathology (MD, MD/PhD, or appropriate DVM/PhD) is required. A minimum of 8 years relevant experience, including biotechnology experience, is required. **Job #9758**

Principal Scientist – Project Management

We are seeking a senior manager with extensive experience in the biopharmaceutical industry creating and supporting highly efficient project teams. Demonstrated skills include the development and tracking of project goals and timelines, identification of critical paths and key Go/No Go decision points, tracking overall program progress in meeting annual goals, and coordination of preclinical and predevelopment activities. Requires an ability to function as clinical research assistant facilitating implementation and completion of extramural collaborative research agreements. BS/MS or PhD with extensive relevant experience are musts. **Job #9759**

Head of Product & Business Development

This senior-level position will be responsible for overseeing and integrating the preclinical and development activities of multiple project teams in the therapeutic areas of immunology and oncology. This individual will also lead the business development efforts for DNAX and coordinate these activities with the broader strategic needs of the project teams and the company. Requires a PhD or PhD/MBA, extensive expertise in both protein and small molecule drug research and development, and biopharmaceutical experience with a minimum of 10 years relevant experience. **Job #9760**

Staff Scientist – Clinical Oncology

We seek a physician who is board-certified (or board-eligible) in oncology with extensive biopharmaceutical research experience, including the design and conduct of early phase clinical trials involving small molecule/new chemical entities and/or protein therapeutics. Previous laboratory experience with murine tumor models or in discovery research studying tumor markers is desirable. Must work well across multiple functional groups and in team settings. Minimum of 7 years post-degree experience. **Job #9761**

Candidates applying for the above positions should have a strong commitment to working in a collaborative and dynamic research field. **To apply, please send resume, indicating Job #, to DNAX Research Inc., Human Resources Department, 901 California Avenue, Palo Alto, CA 94304-1104. Fax: (650) 496-6520. E-mail: hr@dnax.org.** DNAX is an equal opportunity employer, m/f/h/v. DNAX Research Inc. is a biotechnology subsidiary of Schering-Plough Corp.

www.dnaxresearch.com

EPA
United States
Environmental Protection
Agency

Director, Human Studies Division, Chapel Hill, N.C.
Announcement #EPA-02-SES-ORD-6263

EPA is seeking a highly qualified individual to provide executive leadership and management for the Human Studies Division (HSD). This division is housed within the Office of Research and Development's National Health and Environmental Effects Research Laboratory (NHEERL). The successful candidate for this position will provide the vision and direction for the conduct of human health research to address the Agency's priority research needs. As such, he/she will lead and manage the planning, development, and implementation of a multimillion-dollar research program. To learn more about the research program at NHEERL and HSD, please visit our website at **http:www.epa.gov/nheerl/** or contact **Karen Dean at (919) 541-5037**.

Qualifications: A bachelors degree (or higher) is required. Desirable applicants will have a doctoral degree (e.g., Ph.D., M.D.) in one of the biological, public health, or physical sciences and several years of experience managing a research program.

Salary Range: This is a Senior Executive Service (SES) position. The salary range is $122,763 to $134,388, depending on qualifications. In addition, physicians may be eligible for a pay comparability allowance.

How to Apply: The official announcement and instructions on how to apply are available at **http://www.opm.gov/**. Click on **USAJobs** on right sidebar; then, under Search Jobs, enter the announcement # or OPM control # ("6263" or "IH5790"). To be considered for this position, you must submit a full application. The application must be received by the closing date of the official announcement. Additional information is available by calling the SES Vacancy Hotline at (202) 564-0435 or writing to:

US EPA/OARM/OHROS/SES Human Resources Team
1200 Pennsylvania Avenue, N.W. MC-3650A
Washington, DC 20460-0001
ATTN: EPA-02-SES-ORD-6263

It is the policy of the Government of the United States to provide equal opportunity in Federal employment for all persons and to prohibit discrimination in employment because of race, color, religion, sex, national origin, handicap, age, or sexual orientation through a continuing affirmative program in each executive department and agency. This agency provides reasonable accommodation to applicants with disabilities. If you need a reasonable accommodation for any part of the application and hiring process, please notify the agency. The decision on granting reasonable accommodation will be on a case-by-case basis.

US Citizenship Is Required

work ⇌ satisfaction

Science is all about making connections. Each discovery builds on those that came before it, and every idea requires a body of knowledge built up over a lifetime. Life is like that, too. The connections you make with people and places are what make you feel part of something larger than yourself. And that's the feeling you get at Roche. Not only do you get to share ideas with some of the best minds in the world, you get to share your days with some of the best people in the world, and still have plenty of time left over for the other things in your life that you enjoy. We currently have the following position available in our **Nutley, NJ** location:

PRINCIPAL SCIENTIST, DISCOVERY TECHNOLOGIES

Position Code: 723

In this role, you will be responsible for developing various types of assays for biochemical high throughput screening with an emphasis on the regulation of enzymatic activity in support of metabolic diseases, obesity and oncology projects. To accomplish this you will perform high throughput assays, dose-response analysis and follow-up studies using automated robotic systems and semi-automated workstations.

The qualified candidate will be a highly motivated individual who possesses a PhD with a background in biochemistry or a related discipline. Experience with assay development and enzyme kinetics is essential as are strong communication and interpersonal skills. Candidates with an MS degree and at least 6 years of research experience will also be considered. Familiarity with HTS robotics and automated workstations is a plus.

To apply online, visit our website at: www.rocheusa.com and enter position code 723, or send your resume to: **Roche Resume Processing Center, PO Box 3600, Nogales, AZ 85628-3600** or e-mail: **roche@offshoredata.com** Please include position code 723 and source code SCI1101 in the subject line of your e-mail or cover letter. No agencies please.

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Department of Health and Human Services
National Institutes of Health
Center for Cancer Research - National Cancer Institute
Frederick, Maryland
Postdoctoral Fellowship Positions Available

Positions are available within the Regulation of Cell Growth and the Regulation of Protein Function Laboratories of the NCI. Interests include signal transduction, ubiquitination and proteolysis, intracellular trafficking, cell cycle, gene regulation, cellular transformation, apoptosis, and developmental genetics (**http://ccr.cancer.gov/labs/regulation/**).

Jairaj Acharya, Ph.D.: Phospholipid signaling in *Drosophila*
Ira Daar, Ph.D.: Eph and FGF signaling in *Xenopus*
Howard Fearnhead, Ph.D.: Oncogenes and caspase activation
Mark Fortini, Ph.D.: Presenilin biology and Notch pathway signaling
Peter Johnson, Ph.D.: Function of C/EBP transcription factors in cell growth and cancer
Philipp Kaldis, Ph.D.: Regulation of the cell cycle by cyclin-dependent kinases
Michael Kuehn, Ph.D.: Nodal signaling and ubiquitination and sumoylation in development
Deborah Morrison, Ph.D.: Biochemistry and genetics of Ras/MAPK signaling
Allan Weissman, M.D. (Lab Chief): Ubiquitination and regulated protein degradation

These groups are located in state-of-the-art laboratories at the NCI campus in Frederick, Maryland, and are supported by core facilities including mass spectroscopy, confocal microscopy and imaging, protein chemistry, and transgenic mouse production. The highly collaborative NCI community in Frederick includes other groups with a variety of interests in cell biology, genetics, immunology, development and structural biology. Candidates must possess a M.D. or Ph.D. degree in an appropriate scientific field. Salaries are competitive and commensurate with experience. Qualified applicants should either contact individual investigators directly or send curriculum vitae and the names of three references together with a cover letter directing their application to specific investigators to: **Jennifer Wood, Building 560, Room 22-95, NCI-Frederick, PO Box B, Frederick, MD 21702, USA.**

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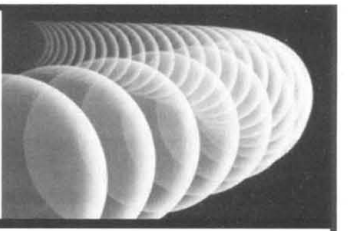
NATIONAL CANCER INSTITUTE



The Argonne National Laboratory Named Postdoctoral Fellowship Program

The Director's Office initiated these special postdoctoral fellowships at Argonne National Laboratory, to be awarded internationally on an annual basis to outstanding doctoral scientists and engineers who are at early points in promising careers. The fellowships are named after scientific and technical luminaries who have been associated with the Laboratory and its predecessors, and the University of Chicago, since the 1940's; these include George W. Beadle (biologist), Arthur Holly Compton (high energy particle physicist), Ugo Fano (atomic physicist), Nicholas Metropolis (computational physicist), Willard Frank Libby (nuclear chemist), Glenn Seaborg (chemist), Harold Urey (nuclear chemist), Eugene Wigner (theoretical physicist), and Walter H. Zinn (nuclear reactor physicist), and will be assigned to the fellowship recipients according to the scientific or technical discipline of the fellowship holder. These fellowships complement the existing Enrico Fermi and Maria Goeppert-Meyer fellowships at Argonne.

Candidates for these fellowships must display superb ability in scientific or engineering research, and must show definite promise of becoming outstanding leaders in the research they pursue. The Laboratory intends to award four such fellowships this coming year. Fellowships are awarded for a two-year term, with a possible renewal for a third year, and carry a stipend of $70,000 per annum with an additional allocation of up to $20,000 per annum for research support and travel. The Fellows, who will be competitively selected by a special fellowship committee, are given the freedom of associating with Argonne scientists in a research area of common interest.

The Argonne National Laboratory is a highly interdisciplinary "multipurpose" laboratory operated by The University of Chicago for the U.S. Department of Energy. The Laboratory's main activities include the following general areas:

Basic science includes experimental and theoretical work in materials science, physics, chemistry, biology, and mathematics and computer science, including high-performance computing.

Scientific facilities such as Argonne's Advanced Photon Source (APS) help advance America's scientific leadership and prepare the nation for the future. The laboratory is also home to the Intense Pulsed Neutron Source (IPNS), the Argonne Tandem Linear Accelerator System (ATLAS) and a variety of other smaller user facilities.

Energy resources programs focus on research towards a reliable supply of efficient and clean energy for the future.

Environmental management includes work on managing and solving the nation's environmental problems and promoting environmental stewardship.

More specific information regarding research activities at Argonne can be obtained by viewing the overview at website **http://www.anl.gov/OPA/vtour/**, as well as the more detailed websites of the various research groups, centers and facilities, which can be accessed via the home webpage **www.anl.gov**.

Applying for an Argonne Named Postdoctoral Fellowship:

One application is sufficient to be considered for all named fellowships. The first Fellowships can start as early as March 2003. To apply, **a letter of nomination** for each candidate is requested. In addition, the candidate is requested to supply the **following materials** to the Director of the Argonne National Laboratory, by **December 31, 2002**:

- Curriculum Vitae;
- Bibliography of publications and preprints;
- Description of research interests to be pursued at the Laboratory; we encourage applicants to contact Argonne staff in their areas of interest in order to explore possible areas of research;
- And the names of two scientists (other than the original nominator) whom the candidate has asked to supply letters of recommendation.

It is the candidate's responsibility to arrange that the two letters of support be sent to the Laboratory at the address below **before December 31, 2002**. The Laboratory expects to complete the selection process by early February 2003.

Correspondence should be sent to:

Argonne National Laboratory
Office of the Director
Fellowship Program
9700 S. Cass Avenue
Argonne, IL 60439

Email: Fellowship-Program@anl.gov
Fax: 630-252-7923

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ARGONNE NATIONAL LABORATORY • UNIVERSITY OF CHICAGO •

The Juvenile Diabetes Research Foundation International (JDRF) is the world's leading non-profit, non-governmental funder of diabetes research (up to $100 million in current fiscal year).

Juvenile Diabetes Research Foundation International

dedicated to finding a cure

Scientific Program Manager

The Scientific Program Manager will play an essential role in carrying out JDRF's research grant program, training award program, and implementing partnerships with governments and industry. Additional responsibilities include: arranging/ overseeing review of research grants and administration of these awards; helping to determine program priorities and tracking/ analyzing/evaluating the Foundation's research activities; and coordination of committees and research collaborations among institutions. Ph.D., M.D. or equivalent degree in biological/ biomedical sciences, such as genetics, immunology, physiology, endocrinology, biochemistry, or related areas required. Postdoctoral experience or equivalent preferred. Excellent writing, verbal, and interpersonal skills are essential. Some travel required.

Please submit resume to:

Juvenile Diabetes Research Foundation International
Attn: Human Resources-SPM
120 Wall Street, 19th Floor, New York, NY 10005-4001
Fax: 212-785-9595

EOE M/F/D/V

POSTDOCTORAL POSITION

A postdoctoral position is available immediately to conduct research on cellular and molecular processes involved in the vascular complications of diabetes. Emphasis of the project is on diabetic retinopathy, and involves the study of interactions of apoptosis, thrombosis, and complement activation. Background of the appropriate candidate will include an interest in vascular biology or immunology, an interest in studying pathogenesis of chronic diseases, and solid conceptual and practical knowledge of cell biology. Knowledge of diabetes and/or eye tissue structure and function will be helpful, but not essential. Candidates must have a recent Ph.D. or M.D./Ph.D.; documented familiarity with cell biology techniques such as immunocytochemistry, microscopy, flow cytometry, and tissue culture; and have published scientific reports in the English literature.
http://www.eri.harvard.edu/htmlfiles/training/lorenzi.html.

Please send curriculum vitae and names of three references to:

Schepens Eye Research Institute
c/o Human Resources
20 Staniford Street, Boston, MA 02114

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THE SCHEPENS EYE RESEARCH INSTITUTE
AN AFFILIATE OF HARVARD MEDICAL SCHOOL

USDA

U.S. Department of Agriculture, Agricultural Research Service: Interdisciplinary; Chemical Engineer, Research Chemist, Research Food Technologist, GS-12/13/14

The USDA, Agricultural Research Service, is recruiting a research food technologist, research chemist, or chemical engineer for the Subarctic Agricultural Research Unit in Fairbanks, Alaska. The mission of this unit is to conduct research to develop effective and economical utilization of byproducts from fish processing, particularly to convert these waste byproducts into high-value, useful products. The incumbent (1) characterizes processed and separated waste stream components to identify chemical constituents that have value-added uses or that enhance the nutritional or feeding acceptability of processed fish or animal feeds; and (2) conducts basic studies leading to a better understanding of factors influencing the effects of specific constituents and/or their interactions on end-product quality and value. This will involve chemical and biochemical analysis of the process waste stream components, determining which byproducts can be effectively treated to alter them into nutritious feed supplements, and/or developing processes to remove non-nutritious components. The incumbent will also develop techniques for extracting, processing, and storing high-value minor constituents of the waste byproducts that may contribute to the economic viability of waste byproduct processing.

The research program is cooperative with the University of Alaska **School of Fisheries and Ocean Sciences at Fairbanks, Alaska, with temporary work assignments at Kodiak, Alaska. Salary is commensurate with experience (Starting: $49,959.00 - $91,265.00 Per Annum Plus 25% COLA). A Ph.D. is preferred. U.S. Citizenship is required.** For more information contact **Dr. Michael Shannon** at **510-559-6071**, or see the vacancy announcement **ARS-X2W-2471** on our web page at **www.ars.usda.gov**. Applications must be postmarked by **December 20, 2002**.

The USDA is an Equal Opportunity Provider and Employer.

Assistant Professor - Environmental Toxicology
UC Santa Cruz

The Department of Environmental Toxicology seeks a tenure track Assistant Professor focusing on the study of organic contaminants. We are especially interested in research that seeks to understand the fundamental mechanisms underlying the transport and/or fate of organic contaminants in the environment or the biochemical and molecular mechanisms underlying the metabolic fate and toxicity of organic contaminants to organisms in aquatic, terrestrial, or laboratory/model systems. Truly exceptional candidates pursuing innovative research in other areas of environmental health and toxicology may also be considered. Postdoctoral experience is required. In addition to running a strong research program, the selected candidate will teach both graduate and undergraduate classes in environmental health and toxicology and actively participate in the ongoing development of the department and graduate program in Environmental Toxicology. The campus is especially interested in candidates who can contribute to the diversity and excellence of the academic community through their research, teaching, and/or service.

Rank: Assistant Professor **Salary:** $46,100 - $51,400

Minimum Qualifications: Ph.D. or equivalent in Biology, Biochemistry, Chemistry, Earth Science, Molecular Biology, Oceanography, Toxicology, or a related field completed or expected by effective date; a demonstrated record of research excellence; potential to obtain external funding; and a commitment to and talent for teaching at undergraduate and graduate levels.

Position Available: July 1, 2003

Apply to: Applicants should submit a curriculum vitae, a brief description of research and teaching interests, copies of reprints, and three confidential letters of recommendation to: **Chair, Environmental Toxicology Search Committee, Environmental Toxicology Department, 269 Jack Baskin Engineering Bldg., University of California, Santa Cruz, CA 95064.** Please refer to **Position # 565-03** in all correspondence. Closing Date: **January 6, 2003. http://natsci.ucsc.edu/acad/etox/**

UCD

UNIVERSITY COLLEGE DUBLIN

An Coláiste Ollscoile Baile Átha Cliath

PROFESSORSHIPS

Applications are invited for the following positions in the Conway Institute of Biomolecular and Biomedical Research and Dublin Molecular Medicine Centre. These posts will be based at the Belfield campus of Ireland's largest university, University College Dublin.

Conway INSTITUTE OF BIOMOLECULAR AND BIOMEDICAL RESEARCH

PROTEOMICS ***(Ref: 001083)***

BIOINFORMATICS ***(Ref: 001084)***

BIOMEDICAL GENOMICS ***(Ref: 001085)***

GENETIC EPIDEMIOLOGY ***(Ref: 001086)***

DUBLIN MOLECULAR MEDICINE CENTRE DMMC

The research programme of the Conway Institute of Biomolecular and Biomedical Research **(www.ucd.ie/conway)** focuses on multi-disciplinary research in four selected biomedical areas across its three associated centres:

- Centre for Synthesis and Chemical Biology **(www.chemistry.ucd.ie/cscb)**
- Centre for Integrative Biology **(www.ucd.ie/conway/html/homepage/cib_conway.htm)**
- Dublin Molecular Medicine Centre **(www.ucd.ie/conway/html/homepage/dmmc_main.htm)**

Three of the chairs are associated with the Dublin Molecular Medicine Centre, an innovative research partnership between Trinity College Dublin and University College Dublin that mirrors this focus. The appointees to the Chairs of Bioinformatics and Proteomics will also act as Directors of these core technologies within the Conway Institute of Biomolecular and Biomedical Research.

The above appointments are whole-time, permanent positions. Successful appointees to these Chairs will (i) be internationally distinguished researchers; (ii) establish major internationally competitive research programmes in their respective disciplines; (iii) have to provide academic leadership within the Conway Institute and DMMC at UCD by assisting in the development of the multi-disciplinary research programmes; (iv) play pivotal roles in the implementation of Dublin-wide technology platforms under the auspices of the *Programme of Human Genomics* and through cross-institutional collaboration; (v) assist in the establishment and teaching of both structured PhD degree programmes and new postgraduate programmes as well as actively facilitating the development of new undergraduate modules in their respective disciplines.

These positions are funded under the Irish Higher Education Authority's *Programme for Research in Third-Level Institutions* **(www.hea.ie/projects/index.htm). The deadline for receipt of applications is Friday, 29 November 2002.**
The interviews for the above posts will be held in early 2003.

Informal enquiries regarding the Chair of Proteomics can be made to:

Dr. Andy Robertson, Email: conway.director@ucd.ie or Professor Michael Ryan, Email: michael.p.ryan@ucd.ie

Informal enquiries regarding the other Chairs can be made to:

Dr. Pierre Meulien, Email: pierre.meulien@ucd.ie or Dr. Andy Robertson, Email: conway.director@ucd.ie

Prior to application, further information (including application procedure) should be obtained from:

The Personnel Department,
University College Dublin, Belfield, Dublin 4, Ireland
(quoting the above reference number)
Tel: +353 1 716 1653; Fax: +353 1 269 2472; Email: Orla.Cosgrave@ucd.ie

UCD is an equal opportunities employer.

UNIVERSITY COLLEGE DUBLIN
NATIONAL UNIVERSITY OF IRELAND, DUBLIN

Elements of
AAAS Science & Technology Policy Fellowships 2003:04

He
help shape science and technology policy

Co
contribute scientific and technical information

Op
a great opportunity for accomplished and societally-aware scientists and engineers

Le
learn how government works

Un
a unique and prestigious participatory experience

He **Help** shape science and technology policy in Washington, DC. Contribute scientific and technical information and external perspectives to federal decision-making, while learning how government works. The AAAS fellowship programs provide a unique participatory public policy experience for scientists and engineers, through one-year assignments involving domestic and international science policy issues in the Congress and several executive branch agencies. Stipends begin at $58,000.

Ap **Applicants** must have a PhD or an equivalent doctoral-level degree by the application deadline from any physical, biological or social science, any field of engineering, or any relevant interdisciplinary field. Individuals with a master's degree in engineering and at least three years of post-degree professional experience also may apply. U.S. citizenship is required. Federal employees are not eligible. Approximately 50 fellowships are awarded in nine different programs. Underrepresented minorities and persons with disabilities are encouraged to apply.

Be The fellowship year **begins** September 1, 2003. Fellows attend a two-week orientation before beginning their assignments and participate in a year-long seminar series on topics relevant to science, technology and public policy. Application deadline is January 10, 2003.

Pl Fellows are **placed** in the Congress, the National Science Foundation, the National Institutes of Health, the Department of State, the Department of Defense, the Agency for International Development, the Environmental Protection Agency, the Department of Agriculture, the Food and Drug Administration and other federal offices.

AAAS

Advancing science • Serving society

Op AAAS sponsors these programs to provide the **opportunity** for accomplished and societally-aware scientists and engineers to participate in and contribute to the public policy making process of the federal government. The programs include:

- Congressional Fellows
- Diplomacy Fellows
- AAAS/NIH Science Policy Fellows
- AAAS/NSF Science and Engineering Fellows
- Defense Policy Fellows
- Environmental Fellows
- AAAS/NTI Fellows in Global Security
- Roger Revelle Fellows in Global Stewardship
- Risk Policy Fellows in Health, Safety and the Environment

In For application **instructions** and further information:
AAAS Science and Technology Policy Fellowship Programs
1200 New York Avenue, NW
Washington, DC 20005
Phone: 202/326-6700
E-mail: science_policy@aaas.org

www.fellowships.aaas.org
American Association for the Advancement of Science

UCD

UNIVERSITY COLLEGE DUBLIN

An Coláiste Ollscoile Baile Átha Cliath

University College Dublin was founded in 1854 and was established as a non-denominational university in 1908. With a student population of approximately 20,000 (1,500 from overseas) and ten Faculties, UCD is the largest university in Ireland. Some 5,000 students with primary and postgraduate degrees graduate annually.

Appointment of a President/ Chief Officer of the University

The Governing Authority of the University invites applications for the post of President/Chief Officer.

University College Dublin, the largest and culturally most diverse university in Ireland, is seeking to appoint a new President. In view of the challenges and development needs of the University over the coming years, the successful candidate must be a person of exceptional calibre, someone capable of providing inspirational academic and executive leadership to a university committed to the highest international standards of teaching and research.

The President will be a person with a proven research record. He or she will have been successful at national and international level in creating and sustaining collaborative teaching/research relationships and in generating the funds to support these.

The successful candidate will have a track record of achievement that demonstrates decisive management at a senior level in a complex organisation.

The President will be a convincing advocate for the University in a complex and competitive national and international environment. He or she will have the ability to harness the enthusiasm, energy and skills of all members of the University community to contribute to the realisation of a shared mission.

The person appointed will have an educational vision informed by a profound and sensitive understanding of the role and responsibility of the university in the modern world. The successful candidate will be aware of the function of a university as a centre of excellence in both scholarly enquiry and in teaching and learning.

Recognising the character of the university as one of the most influential institutions of civil society, the President of University College Dublin must be capable of building on the achievements of UCD and maximising its distinctive contribution to Irish society.

Further information, including details of the remuneration package and application procedure, may be obtained from:

The Secretary to the UCD Search Committee,
c/o PricewaterhouseCoopers, Wilton Place, Dublin 2.
Confidential Telephone: +353 (0) 1 662 6520; Confidential Fax: +353 (0) 1 704 8598
Email: marcella.senior@ie.pwcglobal.com

Further information may also be obtained from the UCD website:
http://www.ucd.ie/presidentsearch

The closing date for completed applications is: **12.00 noon on Monday, 6 January 2003.**

UCD is an equal opportunities employer.

UNIVERSITY COLLEGE DUBLIN
NATIONAL UNIVERSITY OF IRELAND, DUBLIN

The University of Illinois at Urbana-Champaign
The Department of Molecular and Integrative Physiology
School of Molecular and Cellular Biology
Faculty Position in Systems Physiology

The Department of Molecular and Integrative Physiology and the School of Molecular and Cellular Biology at the University of Illinois at Urbana-Champaign invite applications for a faculty position in Systems Physiology. The successful candidate will address fundamental mechanisms involved in the functioning of organs and tissues using molecular, genetic or computational approaches. Although the Department has a particular interest in identifying outstanding candidates working in cardiovascular, respiratory or renal physiology, the excellence of the candidate is more important than the area of research. Because of recent success in filling positions in Neuroscience, applications in this area are not encouraged.

The position is full-time and tenure track in the Department of Molecular & Integrative Physiology in the College of Liberal Arts and Sciences and/or in the College of Medicine. Although we anticipate the appointment will be made at the Assistant Professor level, applications for positions at the Associate and Full Professor levels will also be considered; highly qualified scientists at these levels are encouraged to apply. The starting date for this position is August 2003. Appointment at the Assistant Professor level requires a doctoral degree, postdoctoral experience, and evidence of outstanding research potential. Appointees at this level will be expected to develop a vigorous, independently funded research program. Appointment at higher levels requires evidence of outstanding research accomplishments including extramural funding and national recognition. Applicants at all levels will be expected to contribute effectively to undergraduate/graduate teaching.

The University of Illinois at Urbana-Champaign has added substantial faculty strength in the biological sciences over the last four years and additional hires in related areas are anticipated each year for the next several years. Successful candidates will be provided with excellent laboratory facilities, substantial start-up funds, and a salary commensurate with experience. The University of Illinois at Urbana-Champaign offers a highly interactive, interdisciplinary research environment and state-of-the-art research support facilities. Urbana-Champaign offers the residential advantages of a medium-sized university city, excellent cultural opportunities and easy access to Chicago and St. Louis. Information concerning the School of Molecular and Cellular Biology at the University of Illinois can be found at **http://www.life.uiuc.edu/mcb/**.

Applications should be submitted to: **Systems Physiology Search, School of Molecular & Cellular Biology, University of Illinois at Urbana-Champaign, 393 Morrill Hall, 505 S. Goodwin Ave., Urbana, IL 61801**. An application must include a curriculum vitae, with a complete list of publications and a concise summary of past research accomplishments and future plans. In addition, four letters of recommendation should be sent to the same address.

Electronic submissions, such as pdf files, are encouraged and should be sent to **mcbsearch@life.uiuc.edu**. If submitting electronically, please indicate that the application is for the systems physiology position. To ensure full consideration, applications should be received by January 20, 2003. Interviews may be conducted before the closing date but no hires will be made until after the search is closed.

The University of Illinois at Urbana-Champaign is an Affirmative Action, Equal Opportunity Employer.

Faculty Position In Cellular Biochemistry & Biophysics

We seek an outstanding candidate to fill a tenure-track faculty position at the Assistant or Associate Member level in the Cellular Biochemistry and Biophysics Program of the Sloan-Kettering Institute. Candidates should have an exceptional record of research accomplishments in a major area of cell biology and, ideally, a strong interest in developing and applying optical imaging methods to a major cell biological problem. The program faculty includes cell biologists, biochemists, and structural biologists with interest in diverse areas of biology such as cell adhesion, signaling, intracellular transport, and gene expression (see website: http://www.mskcc.org/mskcc/html/5783.cfm).

Applicants should forward a curriculum vitae, a description of their past research accomplishments and proposed research program, selected reprints, and a list of potential references to: **James E. Rothman, Ph.D. c/o Fran Berman, Cellular Biochemistry and Biophysics Program, Box 135, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021.** Application deadline is December 15, 2002. EOE/AA

Memorial Sloan-Kettering Cancer Center
The Best Cancer Care. Anywhere.
www.mskcc.org

Faculty Positions

Scientist

McMaster University, Faculty of Health Sciences, in conjunction with the Henderson Research Centre (HRC), is seeking an outstanding scientist to join an established research group at the HRC, a premier multidisciplinary institute dedicated to basic and applied research in thrombosis, atherosclerosis, and vascular biology. Focusing on atherogenesis, you will bring new strengths to the study of gene-environment interactions, particularly in the areas of obesity, lipid metabolism or hypertension. The Faculty of Health Sciences and the HRC provide an outstanding environment for multidisciplinary research that fosters collaborative, cross-institutional interactions between basic scientists and clinical investigators. You must have a Ph.D. and/or M.D. degree and post-doctoral experience demonstrating research excellence in your field. You will be expected to establish a vigorous program of externally funded research and participate in educational activities. Faculty appointment will be in a suitable department in the Faculty of Health Sciences with academic rank and salary commensurate with experience.

Interested candidates should submit their C.V., a brief description of their research plans, and the names of at least three references, no later than **December 31, 2002**, to: **Dr. Jeffrey Weitz, Chair of Search Committee, Henderson Research Centre, 711 Concession Street, Hamilton, Ontario Canada L8V 1C3**

We thank all applicants in advance and advise that only those to be interviewed will be contacted by telephone.

McMaster University is committed to employment equity and encourages applications from all qualified candidates, including aboriginal peoples, persons with disabilities, members of visible minorities, sexual minorities, and women.

"An equal opportunity employer"

McMaster University

Histogenics

Senior Scientist: Orthopaedic Bioengineering

Histogenics Corporation is a tissue engineering company. The company's mission combines leading edge device technology and tissue engineering expertise to streamline methodologies for exogenous cell and tissue growth. This synergistic effort is embodied in TESS™, Histogenics' Tissue Engineering Support System.

Histogenics is seeking a Senior Scientist in Orthopaedic Bioengineering. The position focuses on:

- Development of Biocompatible Scaffolds/ Substrates
- Biology of Cell-based processes for tissue engineering
- Tissue engineering of cartilage, ligament, and meniscus
- Biomechanics of dynamic loading on implantable constructs

The candidate should have training in biomedical engineering, and either materials science, or polymer chemistry, with at least 2 years post-doctoral experience.

Contact: **Serie@histogenics.com** or
Suzanne Erie
Histogenics Corporation Laboratories
100 Hospital Road
Malden, MA 02148

Faculty Positions in Immunology at the Wistar Institute

The Wistar Institute is seeking highly qualified Ph.D. or M.D. candidates at all academic levels to establish strong independent research programs that complement the Institute's efforts by the current Immunology faculty (R. Burnett, A. Caton, J. Erikson, H.C.J. Ertl, W. Gerhard, D. Herlyn, L. Montaner, L. Otvos, E. Puré, D. Santoli). Areas of interest for this recruitment include, but are not limited to, dendritic cell biology, antigen presentation, inflammation, and lymphocyte trafficking.

The Wistar Institute, an NCI-designated Basic Cancer Center, offers highly competitive start-up support, salary and fringe benefits in addition to a superb and interactive research environment, including state-of-the-art core facilities.

The Wistar Institute is the nation's oldest independent biomedical research institute located in the center of the University of Pennsylvania campus, thereby facilitating collaborations between Wistar and University of Pennsylvania faculty and providing opportunities for training of graduate students.

Send curriculum vitae and names of five senior scientists for potential letters of references to: **The Immunology Search Committee, c/o H.C.J. Ertl, M.D., The Wistar Institute, 3601 Spruce Street, Philadelphia, PA 19104.** EOE/AA/M/F/D/V

THE WISTAR INSTITUTE

Developing the Medicine of Tomorrow™

Roche

Pharmaceuticals

Laboratory Head in G-Protein Coupled Receptor Biochemistry

Who we are

F. Hoffmann-La Roche Ltd, one of the world's leading pharmaceutical companies, has a longstanding reputation for successful and innovative drug development. Our Pharma Preclinical Research Department in Basel, Switzerland, is seeking an expert in G-protein coupled receptor biochemistry to lead a laboratory focusing on metabolic diseases.

The position

You will head a research laboratory dedicated to establishing and implementing new in vitro models to evaluate concepts and mechanisms for novel drug treatments for metabolic disorders. Scientific excellence, team spirit, creativity and enthusiasm for the drug discovery process are prerequisites for this challenging position.

Who you are

You have a PhD in biochemistry or molecular biology and are a motivated and talented scientist with a significant track record and expertise in the field of G-protein coupled receptors. Familiarity with the state-of-the-art techniques and methodologies employed in molecular pharmacology and receptor biochemistry is an important requirement. A background in metabolic diseases (type 2 diabetes or obesity) would be an advantage. Previous experience in the pharmaceutical industry is desirable. You enjoy working in a multidisciplinary research team and have good written and verbal communication skills in English.

Who to contact

If your background fits the above profile and you are interested in this challenging position, please forward your application, with full supporting documentation, to: F. Hoffmann-La Roche Ltd, Mr. Werner Aschwanden, PSPB, Building 52/205, P.O. Box, CH-4070 Basel, quoting reference: As6145. For further information, please contact Dr Jacques Mizrahi, phone 0041-61-688 18 30.

UNIVERSITY OF DELAWARE

ASSISTANT PROFESSOR
Food Virology
Department of Animal and Food Sciences

Tenure-track Ph.D. with postdoctoral or equivalent experience in contemporary virology as related to food safety. The position is 60% research and 40% teaching. The individual will be expected to develop an innovative, extramurally funded research program in virology focusing on viruses that are important from a food safety and public health perspective. The individual will be expected to teach undergraduate/graduate courses consistent with their background and department needs, advise students relative to curriculum requirements, and to participate in the University's nationally recognized undergraduate research program. Send letter of application, curriculum vitae, three references, and brief description of research and teaching interests to: **Calvin L. Keeler, Department of Animal and Food Sciences, University of Delaware, Newark, DE 19717**. Application deadline: January 2, 2003. *The University of Delaware is an Equal Opportunity Employer that encourages applications from minority group members and women.*

FACULTY POSITION
Molecular Pharmacology/Toxicology

The Department of Pharmacology, Joan C. Edwards School of Medicine, Marshall University, invites applications for a tenure-track faculty position at the level of **ASSISTANT PROFESSOR** in the area of molecular pharmacology or toxicology. Minimum requirements include a Ph.D. in pharmacology, toxicology, or related field and at least two years of postdoctoral experience. Applicant research should use techniques in signal transduction or other molecular approaches to study the mechanisms of drugs or other agents on the nervous, cardiovascular, or renal systems. The successful candidate will be expected to develop/maintain an extramurally funded research program, teach pharmacology to medical students, participate in graduate student education, and contribute to the service activities of the Department. Additional information regarding the Department can be found at **website: http://meb.marshall.edu/pharm/**. Applications will be accepted until the position is filled. Send curriculum vitae; a one-page statement of research interests; and the names, addresses, and e-mail addresses of three references to: **Dr. Gary O. Rankin, Chair, Faculty Search Committee, Department of Pharmacology, Joan C. Edwards School of Medicine, Marshall University, 1542 Spring Valley Drive, Huntington, WV 25704-9388. E-mail: rankin@marshall.edu.** *Preference will be given to U.S. citizens and permanent residents. Marshall University is an Equal Opportunity/Affirmative Action Employer.*

PLANT PHYSIOLOGIST
Central Washington University

The Biological Sciences Department invites applications for a nine-month, tenure-track **ASSISTANT/ASSOCIATE PROFESSOR** botany position to begin September 16, 2003, contingent upon funding in the 2003–2005 biennial budget. We are searching for a Plant Scientist specializing in plant physiology. The position requires a broad academic background in botany and a Ph.D. in an appropriate field. Candidates should be prepared to teach introductory as well as advanced courses and demonstrate a commitment to teaching and research involving students. Screening will begin December 9, 2002. For position details and application procedures, see our **website: http://www.cwu.edu/~biology/positions.html**. or contact: **Search Committee Chair, Dr. Linda A. Raubeson; e-mail: raubeson@cwu.edu; Telephone: 509-963-2734.** *Affirmative Action/Equal Opportunity Employer/Title IX Institution.*

POSITIONS OPEN

TENURE-TRACK FACULTY
PHARMACOLOGY POSITION

The Department of Physiology of the Northeastern Ohio Universities College of Medicine (NEOUCOM) is seeking applicants to fill a tenure-track (**ASSISTANT/ASSOCIATE PROFESSOR** level) position in cardiovascular or pulmonary pharmacology or physiology. The Department has a cardiopulmonary research focus and invites applicants who are using modern cellular and/or molecular biology techniques to address integrative physiological problems that complement ongoing research programs.

Conveniently located near Akron, Youngstown, Canton, and Cleveland, Ohio, NEOUCOM is a community-based state medical school offering a combined B.S./M.D. program with the University of Akron, Kent State University, and Youngstown State University. Further information about the Department and Institution can be obtained from the NEOUCOM **website: http://www.neoucom.edu.**

Candidates must have a Ph.D. and/or M.D. with appropriate postdoctoral fellowship training; a strong record of research accomplishment; and the ability to establish an independent, externally funded program. Excellent opportunities exist within the Department and Institution for collaboration. Medical student teaching responsibilities will be to participate in teaching the medical pharmacology course. Departmental faculty are members of the graduate faculty in programs leading to the Ph.D. through the School of Biomedical Sciences at Kent State University. The successful candidate will have the opportunity to develop graduate courses that relate to his/her specialty. To apply, candidates should send a letter of application describing research experience and goals accompanied by curriculum vitae and the names and addresses of three references to: **Human Resources, c/o Michael B. Maron, Ph.D., Professor and Chairperson, Department of Physiology, Northeastern Ohio Universities College of Medicine, P.O. Box 95, Rootstown, OH 44272-0095.** Review of applications will commence November 29, 2002, and continue until the position is filled. *NEOUCOM is an Affirmative Action/Equal Opportunity Employer.*

EVOLUTIONARY BIOLOGIST

The newly forming Department of Ecology, Evolution, and Organismal Biology (EEOB) at Iowa State University seeks a tenure-track faculty member whose research focuses on evolutionary biology at any level and in any system. We seek an **ASSISTANT PROFESSOR** but higher ranks will be considered. EEOB (**website: http://www.iastate.edu/~eeob/**) will comprise 33 faculty who use integrative approaches that bridge traditional disciplines and span multiple levels of biological organization. The successful candidate is expected to develop a competitively funded research program in some aspect of evolutionary biology, to participate actively in the Department, and to contribute to undergraduate and graduate teaching. Required: Assistant Professor candidates must have Ph.D. in evolution or related field and demonstrate excellent research and teaching potential. In addition to Ph.D., Associate Professor candidates must have national reputation for research excellence and Full Professor candidates must have internationally recognized research program. Preferred: proven ability to obtain external grant funding, university teaching experience, strong publications in internationally recognized journals, and research interests/experience in evolutionary biology that complement existing strengths at ISU. Applicants should submit curriculum vitae; statements of research/teaching interests and selected reprints; and have three letters of recommendation sent to: **Dr. John Nason, Chair, Search Committee, Department of Ecology, Evolution, and Organismal Biology, 341 Bessey Hall, Iowa State University, Ames, IA 50011-1020** by December 15, 2002. Contact: **Dr. John Nason; Telephone: 515-294-2268;FAX:515-294-1337;e-mail:jnason@iastate.edu.** *ISU is an Equal Opportunity/Affirmative Action Employer. Women and members of minority groups are encouraged to apply.*

POSITIONS OPEN

UNIVERSITY OF MINNESOTA
Ecology

The Department of Ecology, Evolution, and Behavior invites applications for a tenure-track **ASSISTANT PROFESSORSHIP** in ecology relevant to global processes and patterns. We broadly define this as research on any process relevant at global scales or on global processes that impact local scales. Disease dynamics, biogeography, extinction/speciation, paleobiology, biogeochemistry, invasion ecology, habitat fragmentation, and climate changes are some examples of potential research areas with global implications. Research could range from work on single species to ecosystems; be terrestrial, aquatic or marine; and use experimental, comparative, and/or theoretical methods. The successful candidate will be expected to maintain an extramurally funded research program and to contribute to the Department's teaching mission.

For full consideration, applications should be completed by December 10, 2002. To apply, please submit the following: (1) a letter providing a statement of research and teaching interests; (2) curriculum vitae; and (3) all reprints. In addition, please have three letters of reference sent to:

Ecology Search Committee
University of Minnesota
1987 Upper Buford Circle
St. Paul, MN 55108

The University of Minnesota is committed to the policy that all persons shall have Equal Access to its programs, facilities, and Employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

University of Oklahoma College of Medicine, Department of Cell Biology, invites applications at the **ASSISTANT/ASSOCIATE PROFESSOR** level. The Department is seeking candidates with an outstanding record in teaching and research. A Ph.D. and postdoctoral experience is required. Candidates for the senior position are expected to have extramural research support and experience in teaching gross anatomy to medical students. The application deadline is November 30, 2002. Qualified applicants should submit (preferably as a single pdf file) curriculum vitae, summary of reserch plans and interests, and representative reprints to: **e-mail: allanwiechmann@ouchsc.edu.** In addition, three letters of recommendation should be sent to: **Dr. Allan F. Wiechmann, Search Committee Chair, Department of Cell Biology, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, OK 73190.** *OUHSC is an Equal Opportunity/Affirmative Action Employer. Women and minority candidates are encouraged to apply.*

VETEBRATE ANATOMY

The Department of Biology invites applicants for a nontenure-track **ASSISTANT PROFESSOR** position in vertebrate anatomy beginning in August 2003. A Ph.D. is required. The successful candidate will have a strong commitment to teaching at the undergraduate level and will develop a research program that includes mentoring undergraduates. Teaching assignments include comparative vertebrate anatomy, human anatomy and physiology, and developmental biology. Saint Anselm College, a Catholic undergraduate institution in the Benedictine tradition, emphasizes excellence in undergraduate teaching. Send curriculum vitae; statement of teaching and research interests; and three letters of recommendation no later than December 24, 2002, to: **Vertebrate Anatomy Search Committee Chair, Biology Department, Saint Anselm College, 100 Saint Anselm Drive, Manchester, NH 03102-1310.**

Department of Health and Human Services
National Institutes of Health
National Institute of Diabetes and Digestive and Kidney Diseases
POSTDOCTORAL FELLOWSHIPS IN MOLECULAR AND CELL BIOLOGY AT THE NIH

Postdoctoral Fellowships are available in the Genetics and Biochemistry Branch, NIDDK, NIH. The Branch is similar to a small academic department and has excellent laboratory facilities. The intramural program of the NIH offers an outstanding research environment. The Branch is located on the main intramural campus of the NIH in Bethesda, Maryland, a 20-minute ride from Washington, D.C. Applications are invited from individuals of the highest caliber with Ph.D., M.D., or M.D., Ph.D. degrees. Physicians may participate in either the NIH Interinstitute Endocrine or the NIH Interinstitute Medical Genetics Training Programs. Current research interests of the staff include:

• Membrane protein biogenesis. We are currently using a combination of biochemical and genetic approaches to investigate the targeting, membrane integration, assembly, and trafficking of multi-spanning membrane proteins in model systems such as bacteria and yeast. See Cell (1997) 88: 187, Proc. Nat. Acad. Sci. (2001) 98: 3471, EMBO J. (2001) 20: 6724, and J. Bacteriol. (2001) 183: 2187. (Harris Bernstein: harris_bernstein@nih.gov)

• Biochemistry and molecular biology of homologous recombination in eukaryotes and prokaryotes. Current interests include mouse meiosis (Mol. Cell (2000) 6:975), DNA damage and repair (Genes and Dev. (2001) 15: 415), the structure of recombination proteins and their reaction intermediates (J. Mol. Biol. (2000) 299:629; J. Mol. Biol. (2000) 303:709), and novel approaches to gene therapy (including the use of small molecules that promote gene targeting and silencing, such as miniRecAs (Science (1996) 272:868)). Approaches used include protein and peptide biochemistry, mouse knockouts, chromosome immunolocalization, structural biology, gene microarrays, proteomics, and biophysical approaches. (Dan Camerini-Otero)

• Molecular mechanisms of DNA repair and homologous recombination. Current efforts focus on structure-function studies of multi-protein-DNA complexes involved in DNA mismatch repair and homologous recombination in bacteria and eukaryotes [Nature (2000) 407:703; J. Biol. Chem. (2001) 276:28291; J. Biol. Chem. (2001) 276:45505]. (Peggy Hsieh: ph52x@nih.gov)

• The molecular mechanisms facilitating pre-rRNA processing using Xenopus oocytes and yeast as model systems. We are identifying CIS-acting elements (conserved structures or sequences) essential for accurate processing of pre-rRNA in yeast (RNA (1998) 4:1610; NAR (2001) 29:2106). In vivo and in vitro biochemical assays are being used to identify and characterize trans-acting protein factors essential for efficient processing (MCB (1997) 17:3702; JBC (1999) 274:35914; RNA (2001) 7:207-219). Identification of RNA:RNA and RNA:protein interactions facilitating the early steps of pre-rRNA processing will help elucidate the mechanisms regulating ribosome biogenesis in eucaryotes. (Brenda Peculis: bp51h@nih.gov)

Interested candidates should send a letter stating their interests, their curriculum vitae and list of publications, and arrange to have letters from three references sent to one of the investigators above or to Dr. R. Daniel Camerini-Otero (camerini@ncifcrf.gov), Chief, Genetics and Biochemistry Branch at: ***Genetics and Biochemistry Branch***
10 Center Drive, MSC 1810
Building 10, Room 9D-20
National Institutes of Health
Bethesda, Maryland 20892

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NIDDK

GLOBAL OPPORTUNITIES

The Feinberg Graduate School of
The Weizmann Institute of Science
will award a limited number of

Distinguished Postdoctoral Fellowships

tenable for two years, with the possibility of an extension for a third year, to exceptionally qualified candidates who have received a Ph.D. or equivalent degree from a recognized institution within three years of taking up the appointment. The successful candidates will be known as

Koshland Scholars

In addition to the usual stipend for postdoctoral fellows at the Institute, a Koshland Scholar will receive an extra annual travel allowance of $2,500 for professional purposes and a one-time grant of $5,000 for personal use at the end of the first year of residence. The fellowships are available in all fields of scientific research pursued at The Weizmann Institute. There are seventeen departments that are distributed among five Faculties:

Biochemistry ***Biology***
Chemistry ***Physics***
Mathematics and Computer Science

Institute scientists are engaged in a wide spectrum of research projects that, in addition to the more traditional disciplines, include interdisciplinary research in:

Agriculture, Bioinformatics, Biomedicine, Engineering, Environmental Sciences and Energy, and the Neurosciences

Applications may be submitted at any time. Awards will be made shortly after the usual deadlines for the submission of Fellowship applications: January 1 and May 15 each year. Candidates for Koshland fellowships must be sponsored by a Faculty Member of the Weizmann Institute. Interested candidates are advised to contact prospective sponsors directly.

For additional information and application forms, consult the Feinberg Home Page at **http://www.weizmann.ac.il/feinberg** or write to: **Postdoctoral Fellowships Program, The Feinberg Graduate School, The Weizmann Institute of Science, Rehovot 76100, Israel; Fax: 972-8-934-4114; e-mail: postdoc@weizmann.ac.il**

ARRAY BIOPHARMA

Array BioPharma is a drug discovery company inventing new small molecule drugs through the integration of chemistry, biology and informatics. Our experienced scientists use the Array Discovery Platform, our integrated set of drug discovery technologies, to invent novel small molecule drugs in collaboration with leading pharmaceutical and biotechnology companies and to build our own pipeline of proprietary drug candidates. We are located in state-of-the-art facilities in Boulder and Longmont, CO, a gateway community to the Rocky Mountains, providing a high quality of life.

X-ray Crystallographer/Protein Chemist (BIO-X/PC)

We seek a Ph.D. level macromolecular crystallographer with extensive experience in protein purification, characterization, and crystallization to join our Structural Biology group. The ideal candidate will have purified proteins from multiple enzyme classes for crystallography, differentiated protein species using a variety of biophysical methods, optimized crystallization conditions for several proteins, and crystallized protein:small molecule complexes. This "hands-on" laboratory position requires excellent laboratory and communication skills, scientific flexibility, and the desire to be part of an interdisciplinary team.

X-ray Crystallographer/Molecular Modeller (BIO-X/MM)

We seek a Ph.D. level X-ray crystallographer/Molecular modeller with experience in the solution of novel protein structures and protein: small molecule complexes. Other areas of interest for our group include: Methods development for automated fitting of electron density, validation of protein: small molecule structures, prediction of ligand affinities, and analysis of multiple protein structures. Experience in any of these areas would therefore be an asset. Knowledge of at least one programming language and experience in program development is essential. The successful candidate will have demonstrated the ability to work well with a wide variety of people and have wide-ranging scientific interests.

We offer an excellent compensation package including competitive salary, stock options, comprehensive benefits, and the opportunity to be a part of a growing team of experienced scientists who want to revolutionize drug discovery. For consideration, please visit our website at www.arraybiopharma.com or send your c.v. to:

Array BioPharma, Attn: Human Resources
3200 Walnut Street, Boulder, CO 80301
Fax: 303-381-6638 - Email: hr@arraybiopharma.com
We are an equal opportunity employer

POSITIONS OPEN

ASSISTANT PROFESSOR: The Department of Biology at Denison University invites applications for a tenure-track position with emphasis in genetics to begin August 2003. Research specialization within genetics is open; however, the successful applicant must use molecular techniques. A strong potential for excellence in teaching and an active research program involving undergraduates are essential. Ph.D. is required; postdoctoral experience and demonstrated teaching ability are assets. Teaching responsibilities include genetics (junior/senior level), another advanced course, and introductory courses for both majors and nonmajors.

Denison offers competitive start-up funds; summer support for student and faculty research; a 350-acre biological reserve with field station near campus; and, in fall 2003, we will move into the new, state-of-the-art Talbot Hall of Biological Science. See our **website: http://www.denison.edu/biology** for more detailed descriptions of the position and the program. Candidates should send letter of application; curriculum vitae; statements of teaching philosophy and research interests; copies of transcripts (graduate and undergraduate); and the names, e-mail addresses, and telephone numbers of three references to: **Chair, Geneticist Search Committee, Biology Department, Denison University, Granville, OH 43023**. Application deadline is December 16, 2002. *Denison is an Affirmative Action/Equal Opportunity Employer. Women and minorities are especially encouraged to apply.*

FACULTY POSITION. The Department of Chemistry at Northern Arizona University (NAU) (**website: http://www.nau.edu/~chem/**) invites applications for a tenure-track position in cancer biochemistry at the **ASSISTANT** or **ASSOCIATE** level to begin August 2003. The successful candidate will assist in developing a new cancer research and education partnership with the University of Arizona. The candidate will have a Ph.D. in biochemistry or a related discipline; postdoctoral experience; the ability to provide excellent instruction at the undergraduate and graduate level in the field of expertise; and will be willing to work with a culturally diverse population of faculty, staff, and students. Development of a strong, externally funded research program is required. Curriculum vitae, three letters of recommendation, and brief statements of teaching philosophy and commitment to Native American student education and proposed research directions should be sent to: **Chair, Search Committee, Department of Chemistry, Box 5698, NAU, Flagstaff, AZ 86011-5698**. The search will remain open until the position is filled; application review will begin on November 30, 2002. This position is subject to availability of funding. *NAU is an Equal Opportunity/Affirmative Action Institution. Minorities, women, persons with disabilities, and veterans are encouraged to apply.*

RESEARCH PROFESSOR
Division Chief

The Department of Obstetrics and Gynecology at the University of Texas Health Science Center at San Antonio is seeking a Ph.D.-level Senior Research Professional to manage and direct the Department of Obstetrics and Gynecology's new Division of Reproductive Research.

Candidate should be actively participating in research with extensive knowledge of grant processes and be willing to manage an active research program. The ability to develop new concepts in reproductive and gynecological research in cooperation with Clinicians and expand the research efforts of the Department is expected. This position offers a competitive salary and benefits. Interested candidates should submit curriculum vitae and brief description of research interests to: **Dr. Robert S. Schenken, Professor and Chairman, Department of Obstetrics and Gynecology, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, MSC 7836, San Antonio, TX 78229-3900. Telephone: 210-567-4951; FAX: 210-567-3406.**

The University of Texas Health Science Center at San Antonio is an Equal Employment Opportunity/Affirmative Action Employer.

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS

FACULTY POSITIONS IN HUMAN GENETICS
Two Positions: Rank Open

The Department of Genetics of Rutgers University is seeking two outstanding Scientists to fill new positions in human genetics. Creative researchers in any area of human genetics who would like to be part of a well-funded, diverse, and interactive genetics department are encouraged to apply. Some possible research areas include population genetics, molecular cytogenetics, statistical and computational genetics, complex disease gene discovery, molecular mechanisms of disease, neuro- and neuropsychiatric genetics, and functional genomics.

Appointments will be made at a tenured or tenure-track level consistent with candidates' credentials. Candidates must have either a Ph.D., an M.D., or both; a demonstrated ability to conduct and publish significant independent research; and an interest in teaching at the graduate and undergraduate levels. Senior-level candidates must have a strong record of grant support.

The successful candidate will join a growing and vibrant life sciences community on Rutgers' Busch Campus, a primary center for biological and biomedical research that includes the Robert Wood Johnson Medical School. This campus is located in central New Jersey with easy access to New York City, beaches, and countryside.

For Genetics, see **website: http://lifesci.rutgers.edu/~genetics**. Applicants should e-mail curriculum vitae, a statement of research interests, and addresses of three references to **e-mail: jay@biology.rutgers.edu** or mail that information to: **Dr. Jay Tischfield, Chair, Department of Genetics, Rutgers University, Nelson Biological Laboratories, 604 Allison Road, Piscataway, NJ 08854-8082**. Application review begins December 1, 2002, and ends when appointments are made. Starting dates are flexible.

Rutgers University is an Equal Opportunity/Affirmative Action Employer.

FLORIDA INTERNATIONAL UNIVERSITY, Department of Biological Sciences, **TWO POSITIONS**. (1) Integrative Zoologist with research focused on genetic, neural, or biochemical mechanisms in the context of physiology, behavior, or ecology. (2) Molecular Biologist or Molecular Geneticist to complement faculty who have funded research in prokaryotic and eukaryotic molecular genetics, immunology, cell biology, phylogenetics, and the molecular basis of plant pathogen resistance. Candidates are expected to have or develop a strong, extramurally funded research program; supervise Doctoral students; and display commitment to teaching at undergraduate and graduate levels. Ph.D. and postdoctoral experience are required. While the rank for these positions is open, we intend to fill one of them at a senior level. Applicants for a senior position are expected to have established strong records of research and funding. This position involves a leading role in program development, which will be facilitated by a decreased teaching load. The Department has 1,200 undergraduate majors; 100 graduate students; 15 Postdoctoral Fellows, and 38 faculty (**website: http://www.fiu.edu/~biology**). A new biology research building is available for occupancy. In-house facilities include a vivarium, greenhouses, and core facilities for cell and tissue culture; electron microscopy; histology; DNA sequencing; and immunology. Send curriculum vitae, research description and teaching experience, three relevant reprints, and names of three references postmarked by 6 December 2002 to: **Dr. Philip Stoddard, Integrative Zoologist Search** or **Dr. David Kuhn, Molecular and Cell Biologist Search, Department of Biological Science, FIU, Miami, FL 33199. FAX: 305-348-1986.** *FIU is an Equal Access/Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS
Physical Chemistry and Nuclear/Radio Chemistry
Simon Fraser University Department of Chemistry
Bringing People Together to Advance Their Lives

The Department of Chemistry at Simon Fraser University (SFU) invites applications for two tenure-track **ASSISTANT PROFESSOR** positions in the areas of physical chemistry and nuclear/radio chemistry to take effect in September 2003 subject to final budgetary approval. At least one of these positions will require the candidate to pursue a research program associated with TRIUMF, Canada's National Laboratory for Particle and Nuclear Physics.

Applicants should have a Ph.D. degree and will normally have postdoctoral or industrial experience. Outstanding candidates with a commitment to excellence in research and teaching are being sought. The candidates will be expected to develop and maintain both an innovative, externally funded research program and an excellent teaching record at both the undergraduate and graduate levels.

Applicants should send a complete résumé; a research proposal; and a list of three individuals willing to act as references with their addresses, telephone and/or FAX numbers, and e-mail addresses. All correspondence should be sent to: **Professor B. Mario Pinto, Chair, Department of Chemistry, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6 Canada.** The competition will remain open until the positions are filled.

All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. Simon Fraser University is committed to an Equity Employment program that includes special measures to achieve diversity among its faculty and staff. We therefore particularly encourage applications from qualified women, aboriginal Canadians, persons with disabilities, and members of visible minorities.

CHAIR, DEPARTMENT OF BIOLOGY
Colorado State University

The College of Natural Sciences invites applications from individuals who have the vision and leadership to Chair the research, teaching, and outreach activities of the Department of Biology. The Department occupies new instructional space and plays a leading role in the universitywide Life Sciences Core Curriculum. Research strengths of the Department include ecology, evolutionary, organismal, and plant molecular biology. The Chair will lead searches to fill a number of open faculty positions to strengthen these areas of research, to add expertise in molecular genetics/genomics, and to enhance graduate education. Required credentials include a Ph.D. degree in biology or related field and research, teaching, and administrative experience commensurate with an appointment as a tenured **PROFESSOR** of biology. For full consideration, a complete application including curriculum vitae; a statement of related experience and administrative philosophy; and three reference letters must be received by January 1, 2002. Applications will be accepted until the position is filled. Send to: **Dr. Norm Curthoys, Chair, Department of Biochemistry and Molecular Biology, Colorado State University, Ft. Collins, CO 80523-1870**. When semi-finalists are identified, their files will be open to all faculty in the Department of Biology. Further information about the Department of Biology and the other departments within the College of Natural Sciences is available from **website: http://www.colostate.edu/Depts/NatSci/**. *Colorado State University is an Equal Employment Opportunity/Affirmative Action Employer.*

The Department of Neurosurgery of the Johns Hopkins University School of Medicine is seeking a Ph.D. or M.D./Ph.D. for a **FACULTY POSITION** in molecular biology/brain tumor biology. Submit curriculum vitae and three letters of reference to: **Henry Brem, M.D., Johns Hopkins Hospital, Meyer 7-113, 600 North Wolfe Street, Baltimore, MD 21287. Telephone: 410-955-2252; FAX: 410-966-8263; e-mail: hbrem@jhmi.edu.** *Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer.*

Structural Genomics Consortium
Chief Scientist (UK)

The Wellcome Trust in partnership with other funders is establishing a Structural Genomics Consortium with the aim of increasing substantially the number of protein structures of relevance to human health available in the public domain. The Structural Genomics Consortium will be a charitable enterprise and will receive significant funding, initially over 3 years, from its members.

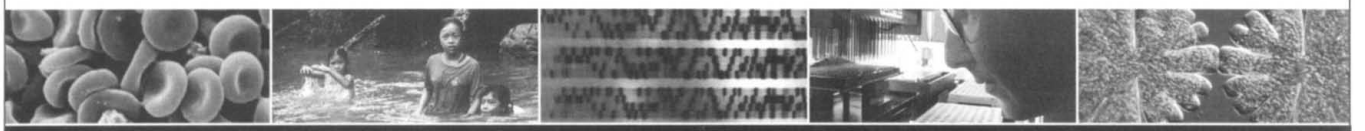
The activities of the Consortium will be undertaken at two sites, one in the UK and one in Canada. We are now seeking an outstanding, internationally recognised Chief Scientist to head the UK activity. The successful candidate, who will report to the Director of the Consortium, will be expected to develop and manage the activities at this site. This will include responsibility for the development of the SGC research programme in the UK in collaboration with the Canadian arm of the activity. The successful applicant will also be expected to build strong relationships with the UK research community.

Academic and industrial scientists are encouraged to apply. Previous experience working in the pharmaceutical or biotechnology industries will be a distinct advantage.

Expressions of interest should be sent by email (with a CV attached giving an indication of your current remuneration package) to y.jenkins@wellcome.ac.uk by Wednesday 20 November 2002. It is anticipated that interviews will be held during the week commencing 16 December 2002. Short-listed applicants will be provided with relevant background information about the Structural Genomics Consortium in advance of interview.

www.wellcome.ac.uk The Wellcome Trust is a Registered Charity. (No: 210183)

The Wellcome Trust is committed to being an equal opportunities employer.



The Wellcome Trust

Yale University
School of Medicine

FACULTY POSITIONS AT THE ASSISTANT OR ASSOCIATE PROFESSOR LEVEL

DEPARTMENT OF PHARMACOLOGY

The Department of Pharmacology is currently building a program in the area of signal transduction, with special interest in genetics, molecular biology, and structural biology with cell signaling, and seeks candidates with an outstanding record in this area. Candidates with existing research grants would be particularly welcome.

Applicants should include a curriculum vitae, statement of research plans, and three letters of recommendation. Applications should be sent to:

Search Chair, Faculty Search Committee
Department of Pharmacology
Yale University School of Medicine
333 Cedar Street, P.O. Box 208066
New Haven, CT 06520-8066

Application Deadline: **February 1, 2003**

An Equal Opportunity/Affirmative Action Employer

PTC THERAPEUTICS

PTC Therapeutics, Inc. is a rapidly growing biopharmaceutical company applying integrated biology and chemistry platforms to develop small molecule drugs. Utilizing its novel technologies, PTC is developing orally active small molecule drugs that modulate post-transcriptional regulatory processes applicable to diverse therapeutic areas including oncology, infectious diseases and genetic disorders. PTC is well funded by premier investors and occupies 30,000 sq. ft. of custom-built facilities in South Plainfield, NJ.

Head of Drug Safety & Metabolism

DVM or Ph.D. in Toxicology or In-Vivo Pharmacology with a minimum of 8+ years industry experience in drug development is required. The successful candidate must be experienced in pharmaceutical DS&M practices and regulatory requirements for drug development. Experience in filing INDs required. Candidate will be responsible for planning and overseeing pre-clinical DS&M studies performed by CROs and collaborators. Additionally, the candidate will be responsible for advising and educating scientists and management on issues pertaining to drug development that include DS&M matters, formulations and regulatory requirements. The ideal candidate will have excellent communication and interpersonal skills, a proven ability to work with external partners, ability to meet deadlines and be a motivated self-starter. Regular travel is required for this position. Job Code:B-DSM-S

Group Leader of Oncology

Ph.D. or M.D. with a minimum of 5+ years industry experience in oncology drug discovery is required. The successful candidate must have hands-on familiarity with in vitro and in vivo disease models of cancer, as well as a proven track record initiating and leading target-based drug discovery projects. Experience working on a drug development team preferred. In addition, the ideal candidate will have outstanding communication and interpersonal skills, the ability to lead groups, ability to meet deadlines and be a motivated self-starter. Job Code: B-GLO-S

We also have openings for Ph.D. and B.S./M.S. level scientists in our Biology, Pharmacology, Chemistry and Bioanalytical Groups.

PTC is an Equal Opportunity Employer offering competitive compensation, comprehensive employee benefits and the opportunity for personal and professional growth. Qualified individuals should send a cover letter and resume to careers@ptcbio.com (please indicate job code). For more information please visit our website: www.ptcbio.com.

POSITIONS OPEN

ASSISTANT PROFESSOR
Microbial Ecologist

The Department of Biological Sciences at Kent State University invites applications for a tenure-track position to begin fall 2003. A Ph.D. and postdoctoral experience are required. Preference will be given to candidates who study the role of algae, bacteria, protists, and/or fungi in freshwater ecosystems. Candidates are expected to develop a vigorous, extramurally funded research program and to supervise Ph.D. and M.S. students. Teaching responsibilities may include basic microbiology, freshman biology, and a graduate-level course in the candidate's area of expertise. Review of applications will begin December 15, 2002, and continue until the position is filled. To apply, please submit curriculum vitae, a concise statement of research and teaching interests, representative reprints, and three letters of reference to: **Chair, Microbial Ecologist Search Committee, Department of Biological Sciences, Kent State Univesity, 256 Cunningham Hall, Kent, OH 44242.** *Kent State University is an Equal Opportunity/Affirmative Action Employer.*

GENOMICS POSITION in biological chemistry: The Department of Chemistry and the Carolina Center for Genome Sciences at the University of North Carolina at Chapel Hill invite applications for a **TENURE-TRACK FACULTY** position at any rank to begin July 1, 2003. Priority will be given to candidates with interests (broadly defined) in the areas of proteomics, gene expression arrays, structural biology, and the development and application of new chemical methods to the investigation of problems in genomics. Applications are strongly encouraged from candidates whose expertise will bridge the interface between chemistry and biology. The review of applications will begin December 15, 2002, and continue until the position is filled. To apply, please send curriculum vitae, statement of research interests, representative publications, and three letters of recommendation to:

Chair, Genomics Search
Department of Chemistry
University of North Carolina at Chapel Hill
Chapel Hill, NC 27599-3290

The University of North Carolina is committed to Affirmative Action/Equal Opportunity.

ENVIRONMENTAL BIOLOGY/BOTANY

The Department of Biology invites applicants for a tenure-track **ASSISTANT PROFESSOR** position in environmental plant biology beginning in August 2003. A Ph.D. is required. The successful candidate will have a strong commitment to teaching at the undergraduate level and will develop a research program that includes mentoring undergraduates. Teaching assignments include environmental biology of plants, introductory environmental science, and general biology. Preference given to applicants with experience in environmental biology/conservation of plants. A focus on freshwater systems is desirable. Saint Anselm College, a Catholic undergraduate institution in the Benedictine tradition, emphasizes excellence in undergraduate teaching. Send curriculum vitae; statement of teaching and research interests; and three letters of recommendation no later than December 24, 2002, to: **Environmental Biology Search Committee Chair, Biology Department, Saint Anselm College, 100 Saint Anselm Drive, Manchester, NH 03102-1310.**

Two **POSTDOCTORAL RESEARCH POSITIONS** immediately available to investigate the neurochemistry/pharmacology of primate brain dopamine systems. Requirements: experience in biochemistry, molecular biology, or neuropharmacology; Ph.D. or M.D./Ph.D.; *U.S. citizenship or permanent residency.* Send curriculum vitae (including three references) to: **Bertha K. Madras, Ph.D., Harvard Medical School, NERPRC, 1 Pine Hill Drive, Southborough, MA 01772-9102. E-mail: bertha_madras@hms.harvard.edu; FAX: 508-624-8166.** *Harvard University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

PURDUE UNIVERSITY

DEAN OF INTERNATIONAL PROGRAMS
Purdue University
West Lafayette, Indiana

Purdue University is seeking a dynamic individual for Dean of International Programs to provide creative leadership to its expanding international efforts in learning, discovery, and engagement.

Purdue is Indiana's land-grant university and one of the nation's leading institutions of higher education and research. It ranks among the top research universities. The university offers 200 study-abroad opportunities in 60 countries. All academic schools are involved in study abroad and enroll international students, which comprise 13% of the 38,000 member student body. Faculty collaborate with colleagues from all continents in research and education programs.

The Dean provides vision and leadership to schools and departments in support of international activities. He/she promulgates policies and procedures to help advance international objectives and is the champion for international programs.

The successful candidates must have earned a Ph.D. or equivalent Doctoral degree, have a distinguished academic record justifying appointment as a tenured **PROFESSOR**, international experience, interpersonal skills, and experience working across interdisciplinary and administrative boundaries. Candidates also must be able to develop and articulate a vision for 21st century international programs in a large multidimensional university. Administrative experience in managing and leading university programs is preferred.

The Search Committee will begin screening candidates on January 10, 2003, and will continue until the position is filled. A description of the position and application process is available online at **website: http://www.ippu.purdue.edu; e-mail: vll@purdue.edu. Victor L. Lechtenberg, Chair, Dean of International Programs Search Committee, Purdue University, 615 West State Street, West Lafayette, IN 47907-2053.**

Purdue University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

FUNCTIONAL GENOMICS OF PLANT ABIOTIC STRESS
The University of Nevada, Reno

The Nevada Agricultural Experiment Station and College of Agriculture, Biotechnology, and Natural Resources at the University of Nevada, Reno, are soliciting applications from outstanding candidates at the **ASSISTANT/ASSOCIATE PROFESSOR** level to fill two new 12-month, tenure-track faculty positions (75% research, 25% teaching) in the Department of Biochemistry in the general area of functional genomics of plant abiotic stress. Areas of interest may include plant biochemistry and molecular genetics of signaling and response pathways to abiotic (e.g., cold, heat, salinity, dehydration) stress. Candidates are sought whose research uses functional genomics to address fundamental questions in abiotic stress signaling and adaptation in plants. Research directed at elucidating and manipulating pathways responsible for improving plant abiotic stress tolerance in a manner relevant to agriculture is particularly appropriate. Contribution to undergraduate and/or graduate teaching programs is expected. For complete position announcement and requirements, see **website: http://jobs.unr.edu** or contact: **Plant Genomics Search Committee Coordinator, Biochemistry Department/330, University of Nevada, Reno, NV 89557-0014. Attention: Sharon Brush; Telephone: 775-784-6031; FAX: 775-784-1419.** Applications received by December 1, 2002, will receive full consideration. *Equal Employment Opportunity/Affirmative Action.*

POSITIONS OPEN

TENURE-TRACK FACULTY POSITION
Department of Epidemiology
University of Michigan School of Public Health

The University of Michigan School of Public Health, Department of Epidemiology, is recruiting for a tenure-track position at the **ASSISTANT PROFESSOR** level. The Department of Epidemiology has a well-established, rapidly growing research program in infectious diseases and international health and has a long history of integrating laboratory-based research with epidemiologic studies. The Department offers Master's and Doctoral training in epidemiology. We are seeking applicants with laboratory research programs in infectious diseases and teaching experience. We are particularly interested in candidates with research programs in virology, host-pathogen interactions, emerging infectious diseases, or vaccinology but qualified candidates with other infectious disease research interests will be considered.

Review of candidates will begin January 2, 2003. Applications will be accepted until the position is filled. To apply, send curriculum vitae; statement of research interests including teaching experience and evidence of successful competition for research funds; and three letters of reference to:

Betsy Foxman, Ph.D.
Chair, Search Advisory Committee
Professor of Epidemiology
Director, Center for Molecular and Clinical Epidemiology of Infectious Diseases
University of Michigan School of Public Health
109 Observatory Street
Ann Arbor, MI 48109-2029

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

BIOLOGIST: Hillsdale College, a selective and independent liberal arts college, is seeking a broadly trained Molecular Ecologist with a background in conservation or an Ethologist who can work at the cellular/molecular level. The successful candidate for this tenure-track faculty position at the **ASSISTANT PROFESSOR** rank must demonstrate effective design and teaching of undergraduate classes and an ability to supervise undergraduate research. Ph.D. expected. Located in south central Michigan, Hillsdale College owns the Slayton Arboretum, the Hillsdale College Biological Station, and is a partner institution in the South African Centre for Conservation and Research. Starting date is August 2003. For a detailed job description, see **website: http://www.hillsdale.edu/academics/bio/**. Send cover letter, curriculum vitae, three letters of recommendation, transcripts, a statement of educational philosophy/methods, and a statement of research interests to: **Dr. Robert Miller, Biology Department Chairman, Hillsdale College, 33 East College Street, Hillsdale, MI 49242. E-mail: bob.miller@hillsdale.edu; Telephone: 517-607-2393.** Closing date on/before December 16, 2002. *Hillsdale College is an Equal Opportunity Employer.*

ORGANISMAL BIOLOGIST. The Department of Biological Sciences at Purdue University Calumet invites applications for a tenure-track **ASSISTANT PROFESSOR** position effective August 2003. The successful candidate will be expected to develop a research program in their area of expertise that will involve students and to teach anatomy and physiology and upper-level courses in area of specialization. Faculty members are expected to seek extramural funding.

A Ph.D. in a biological science is required. Teaching experience and postdoctoral research experience are desired. Please submit curriculum vitae, copies of undergraduate and graduate transcripts, a statement of research interests and goals, a statement of teaching interests and philosophy, and three letters of reference to: **Search Committee, Biological Sciences, Purdue University Calumet, Hammond, IN 46323.** Reviewing process begins December 15, 2002; applications will be accepted until position is filled. For more information about Biological Sciences at Purdue University Calumet, see **website: http://www.calumet.purdue.edu/public/biology/biolhp.htm.** *Purdue University Calumet is an Equal Access/Equal Opportunity/Affirmative Action Employer.*

USDA

Scientific Advisor, SL-601-00
Salary Range: $119,683 - $138,200
Location: Washington, D.C.

The Food Safety and Inspection Service, USDA, is seeking a scientific professional to shape public health and scientific policies, programs and initiatives. As the Agency's senior scientific advisor, this person will perform highly scientific evaluations and provide critical scientific advice with respect to all facets of meat, poultry, and egg products inspection.

Closing Date: November 28, 2002. You must have the full announcement and follow the required application procedures to apply. For a copy of the full text vacancy announcement, with application procedures, please visit our web site at **www.fsis.usda.gov/om/hrd/default.htm**. Click on "employment opportunities", then "FSIS Jobs" for vacancies posted at USAJOBS.

Announcements can also be requested by calling the **Human Resources Division** at **202-720-6617**.

CBG
Max Planck Institute
of Molecular Cell Biology
and Genetics

The Max Planck Institute of Molecular Cell Biology and Genetics (CBG) in Dresden is seeking outstanding candidates for independent

group leaders

Research at the institute focuses on the molecular basis underlying the structure and organization of cells and tissues. Further information about our research can be found on our web site (http://www.mpi-cbg.de). We especially welcome applications from candidates working on the cytoskeleton or the extracellular matrix, or who are taking biophysical or genomic approaches. However all applicants within the general field of interest of the institute will be considered.

The institute will provide the successful candidates with a fully-equipped laboratory, support for a postdoctoral fellow, a predoctoral student and a technician, and adequate funds for consumables. The initial group leader contracts are for 5 years at the BAT Ia scale.

Applications containing a CV, publication list and research plan should be submitted to the Executive Director (Kai Simons) at the address below by December 31, 2002. Interviews will be held in January. Three letters of recommendation should be sent separately by the application deadline. CBG actively encourages female applicants.

Max Planck Institute of Molecular Cell Biology and Genetics
Pfotenhauerstrasse 108
01307 Dresden
Germany
Phone: +49-351-210-0
Fax: +49-351-210-2000
E-Mail: faculty.search@mpi-cbg.de

The evolution of the health care industry has created a demand for multifaceted individuals capable of communicating scientific and technical material to a wide range of audiences.

Now accepting applications for the position:

SCIENTIFIC COMMUNICATIONS WRITER

Job duties: writing research and review articles for peer review publications, product monographs, professional education materials, and slide and poster presentations. Writers are also required to develop and maintain scientific expertise in their assigned therapeutic areas.

Requirements: advanced degree in biological science or medicine (eg, PhD, PharmD, MD); excellent written and oral communication skills with the ability to communicate technical material to both technical and nontechnical audiences; experience as the principle writer of at least 3 articles that have been accepted for publication in a peer review journal; familiarity with the Uniform Requirements for Manuscripts Submitted to Biomedical Journals (see www.icmje.org); strong planning and organizational skills; high energy; and the ability to take initiative within a team framework.

For consideration: send résumé, 2-3 writing samples demonstrating the breadth of your skills, and a cover letter describing your career objectives to: Amy Lindsay, PhD., Supervisor, Scientific Writing Group, Pacific Communications, 575 Anton Blvd, Suite 900, Costa Mesa, CA 92626. *Résumés without writing samples will not be considered.*

Allergan offers a competitive salary, excellent benefits, and a stimulating work environment.

ALLERGAN

NATIONAL CENTER OF COMPETENCE IN RESEARCH nccr molecular oncology

ISREC
Institut Suisse de Recherche Expérimentale sur le Cancer
Schweizerisches Institut für Experimentelle Krebsforschung
Swiss Institute for Experimental Cancer Research

ISREC (**http://www.isrec.ch**) is the leading house of a National Center of Competence in Research (NCCR) recently created by the Swiss National Science Foundation. In the context of the research program of this NCCR (**http://www.nccr-oncology.ch/**), entitled "Molecular Oncology – From basic research to therapeutic approaches", applications are invited for positions of

Research Group Leaders
in the field of cancer related translational research.

Suitable candidates will be innovative junior scientists with an outstanding record in biomedical research who wish to establish a competitive, independent research programme exploring novel approaches to cancer diagnosis and/or therapy. Candidates with a medical background or an interest in clinically oriented research are strongly encouraged to apply.

ISREC is part of a research center situated just outside Lausanne, Switzerland, which also houses the Institute of Biochemistry of the University of Lausanne, and the Lausanne branches of the Ludwig Institute for Cancer Research and of the Swiss Institute of Bioinformatics. A planned partnership with the Swiss Federal Institute of Technology Lausanne (EPFL) will facilitate access to state-of-the art technological platforms for automation, imaging and computation, and provide synergies with chemists, physicists, mathematicians and engineers.

ISREC entertains close ties with the Oncology and Pathology Departments at the University Hospital. The new groups are expected to extend these interactions and to form the nucleus of a new program, preferentially in one of the major tumor disease areas.

Applications, including a full CV, a statement of past, present and future research interests and the names and addresses of three referees, should be submitted to:

Prof. Michel Aguet – ISREC
1066 Epalinges, Switzerland
e-mail: michel.aguet@isrec.unil.ch

Evaluation of applications will begin on **December 15, 2002**

FACULTY POSITIONS
South Carolina Center for Biotechnology
Claflin University
Orangeburg, South Carolina

Applicants are invited to apply for two faculty positions in the Department of Biology. The first position is available for an individual with expertise in genotyping and sequencing. The candidate will be responsible for developing and teaching in a state-of-the-art genotyping and sequencing laboratory. Emphasis will be on DNA forensic technology. A second position is available for a bioinformatics expert. Individuals with expertise in biostatistics and information technology will be welcome to apply. Both positions require a Ph.D. degree in the appropriate discipline. Candidates for the genotyping/sequencing position should send curriculum vitae and the names of their references to: **Professor Omar Bagasra, M.D., Ph.D., Director, SCCBT; e-mail: obagasra@claflin.edu.** Candidates for bioinformatics should send application to: **Dr. Rebecca Bullard-Dillard, Ph.D., Chair, Department of Biology, Claflin University, 400 Magnolia Street, Orangeburg, SC 29115. E-mail: rdillard@claflin.edu**. Claflin University is the oldest historically black college or university (HBCU) in South Carolina and is a comprehensive, baccalaureate degree-granting institution. Claflin University is currently making profound progress in achieving her vision of becoming one of the premier institutions in the Southeastern United States. For three years, *U.S. News & World Report* has ranked Claflin University as number seven in the top 10 and a number one best value among peer institutions. HBCUs such as Claflin University train and educate a significant portion of the African Americans earning baccalaureate degrees. See the **website: http://www.claflin.edu** for additional information. **Telephone: 803-535-5253.**

FACULTY POSITIONS IN BIOPHYSICS
Georgia Institute of Technology

The Georgia Institute of Technology invites applications or nominations for several tenure-track faculty positions in biophysics beginning fall 2003. These positions represent a new initiative at Georgia Tech designed to build an interdisciplinary program in biophysics in the College of Sciences that will enhance life science research already in the College and will interface with an existing program in biomedical engineering. Appointments may be made at any academic level, entirely or jointly within the Schools of Biology, Chemistry, and Biochemistry and/or Physics. A joint appointment within the College of Engineering is also a possibility. Applicants should submit a letter of application; curriculum vitae; statements of research and teaching objectives; and contact information (addresses, e-mail addresses, telephone numbers) for at least four references. This information should be submitted to: **Dr. Ronald Fox, School of Physics, Georgia Institute of Technology, Atlanta, GA 30332-0430**. The search will continue until the positions are filled. *The Georgia Institute of Technology, a unit of the University System of Georgia, is an Equal Education and Employment Opportunity Institution.*

ASSISTANT PROFESSOR of biology, Columbus State University. Ph.D. required. Tenure track starting August 2003. Preference given to candidates with expertise in plant biology. Teach undergraduate biology and plant diversity; develop upper-level class in plant morphology, plant ecology, or phycology. Mentor undergraduate research. Responsible for department greenhouse. Opportunities available for contributions to the graduate program in environmental science. See **website: http://bio.colstate.edu/** for details. Send curriculum vitae, statement of teaching philosophy, summary of research interests, and three references with contact information to: **Arthur G. Cleveland, Dean, College of Science, Columbus State University, 4225 University Avenue, Columbus, GA 31907 U.S.A. Telephone: 706-568-2056; e-mail: cleveland_art@colstate.edu.** *CSU, an Affirmative Action/Equal Opportunity Employer, is committed to diversity and Equality in Education and Employment.*

POSITIONS OPEN

BIOLOGICAL SCIENCE EDUCATION
California State University, Fullerton

The Department of Biological Science and the Science Foundation Program at California State University, Fullerton, seek applicants for a full-time, tenure-track joint appointment at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level beginning fall 2003. Teaching responsibilities include science education courses for K–12 preservice teachers, graduate courses for inservice teachers, supervising graduate students, and teaching introductory or specialized courses in biology at the university level. Applicants must have a Doctorate in biology or in science education with a strong background in biology, and they must have expertise in research-based teaching methods and assessments that help students meet the K–12 science standards. Candidates are expected to demonstrate excellence in teaching at the precollege or college level. The successful candidate is expected to establish a research program in an area that would improve biological science education and to pursue extramural funding to support teaching and research. Research with potential to improve biology teaching at the high school level is preferred. Additional information is available from **websites: http://biology.fullerton.edu/** and **http://www.fullerton.edu/catalog/academic_departments/sced.asp**. Applicants should send a letter explaining how they meet the qualifications outlined above; curriculum vitae; a statement of teaching philosophy, research plans, and goals; copies of two publications; and three letters of recommendation from individuals familiar with their teaching and research potential to: **Chair, Biological Science Education Search Committee, Department of Biological Science, California State University, Fullerton, P.O. Box 6850, Fullerton, CA 92834-6850**. Review of applications will begin January 6, 2003, and will continue until a suitable candidate is appointed. Salary is competitive and commensurate with experience and qualifications. *CSUF is an Affirmative Action/Equal Opportunity/Title IX/Americans With Disabilities Act Employer. Women and minority candidates are particularly encouraged to apply.*

RESEARCH ASSISTANT PROFESSOR
Transplant Surgery

The University of Washington Division of Transplant Surgery is seeking a Scientist to manage a microvascular surgery laboratory. Responsibilities focus on performing and teaching *in vivo* models including liver, heart, and aortic transplantation in small animals. Additional activities include *ex vivo* and *in vitro* cellular and moleculalr biology assays involving cell isolation, tissue culture, flow cytometry, and immunohistochemical staining. Candidates should have an M.D. or Ph.D. and at least three years of experience in transplant immunology research together with a publishing record in the areas outlined above. Please send curriculum vitae and bibliography to: **James D. Perkins, M.D., Director of Transplantation, University of Washington, Department of Surgery, Box 356410, Seattle, WA 98195**. *The University of Washington is an Equal Opportunity/Affirmative Action Employer.*

COLUMBIA UNIVERSITY
Center for Radiological Research

Immediate opening for tenure-track faculty position at the **ASSOCIATE PROFESSOR** level. Candidates should have a Ph.D./or equivalent in radiation biology or a related discipline. Faculty candidates must have a track record for independent research and extramural support as well as publications in peer-reviewed journals. The successful candidate will join an established team and should have a background and experience in radiation biology as well as demonstrated competence in the use of microarrays to investigate radiation-induced genes. Send curriculum vitae, names and addresses of three references, and a statement of current and future research plans to: **Dr. Eric J. Hall, Center for Radiological Research, Columbia University, 630 West 168th Street, New York, NY 10032**. *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR
Immunology, Viral Immunology

The Department of Molecular Microbiology and Immunology in the Saint Louis University School of Medicine offers a 12-month, tenure-track position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. The Department has active research programs in molecular virology, viral pathogenesis, immunology, vaccine development, biodefense, and viral vectors (**website: http://micro.slu.edu**). It seeks to expand its expertise in immunology, especially in the area of immune defenses to infectious diseases. A genomics approach would be of interest. The candidate must have the Ph.D. or M.D. degree as well as postdoctoral experience. She/he will be expected to develop and maintain a strong, externally funded research program and to teach graduate and medical students. Excellent laboratories, start-up funds, and salaries will be provided. St. Louis has a strong environment for biomedical research. Applicants should send their curriculum vitae, names of three references, and a brief description of research interests to: **Dr. William Wold, Professor and Chair, Department of Molecular Microbiology and Immunology, Saint Louis University School of Medicine, 1402 South Grand Boulevard, St. Louis, MO 63104. E-mail: woldws@slu.edu**. *Saint Louis University is a Catholic, Jesuit institution dedicated to education, research, and health care. Saint Louis University is an Affirmative Action/Equal Opportunity Employer and encourages nominations of and application of women and minorities.*

ASSISTANT PROFESSOR
BIOPHYSICAL CHEMISTRY
Johns Hopkins University

The Chemistry Department of Johns Hopkins University invites applications for a tenure-track Assistant Professor position in the broad areas of biophysical chemistry and macromolecular biophysics. The Chemistry Department and the interdepartmental Institute for Biophysical Research provide a stimulating environment of more than 50 outstanding faculty engaged in biochemical and biophysical research (see **websites: http://www.jhu.edu/~chem** and/**~ibr**).A major expansion of laboratory space and NMR facilities will be completed by fall 2003 and the new position has an anticipated starting date of January 1, 2004. Applicants should submit curriculum vitae and description of research plans (preferably via e-mail as pdf files) to **e-mail: bio_physical@jhuchemistry.chm.jhu.edu** and arrange to have three letters of recommendation sent directly to: **Professor David Draper, Department of Chemistry, Johns Hopkins University, 3400 North Charles Street, Baltimore, MD 21218**. Applications will be considered until the position is filled. *Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer and actively encourages interest from minorities and women.*

FACULTY POSITION
The Department of Microbiology
The Chicago College of Osteopathic Medicine
Midwestern University
Downers Grove, Illinois U.S.A.

The Department seeks applications for tenure-track positions at the level of **ASSISTANT** or **ASSOCIATE PROFESSOR**. The position is available for individuals broadly trained in medical microbiology, immunology, and infectious diseases but individuals trained in any related area are encouraged to apply. Oral and written communication skills will be important criteria for consideration. Applicants must have a Ph.D. or equivalent, postdoctoral training, and a commitment to excellence in teaching and establishment of a rigorous research program capable of attracting extramural funding. Send curriculum vitae, names of three references, a brief statement of teaching interests and philosophy, and a summary of research plans to: **Kyle H. Ramsey, Ph.D., Department of Microbiology, CCOM, Midwestern University, 555 31st Street, Downers Grove, IL 60515. E-mail: kramse@midwestern.edu; website: http://www.midwestern.edu.**

Yale University
School of Medicine

SENIOR CRYSTALLOGRAPHER

DEPARTMENTS OF PHARMACOLOGY, CELL BIOLOGY AND CELLULAR AND MOLECULAR PHYSIOLOGY

The Departments of Pharmacology, Cell Biology and Cellular and Molecular Physiology are currently searching for a distinguished senior faculty member with an outstanding record in crystallography.

Applicants should include a curriculum vitae, statement of research plans, and three letters of recommendation. Applications should be sent to:

Search Chair,
Crystallography Search Committee
Department of Pharmacology
Yale University
School of Medicine
333 Cedar Street, P.O. Box 208066
New Haven, CT 06520-8066

Application Deadline:
February 1, 2003

An Equal Opportunity/Affirmative Action Employer

GLOBAL OPPORTUNITIES

National Tsing Hua University
College of Life Science
Hsinchu 300, Taiwan, ROC

The College of Life Science of the National Tsing Hua University (NTHU) in Hsinchu, Taiwan has faculty openings at all levels to begin August 1, 2003. We are seeking outstanding candidates in all fields of life sciences, with special emphasis on Structural Biology, Developmental Biology and Bioinformatics and Computational Genomics this year. Cross-disciplinary appointments with other colleges in the University are possible and encouraged. Excellence in research and teaching are the main qualifications for consideration to an appointment. Proficiency in Chinese or English is a requirement as NTHU intends to become a fully bilingual institution within ten years.

NTHU ranks academically among the top universities in Taiwan (#1 in several recent magazine surveys). Our core strengths lie in the mathematical and physical sciences, engineering, life sciences, humanities, social sciences, science and technology management, and general education. Currently, we have about 500 faculty members and about 8,500 students, roughly equally divided among undergraduate and graduate students. The University has ambitious expansion plans as our goal is to become one of the great institutions of research and higher education in the world.

In 2002 NTHU allied with National Central University (NCU), National Chiao Tung University (NCTU), and National Yang Ming University (NYMU) to form the University System of Taiwan (UST). The UST, headed by NTHU and NCTU, has been chosen by the Ministry of Education to spearhead the drive to excellence of the research and higher-education effort in central Taiwan. Under UST, two centers in Brain Research and Nano-Technology will be established. Particularly well-qualified candidates for the senior positions available through this advertisement will be considered for a leadership appointment at the system-wide level.

NTHU also has strong ties and collaborative agreements with the leading research and development institutes in Taiwan, in particular, Academia Sinica, the Industrial and Technology Research Institute, the National Health Research Institute, the National Center for High Performance Computing, and the National Synchrotron Radiation Center, all of which are within a short commute of the campus. NTHU's close proximity to the Hsinchu Science-based Industrial Park is a further attraction, as is the famed physical beauty of our main campus. A satellite campus is under discussion in I-lan County with a focus on agricultural and fisheries biotechnology.

The College of Life Science consists of four Institutes, namely the (I) Institute of Molecular Medicine, (II) Institute of Molecular and Cellular Biology, (III) Institute of Biotechnology, and (IV) Institute of Bioinformatics and Structural Biology. Applicants should submit their curriculum vitae plus a statement of their current research interests, future plans and the Institute of relevance to the candidate. Please arrange for three letters of references to be sent by **1 December 2002** to **Dr. Yen-Chung Chang**. Inquiries can be made by email at **ycchang@life.nthu.edu.tw**. More information is available at **www.life.nthu.edu.tw**. We hope to conduct interviews of the short list of candidates starting in mid-January 2003. *NTHU is an Equal Opportunity Employer.*

The Department of Biological Sciences at The University of Alabama (UA) invites applications for two tenure-track **ASSISTANT PROFESSOR** positions to begin August 2003.

(1) Evolutionary developmental biology: We seek candidates whose research utilizes modern molecular approaches to study the evolution of developmental mechanisms in either plant or animal systems. (2) Cellular or developmental biology/functional genomics: We seek candidates who examine basic questions in cellular or developmental biology in model genetic organisms using molecular approaches. Successful applicants will be expected to interact with and strengthen existing research groups in developmental genetics, microbiology, and/or molecular systematics. Candidates must have a Ph.D. and postdoctoral research experience. Appointees will be expected to develop active, externally funded research programs and to work closely with undergraduate and graduate students as advisors and directors of research. The successful candidates are expected to have an interest in developing quality instruction at the undergraduate and graduate levels with course responsibilities commensurate with areas of expertise. UA is a recipient of a Howard Hughes Medical Institute Undergraduate Research grant and an NSF IGERT graduate training grant. The Coalition for Biomolecular Products and the Center for Freshwater Studies offer opportunities for interdepartmental collaborations. To apply, send curriculum vitae and a letter of application that includes research goals, teaching philosophy, and proposed courses and have at least three letters of reference sent to: **Search Committee for EDB or CDB, Department of Biological Sciences, Box 870344, The University of Alabama, Tuscaloosa, AL 35487.** Review of applications will begin on January 8, 2003, and continue until positions are filled. For more information, visit our **website: http://www.as.ua.edu/biology/**. *The University of Alabama is an Equal Opportunity/Affirmative Action Employer and welcomes applications from women and members of minority groups.*

FACULTY POSITION
Physiology or Developmental

The University of New England invites applications for a nine-month, tenure-track **ASSISTANT PROFESSOR** position in the Department of Biological Sciences. Applicants must be able to teach an introductory biology course, an advanced course in their field of specialization, and a single course in anatomy/physiology/pathophysiology. A Doctoral degree in biology or related field, demonstrated commitment to teaching, and ability to maintain a research program that includes undergraduates are requirements. Preference will be given to candidates whose research interests involve the use of molecular techniques to investigate issues including (but not restricted to) physiology or development.

Consideration of applications will begin on January 1, 2003, and continue until the position is filled. Please send curriculum vitae, transcripts, teaching philosophy, research interests and goals, and three letters of recommendation to: **Frank Daly, Ph.D., Department of Biological Sciences, University of New England, 11 Hills Beach Road, Biddeford, ME 04005.** Please see our **website: http://www.une.edu** for additional information. *The University of New England is an Equal Opportunity/Affirmative Action Employer and strongly encourages the application of candidates of diverse backgrounds.*

RESEARCH ASSOCIATE, pharmaceutical. Perform pharmaceutical research including liquid and lyophilized formulations for new and existing products. Utilize knowledge of HPLC to analyze data. Requires degree in pharmaceutics, pharmacy, chemistry, or biochemistry and background in formulations, controlled drug delivery, and HPLC. Send résumé and salary requirements to: **Jill A. Hansen, P.O. Box 511, Kankakee, IL 60901-0511. E-mail: kanhr@aventisbehring.com.** Please refer to Position Number RD01 on your cover letter or résumé. *Minorities/Females/Disabled/Veterans.*

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSORS
Biochemistry and Molecular Biology
J.H. Quillen College of Medicine
East Tennessee State University
Johnson City, Tennessee

Two tenure-track positions are open at the level of Assistant or Associate Professor. Mammalian Geneticist: We are seeking an individual with research interests in modeling human diseases in mice using molecular biological and bioinformatics approaches. Protein Biochemist/Proteomics: Applications are invited for a Protein Biochemist with experience in applying proteomics technologies. Any area of biomedical research will be considered. Current research interests both within the Department and throughout the College of Medicine include metabolic disease, cancer infectious disease, and cardiovascular disease.

The J.H. Quillen College of Medicine is a growing institution with a strong commitment to developing outstanding research programs. The Department of Biochemistry and Molecular Biology is currently under aggressive expansion and is housed in brand-new, well-equipped laboratories. Our building is on a beautiful campus, which is part of a VA facility established in the early 1900s. Salaries and start-up packages are nationally competitive. Johnson City is an attractive community located between the Blue Ridge and Smokey Mountains with excellent access to outdoor recreation, good schools, and inexpensive housing. These positions will remain open until filled. Review of applicants will begin February 1, 2003. Send curriculum vitae including names and contact information of three professional references to: **Dr. Michael Sinensky, Professor and Chair, Department of Biochemistry and Molecular Biology, J.H. Quillen College of Medicine, Box 70581, East Tennessee State University, Johnson City, TN 37614-1708.** *Affirmative Action/Equal Opportunity Employer.*

ASSOCIATE DIRECTOR
Environmental Mass Spectroscopy
Environmental Quality Analysis Laboratory (EQAL)
University of Regina

The Faculty of Science invites applications for a permanent research and management position responsible for daily operations of EQAL and for conducting and funding independent and collaborative research. EQAL houses Thermoquest Delta Plus isotope ratio mass spectrometers (IRMS); advanced GC, IC, and HPLC systems; a gamma spectrometer; elemental analyzers; and gas exchange facilities. Area of research is open but preference is given to environmental applications of IRMS technology. Further information is available at **websites: http://www.uregina.ca/biology/** and **http://uregina.ca/eqal/**. Complete applications consist of a cover letter, curriculum vitae, select publications, statement of research interests, and three letters of reference delivered to: **EQAL Search, Department of Biology, University of Regina, Regina, SK S4S 0A2 Canada. E-mail: jill.medby@uregina.ca** by 2 December 2002. Exceptional applicants may be considered thereafter. *University of Regina is dedicated to research excellence and is committed to Employment Equity. All qualified applicants are encouraged to apply. In case of equal merit, priority will be given to Canadians and permanent residents.*

A **POSTGRADUATE RESEARCHER** position will be available on January 1, 2003, at the University of California, Berkeley, to characterize the hephaestin protein using nutritional, genetic, and molecular characterization. Applicants should hold a Ph.D. in biochemistry, chemistry, genetics, or a closely related bioscience discipline. Salary range: $31,044 to $64,020. Send curriculum vitae and names of three references to: **Dr. Christopher Vulpe, Department of Nutritional Sciences and Toxicology, 119 Morgan Hall, MC Number 3104, University of California, Berkeley, CA 94720-3104.** Application deadline: November 30, 2002.

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

POSITIONS OPEN

DEAN OF NATURAL AND SOCIAL SCIENCES
Lehman College of The City University of New York

The Dean provides academic and administrative leadership for the undergraduate and graduate programs within the Division and participates in the development of collegewide policies. She/he supervises 12 academic departments: Anthropology; Health Services (which includes programs in Health Services Administration, Nutrition, Recreation Education, and Health Education); Mathematics and Computer Science; Nursing; Physics and Astronomy; Political Science; Psychology and Sociology; and Social Work.

Qualifications: An earned Doctorate in one of the disciplines within the Division; a record of academic achievement in the discipline meriting appointment as a tenured **FULL PROFESSOR;** university teaching experience complemented by a superior research and scholarly record; a record of proven leadership and administrative experience related to the work of the Division; demonstrated success in obtaining extramural funding; experience in fiscal affairs, faculty and staff development, promoting university and community relations; a strong commitment to the goals of urban, public higher education serving diverse populations. Visit the Lehman College **website: http://www.lehman.cuny.edu** (link to Job Opportunities) for full details of position including application procedure and salary range. *Lehman College/CUNY is an Equal Employment Opportunity/Affirmative Action/Americans With Disabilities Act/Immigration Reform and Control Act Employer.*

ASSISTANT OR ASSOCIATE PROFESSOR
INSECT INTEGRATIVE BIOLOGIST

The Department of Entomology at the University of Maryland seeks a broadly trained Insect Biologist who conducts research on molecular, genomic, cellular, developmental, or physiological function in arthropods. The area of specialization is open. The Department has strengths in both basic and applied insect biology, and numerous other campus Researchers study anthropod systems. We are looking for an interactive colleague. The Department is housed in a new building, which contains up-to-date automated sequencing, microarray, and mass spectrometry facilities. The candidate will be expected to maintain a strong, externally funded research program and contribute to both graduate and undergraduate teaching. Applications should be submitted electronically to: **Ms. Shirley Donkis; e-mail: sdonkis@umd.edu** and include a cover letter, curriculum vitae, and descriptions of experience and future plans in research and teaching. Applicants should also arrange to have three letters of reference sent to the same e-mail address and provide the names and contacts of two other potential references. Consideration of applications will start on December 20, 2002. *The University of Maryland is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

MACROMOLECULAR CRYSTALLOGRAPHER

Applicants are invited for a **RESEARCH ASSISTANT PROFESSOR** (or rank depending on qualifications) position. An experienced and motivated person is sought to enable structural studies of proteins and complexes involved in DNA repair, transcriptional regulation, and signal transduction. Outstanding facilities include FRE Superbright generator, R-axis IV++ detector, and X-stream-2000. Ph.D. preferred or equivalent experience. Salary will be commensurate with qualifications and experience. Candidates with strong skills in protein crystallization, X-ray data collection, and structure determination are encouraged to send their curriculum vitae, summary of research experience, and addresses of three references to: **Gloria Borgstahl, Ph.D., Eppley Cancer Research Institute, 987696 Nebraska Medical Center, Omaha, NE 68198-7696. E-mail: gborgstahl@unmc.edu; FAX: 402-559-3739.** *Affirmative Action/Equal Employment Opportunity.*

DIRECTOR
LIFE SCIENCES DIVISION

The Life Sciences Division of the Lawrence Berkeley National Laboratory (LBNL) conducts basic research with a broad, multidisciplinary mandate. The Division has a staff of over 65 principal investigators, organized within four departments: Genome Science, Subcellular Structure, Cell & Molecular Biology, and Nuclear Medicine & Functional Imaging. Research funding for the Division is derived primarily from the Department of Energy and the National Institutes of Health, but includes a variety of other sources.

The Director of the Life Sciences Division provides scientific leadership by establishing research directions for the Division, as well as participating in the highest levels of management within the Laboratory. As chief spokesperson to the Department of Energy on behalf of the Division, the Director bears primary responsibility for articulating the vision of unique scientific opportunities that LBNL presents when addressing the nation's priorities for research in the life sciences. In filling this position, preference will be given to candidates whose personal accomplishments in cell and molecular biology are at the forefront of international research and whose ability to head the Division has been established by previous leadership of large scientific activities or by other relevant administrative experience.

For detailed information on this and other job opportunities, visit us at http://cjo.lbl.gov/. Alternatively, email one copy of your resume to **employment@lbl.gov** (no attachments, please), or mail to Lawrence Berkeley National Laboratories, One Cyclotron Road, Bldg. 937R0600, Berkeley, CA 94720-8076, or fax to (510) 486-5870. Reference Job # LD/015365/JS in your cover letter. LBNL is an AA/EEO employer.

BERKELEY LAB

MSOE Milwaukee School of Engineering

FACULTY POSITION - Undergraduate Biochemistry

THE MILWAUKEE SCHOOL OF ENGINEERING (MSOE) invites applicants in the area of Biochemistry for a full-time faculty position, starting fall 2003. Candidates must be committed to teaching all aspects of undergraduate chemistry, including general, organic and biochemistry. The successful candidate must also have a strong commitment to curriculum development, and will be expected to help build an undergraduate program in Biotechnology (pending administrative approval). A PhD and effective communication skills are required. Appointment is expected to be at the Assistant Professor level. However, applications from senior candidates will be considered for higher rank. MSOE was founded in 1903 and is a private, application-orientated university with programs in engineering, engineering technology, communication, business, construction management and nursing. MSOE's 12+ acre campus is located near Milwaukee's East Town, Theatre District and Lake Michigan. Primarily a 4-year undergraduate institution, we emphasize excellence in teaching. Applied research involving undergraduate students, and consulting, are encouraged. Submit a letter of interest, CV, and three letters of recommendation to: **Dr. A. Schenstrom (schenstr@msoe.edu), Chair, Department of Chemistry and Physics, Milwaukee School of Engineering, 1025 N. Broadway, Milwaukee, WI 53202. www.msoe.edu.** The selection process will begin December 1 and continue until the position is filled.

MSOE is an Equal Opportunity Employer.

MAYO CLINIC

Gene Therapy Faculty Position
Molecular Medicine Program
Rochester, Minnesota USA

Mayo Clinic in Rochester, Minnesota has an established Molecular Medicine Program with several groups working on gene therapy using different viral systems. The program, under the direction of **Dr. Stephen J. Russell**, is seeking a tenure track individual that can develop and maintain a competitive peer-reviewed research program focused on adeno-associated virus or high capacity adenovirus vectors.

The Molecular Medicine Program (**http://www.mayo.edu/research/mmp/**) was established at Mayo Clinic with the mission of integrating relevant basic science and clinical investigation in the areas of gene therapy and virology, and applying this to patient care in a timely and responsible manner. Mayo Clinic's research infrastructure and clinical strengths offer unparalleled opportunities to collaborate with clinician investigators on translating basic discoveries into the clinical setting. A competitive compensation and benefits package is available.

Mayo Clinic (**http://www.mayo.edu/**) is a not-for-profit organization that integrates research with clinical practice and education in a multi-campus environment. Rochester, Minnesota is approximately one hour from the Minneapolis/St. Paul metropolitan area. Rochester (**http://www.rochestermn.com/**) has excellent schools, a cosmopolitan cultural atmosphere, growing economy, clean environment, and has been consistently rated one of the best places to live in the USA by Money Magazine.

Applications will be accepted until the position is filled, but preference will be given to applications received by **December 15, 2002**. Applicants for this position should submit a cover letter expressing their interest and qualifications, along with their curriculum vitae, to:

Stephen J. Russell, M.D., Ph.D.
Chair, Molecular Medicine Program Search Committee
Mayo Clinic
Guggenheim 18
200 First Street SW
Rochester, MN 55905
email: russell.stephen@mayo.edu
Fax: (507) 284-8388

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

BIOINFORMATICS POSITION
Department of Microbiology and Immunology
University of Oklahoma Health Sciences Center

The Department of Microbiology and Immunology at The University of Oklahoma Health Sciences Center invites applications for a tenure-track **ASSISTANT PROFESSOR** in bioinformatics. We seek an individual who will establish a contemporary research program with emphasis in genome/proteome/transcriptome data mining, algorithm and database design/integration, and/or structural predictions. Individuals with either *in silico* or wet bench experiences are welcome to apply. A Ph.D. or equivalent degree with at least two years of postdoctoral training is required. The successful candidate will be expected to develop an extramurally funded research program in bioinformatics and to participate in the graduate curriculum within the Department. This position is part of a statewide initiative supported by NSF EPSCoR and NIH BRIN grants to develop and expand the bioinformatics capability within the State of Oklahoma. The applicant will be expected to be a part of the developing bioinformatics program at the University, with a degree-granting program being offered developed jointly by the Health Science Center and on the University of Oklahoma Norman campus.

The Department currently has 14 full-time, tenured or tenure-track faculty with more than 40 extramural grants and contracts with a multimillion dollar yearly budget. For an overview of the Department, visit our **website: http://w3.ouhsc.edu/mi**. Submit curriculum vitae, description of research interests and teaching experience, and the names and contact information (including e-mail addresses) of three references to: **Chair of the Bioinformatics Search Committee, Department of Microbiology and Immunology, BMSB–1053, 940 S. L. Young Boulevard, Oklahoma City, OK 73104.** Applications will be reviewed beginning February 1, 2003. *The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer. Applications from women and ethnic minorities are strongly encouraged.*

HUMAN ANATOMY AND PHYSIOLOGY
University of Puget Sound

Full-time, tenure-track **ASSISTANT PROFESSOR**; begins fall term 2003. Teach sophomore-level course in human anatomy and physiology and, intermittently, an upper-division elective in area of specialty. Courses have both lecture and laboratory components. Maintain an active research program involving undergraduates. Ph.D. and commitment to undergraduate teaching and liberal arts education. Postdoctoral teaching or research experience desirable. To apply, submit interest letter; teaching and research statements; curriculum vitae; and three reference letters by January 3, 2003, to: **Anatomy Search, University of Puget Sound, Campus Mail Box 1007, Tacoma, WA 98416.**

ASSISTANT PROFESSOR
Human Biology

The Human Biology Program at the University of Wisconsin–Green Bay invites applications for a tenure-track position as Assistant Professor in human biology at the University of Wisconsin–Green Bay for fall 2003. Candidates must have a Doctorate in biology, physical anthropology, or closely related field. Primary responsibility is teaching human evolution, introduction to human biology (nonhuman biology and biology majors), and upper-level courses in specialty area. Previous teaching experience is desirable. Review of applications will begin on November 29, 2002, and position will remain open until filled. Send letter of application; curriculum vitae; transcripts; and the names, addresses, and telephone numbers of three current references to: **Chair, Search and Screen Committee, Human Biology, University of Wisconsin–Green Bay, 2420 Nicolet Drive, Green Bay, WI 54311. Telephone: 920-465-2230; FAX: 920-465-2769; e-mail: markerj@uwgb.edu.** Names of applicants may be disclosed unless requested otherwise. Finalists' names will be released. *UWGB is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR
Biology/Bioinformatics

The University of Nebraska at Omaha announces a tenure-track position as **ASSISTANT PROFESSOR** of biology. We seek someone with research interests in bioinformatics, genomics, or proteomics for a position supported by an NIH Biomedical Research Infrastructure Network (BRIN) grant. Substantial computational and experimental resources are available for interdisciplinary programs with the College of Information Science and collaborations with the University of Nebraska Medical Center. We seek a team-oriented individual who will foster collaborative interactions. Ph.D. and postdoctoral experience is required. The successful candidate will develop an active research program and teach courses in bioinformatics/biology. For more information, see **website: http://www.unomaha.edu/~wwwbio/**. Screening of applications will begin 15 November 2002 and continue until the position is filled. Send curriculum vitae, statements of research and teaching interests and objectives, and three letters of recommendation to: **Chair, Department of Biology, University of Nebraska at Omaha, 6001 Dodge Street, Omaha, NE 68182-0040.** *We are strongly committed to achieving diversity among faculty and staff and strongly encourage applications from members of udnerrepresented groups, women, and persons of color.*

ANNOUNCEMENT: FACULTY JOB OPPORTUNITIES
Division of Pediatric Hematology/Oncology
Dana-Farber Cancer Institute and Children's Hospital

The Division of Pediatric Hematology/Oncology at the Dana-Farber Cancer Institute and Children's Hospital, Harvard Medical School, invites applications for tenure-track positions at the **ASSISTANT PROFESSOR** level. Appointees will join a superb faculty with interests in genome stability, leukemogenesis, hematopoiesis, iron metabolism, expression profiling, stem cell and membrane biology, and neurobiology. Physician Scientist (M.D. or M.D./Ph.D.) candidates with outstanding research experience and promise are especially encouraged to apply. Strong preference will be given to candidates whose research relates directly to pediatric hematology and oncology. Nonphysicians will be considered if their research is highly relevant to pediatric disease. Candidates should send curriculum vitae, three references, and a description of future research plans to:

Stuart H. Orkin, M.D.
Chair, Department of Pediatric Oncology
Dana-Farber Cancer Institute
44 Binney Street
Boston, MA 02115

Qualified women and minority candidates are encouraged.

ASSISTANT OR ASSOCIATE PROFESSOR
Cancer Biology

The Department of Biological Sciences at Northern Arizona University (NAU) (**website: http://www.3.nau.edu/biology/**) invites applications for a tenure-track position. We seek an individual who will develop an active, independent cancer research program and participate in the cellular, molecular, and biology curriculum at undergraduate and graduate levels. The successful candidate will assist in developing a new cancer research and education partnership with the University of Arizona. Qualifications include a Ph.D. in a relevant field and at least one year of postdoctoral experience. Please submit curriculum vitae; a description of research interests; a statement of teaching philosophy; a statement that describes your commitment to (and/or evidence of) working effectively with a diverse student, faculty, and staff population; and three letters of recommendation to: **Cancer Biology Search Committee, NAU, Box 5640, Flagstaff, AZ 86011-5640.** Position open until filled and is subject to availability of funding. Review of applications will begin November 30, 2002. *NAU is an Equal Opportunity/Affirmative Action Institution. Minorities, women, persons with disabilities, and veterans are encouraged to apply.*

POSITIONS OPEN

COASTAL WETLANDS/ ESTUARINE BOTANIST
The University of Alabama

The Department of Biological Sciences at The University of Alabama invites applications for a tenure-track **ASSISTANT PROFESSOR** position in coastal wetlands/estuarine botany to begin August 16, 2003. Candidates must have a Ph.D., strong background in botany and/or phycology, a demonstrated ability to conduct independent research, and strong and effective communication skills. Postdoctoral experience is preferred. Candidates should demonstrate a clear interest in interdisciplinary research questions that interface with the programmatic themes of biodiversity and ecosystem dynamics; an ability to address systematic issues (e.g., evolution of traits) that interface with these themes; and interest in use of and contributions to our herbarium collections. The appointee will be expected to develop an active, externally funded research program. Teaching will include graduate and undergraduate courses in the area of specialty as well as participation in the freshman biology program. To apply, send a letter of application specifying research goals, teaching interests, and philosophy; curriculum vitae; three letters of reference; and a selection of reprints to: **Coastal Wetland/Estuarine Botanist Search Committee, Department of Biological Sciences, Box 870344, The University of Alabama, Tuscaloosa, AL 35487-0344.** Review of applications will begin January 6, 2003, and will continue until the position is filled. For more information, visit our **website: http://www.as.ua.edu/biology/**. *The University of Alabama is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR
Vertebrate Physiologist

The Department of Biological Science (**website: http://www.kent.edu/biology/**), Kent State University, invites applications for a tenure-track faculty position in support of our Doctoral program in reproductive physiology. We seek applicants with research interests that could include comparative or integrative physiology. The successful candidate is expected to develop an extramurally funded research program and participate in undergraduate and graduate education. Department resources include facilities for organismal, cellular, and molecular research. Candidates must have the Ph.D. and postdoctoral experience. Start-up funds are available. Applicants should submit curriculum vitae, selected reprints, a concise statement of research and teaching goals, and three letters of reference. Review of applications will begin December 1, 2002, and continue until the position is filled. Send applications to: **Dr. Douglas Kline, Department of Biological Sciences, Kent State University, Kent, OH 44242.** *Kent State Univesity is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR. The Department of Physiology of Morehouse School of Medicine invites applications for a faculty position at the level of **ASSISTANT PROFESSOR.** Applicants should hold a Ph.D. or M.D. degree and have postdoctoral research experience. This recruitment is part of a departmental expansion. Preference will be given to the candidate who has experience teaching medical physiology and who has established a funded, independent research program. While individuals with expertise in all areas of physiology will be considered, preference will be given to those whose primary interest is in cardiovascular or respiratory physiology. Morehouse School of Medicine has a wide array of core facilities and a cardiovascular research institute with which faculty may affiliate. Candidates with expertise in cancer research may be eligible for a Georgia Cancer Research Scholar award. Start date open. Interested candidates should send their curriculum vitae and a statement of research goals and teaching experience to: **Gordon J. Leitch, Ph.D., Chair, Department of Physiology, Morehouse School of Medicine, 720 Westview Drive, Atlanta, GA 30310. FAX: 404-752-1045; e-mail: leitch@msm.edu.**

FOOD STANDARDS AGENCY

Call for Expression of Interest
Programme Co-ordinator

The Committee on the Toxicity of Chemicals in Food, Consumer Products and the Environment (COT) has completed its review on the risk assessment of pesticides and similar substances and its report was published in October. (Food Standards Agency - FSA/0691/09020)

The Report makes a number of recommendations for research. In response, the Food Standards Agency is establishing a new research programme to take forward the recommendations and is seeking a suitably qualified individual or organisation to appoint to take on co-ordination and management of the programme.

The research programme is expected to run for a period of five years and it is anticipated that the programme will include about 15 to 20 projects. The Programme Co-ordinator will be expected to perform a range of duties associated with the programme. These will include assisting in the commissioning of research, all aspects of programme administration and the dissemination of information concerning completed projects. It is expected that the Programme Co-ordinator will need to devote in the region of 100-150 days per year to the work.

If you feel that you can fulfil the requirements of the position, you are invited to submit an expression of interest by **29 November 2002.** Further information can be obtained by contacting Mr Keith Butler, Food Standards Agency, Room 511C, Aviation House, 125 Kingsway, London WC2B 6NH. Tel: 020 7276 8522.
E-mail: keith.butler@foodstandards.gsi.gov.uk

Details of the COT Report can be obtained from Food Standards Agency website at www.food.gov.uk

The Food Standards Agency - putting the consumer first.

MAYO CLINIC

Hematologist Oncologist
Rochester, Minnesota

The Department of Hematology and Internal Medicine is seeking a **BC/BE Hematologist Oncologist** with laboratory-based research experience related to multiple myeloma, with particular focus on bone marrow microenvironment and bone marrow angiogenesis. Laboratory experience in the use of replicating viral vectors for cancer therapy is desirable. The applicant must be experienced in clinical trial design and conduct and in the care of patients with multiple myeloma and amyloidosis. The individual should have a proven track record in blood and marrow transplantation related research. Formal training in clinical research is a requisite.

Salary will be determined by the successful candidate's experience. There is an attractive benefits package. Mayo Clinic Rochester is a non-profit, physician led, clinical practice integrated with education and research in a unified multi-campus system.

Submit curriculum vitae and copies of first authored publications to:

Dr M.A. Gertz
Department of Hematology and Internal Medicine
Mayo Clinic
200 First Street SW
Rochester, MN 55905

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

NATIONAL CANCER INSTITUTE

NEW SALLIE ROSEN KAPLAN FELLOWSHIP FOR WOMEN IN BASIC, CLINICAL, POPULATION AND PREVENTION SCIENCE

The Sallie Rosen Kaplan Fellowship is a new opportunity for women postdoctoral scientists in cancer research, made possible by a generous bequest to the Foundation for NIH (FNIH). Candidates for the Kaplan Fellowship must possess a doctoral degree, have less than 5 years postdoctoral research experience, and have U.S. citizenship or U.S. permanent residency (green card). Fellowship training at the NCI can serve as a first postdoctoral assignment, or offer more experienced postdoctoral scientists an opportunity to further their training. Program duration is normally 2 to 5 years.

NCI's Maryland campuses boast the best funded and equipped research facilities in the United States. Postdoctoral fellows have the opportunity to interact with internationally renowned scientists from a wide range of disciplines. Starting fellowship stipend is $35,000 to $45,000 commensurate with level of experience. Kaplan Fellows will receive first-year stipend augmentation of approximately $10,000. Health insurance is provided and optional family insurance coverage is available.

Applications and supporting letters must be received by February 1, 2003. Selected candidates will be notified May 1, 2003. Applicants are strongly encouraged to apply online. For important application criteria information and instructions to apply online or by mail for this special opportunity, please go to our training and employment website:
http://generalemployment.nci.nih.gov or contact:
Mr. Lee McPhatter, phone: (301) 496-4796,
fax: (301) 451-6238, email: lm148g@nih.gov

The NCI is an Equal Employment Opportunity and Affirmative Action Employer.

TWO TENURE-TRACK FACULTY POSITIONS ASSISTANT PROFESSOR
Biology

The candidate must have a Ph.D. and be (1) a Eukaryotic Cell Biologist using molecular techniques or (2) a Prokaryotic Cell Biologist (Microbiologist). Both candidates must be able to contribute to a diverse array of courses, which may include biology of the cell, cell physiology, molecular biology, genetic engineering, recombinant DNA techniques, microbiology, and an advanced specialty course. Candidates must have a strong commitment to teaching at the undergraduate and M.S. levels and participate in introductory courses. Candidates must have a record of published research and show potential for developing and sustaining an independent, externally funded research program involving students. Duties also include advising students, participating in curricular development and program evaluation, engaging in professionally recognized scholarly activities, participating in other courses as appropriate to the applicant's education and experience, and interacting as appropriate with the community. Submit a letter of application, curriculum vitae, official transcripts from both undergraduate and graduate education, a detailed statement of research and teaching interests, and three letters of recommendation to: **Dr. Jeffrey Thompson, Chair, Department of Biology, Attention: Cell Biology Search, California State University, 5500 University Parkway, San Bernardino, CA 92407-2397. Telephone: 909-880-5305; FAX: 909-880-7038; e-mail: jthompso@csusb.edu**. Deadline is November 30, 2002, or until filled. For more information about the position, university, and department, please see our **website: http://biology.csusb.edu**. *California State University, San Bernardino, is an Equal Opportunity Employer committed to a diversified workforce.*

ASSISTANT EDITOR
Nature Structural Biology

Nature Structural Biology is a prestigious monthly scientific journal covering all aspects of research on biomolecular form and function. We now have an opening for a Scientist to join us full-time as an Assistant Editor in our office in New York City.

The successful candidate will participate in all aspects of the editorial process and attend scientific meetings regularly. Applicants should have a strong background in research in molecular biology; biochemistry; or structural biology including a Ph.D. and, preferably, some postdoctoral experience. The ideal candidate will have excellent communication skills and judgment and be enthusiastic about communicating science to a wide audience.

Please submit curriculum vitae, a short (500 to 1,000 words) "News and Views"-style article on an exciting and newsworthy recent development in a relevant scientific area, and a cover letter explaining your interest in the position to: **Human Resources Department, *Nature* Publication Group, 345 Park Avenue South, New York, NY 10010. FAX: 212-696-9594; e-mail: admin@natureny.com**. Consideration will begin as soon as applications arrive; application should arrive no later than December 6, 2002.

HARVARD/MGH MOLECULAR PHARMACOLOGY

POSTDOCTORAL RESEARCHER to study molecular mechanisms of sedatives and anesthetics at GABA-A receptors and other ion channels. A Ph.D. with experience in electrophysiology is required. Skill in molecular biology, cell expression, and/or protein chemistry desirable. **E-mail: saforman@partners.org** or **FAX: 617-724-8644** curriculum vitae and names of three references to: **Stuart A. Forman, M.D., Ph.D., Anesthesia and Critical Care, CLN-3, Massachusetts General Hospital, Boston, MA 02114**. *MGH is a Harvard-affiliated hospital and an Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITIONS IN MEDICAL GLYCOSCIENCE

The University of Georgia Complex Carbohydrate Research Center is seeking applications for tenure-track faculty positions (rank from **ASSISTANT** to **FULL PROFESSOR**) to enhance our emphasis in medical glycoscience. The CCRC presently has 13 tenure-track faculty positions and we are looking to fill five new faculty positions over the next several years. Applicants having research programs in eukaryotic (preferably mammalian) glycobiology with an emphasis in medically related fields are encouraged to apply. Demonstrated creativity, teaching excellence, and a willingness and ability to participate in a multidisciplinary environment are essential. Applicants with research programs that benefit from interactions with Research Clinicians will be highly considered. The successful candidates will occupy laboratory and office space in a new 125,000-square-foot CCRC building with outstanding analytical, synthetic, biochemical, molecular, cell culture/fermentation, and animal facilities. Applications received by January 30, 2003, are assured of consideration. Salary and start-up funds will be based on experience. Applicants should send a cover letter, curriculum vitae, a description of research goals, and the names and addresses of four references via **e-mail: khoward@ccrc.uga.edu; mail: Chair, Faculty Search Committee, Complex Carbohydrate Research Center, University of Georgia, 220 Riverbend Road, Athens, GA 30602-4712 U.S.A.** *An Affirmative Action/Equal Employment Opportunity Institution.*

ASSISTANT PROFESSOR
Analytical or Bioanalytical Chemistry
University of Nebraska–Lincoln

The Department of Chemistry at the University of Nebraska–Lincoln (UNL) invites applications for a tenure-track position in analytical or bioanalytical chemistry to begin August 2003. The position is part of a UNL research prioritization in structural biology and proteomics. Candidates with research interests at the interface of analytical chemistry and the biological sciences are particularly encouraged to apply. All applicants should have a demonstrated research record in analytical or bioanalytical chemistry, the potential for establishing and/or maintaining a significant externally funded research program, and strong interests in undergraduate and graduate instruction. Candidates should submit curriculum vitae, a brief statement of research interests not to exceed five pages, graduate transcripts, and arrange for three letters of recommendation to be sent to: **Analytical Search Committee Chair, Department of Chemistry, University of Nebraska–Lincoln, Lincoln, NE 68588-0304. FAX: 402-472-2044; e-mail: dhage@unlserve.unl.edu**. Screening of applicants will begin January 10, 2003, and will continue until a suitable candidate is found. More information on our department can be found at **website: http://www.chem.unl.edu**. *The University of Nebraska is committed to a pluralistic campus community through Affirmative Action and Equal Opportunity and is responsive to the needs of dual-career couples. We assure reasonable accommodation under the Americans With Disabilities Act; contact Ms. Leann Galusha; Telephone: 402-472-3634; e-mail: lgalusha@unl.edu for assistance.*

POSTDOCTORAL POSITION is available immediately for a Molecular Biologist to study G protein-coupled receptor signaling in leukocytes. Experience with transgenic animal model is desirable. Send curriculum vitae to: **Hydar Ali, Ph.D., Department of Pathology, University of Pennsylvania School of Dental Medicine, 240 South 40th Street, Philadelphia, PA 19104. FAX: 215-573-2050; e-mail: ali@path.dental.upenn.edu;website:http://www.med.upenn.edu/immun/Ali.html**.

POSITIONS OPEN

FACULTY POSITION
University of Chicago

The Department of Anesthesia and Critical Care at the University of Chicago will make one tenure-track faculty appointment beginning in January 1, 2003. The level of appointment will be either at the **ASSISTANT** or **ASSOCIATE** level commensurate with the candidate's qualifications. Qualified individuals will join a strong and well-established cadre of NIH-funded M.D. and Ph.D. Researchers in newly remodeled office and laboratory space. Current faculty have interests in the neurobiology of synaptic transmission, cognition, anesthesia, neuroprotection, pain, and drug abuse. Qualified individuals will receive a generous start-up package of office and laboratory space as well as funds for equipment, supplies, and secretarial and technical staff support. The candidate will be expected to implement a nationally recognized, extramurally funded research program that provides opportunities for the training of predoctoral students, Postdoctoral Fellows, and residents in research. Qualified candidates will also participate in the teaching of medical students, graduate students, and residents. Applications are solicited from individuals who apply genetic, molecular, cellular, or systems-level approaches to neurobiology. Although preference will be given to those individuals whose research interests complement and extend those of current faculty, new research directions will be considered as well. Curriculum vitae, a two-to-three-page statement of research interests, names of three references, and three representative publications should be mailed to:

Jonathan Moss, M.D., Ph.D., Professor
Attention: Anne-Marie Ruthrauff
Department of Anesthesia and Critical Care
University of Chicago
6841 South Maryland Avenue, MC 4028
Chicago, IL 60637

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

FACULTY POSITION
Department of Pharmacology, Physiology, and Therapeutics
University of North Dakota
School of Medicine and Health Sciences

Applications are invited for a tenure-track position at the **ASSISTANT/ASSOCIATE PROFESSOR** level. The successful candidate will contribute to team-taught courses for graduate and medical students in systemic and cell physiology. Research areas are open but preference will be given to individuals with strong backgrounds in cardiovascular physiology or pharmacology and to those demonstrating potential for vigorous research programs supported by extramural funds. Candidates must have a Ph.D., M.D., or equivalent and at least two years of postdoctoral experience. Review of applications will begin January 1, 2003, and continue until the position is filled. Interested candidates should send curriculum vitae, descriptions of research and teaching experience, and names of three individuals willing to serve as references to: **Dr. Edward C. Carlson, Search Committee Chair, Department of Pharmacology, Physiology, and Therapeutics, Box 9037, University of North Dakota School of Medicine and Health Sciences, Grand Forks, ND 58202. Telephone: 701-777-2101; FAX: 701-777-2477; e-mail: ecarlson@medicine.nodak.edu; website: http://www.med.und.edu/bimd/pharm.html**. *The University of North Dakota is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.*

FACULTY POSITION, Caribbean medical school. Saint James School of Medicine is hiring faculty with teaching experience in any of the basic medical science subjects for its unit in the Caribbean. Immediate need is in medical psychology, medical/legal ethics, and epidemiology. Teaching experience in U.S. system is desirable. Faculty may also join M.D. program. Apply online with attached résumé to **e-mail: stjamesmed@usa.net** or mail to: **C/O HRDS Inc., 2545 West Peterson Avenue, Suites 202 and 208, Chicago, IL 60659**.

The University of Illinois at Urbana-Champaign
School of Molecular and Cellular Biology

Open-rank Faculty Position in the Department of Microbiology

The School of Molecular and Cellular Biology at the University of Illinois at Urbana-Champaign invites applications for a full-time tenure track faculty position in Microbiology. Applications at all faculty ranks will be considered. Appointment at the Assistant Professor level requires a doctoral degree, postdoctoral experience, and evidence of outstanding research potential. Appointees at this level will be expected to develop a vigorous, independently funded research program. Highly qualified scientists at the Associate and Full Professor levels are encouraged to apply. The starting date of this position is August 2003. Appointment at higher levels requires evidence of outstanding research accomplishments, including extramural funding and national recognition. Applicants at all levels will be expected to contribute effectively to undergraduate/graduate teaching.

The Department of Microbiology has long-standing expertise in microbial physiology, genetics, evolution, and pathogenesis. The successful candidate will be provided with excellent laboratory facilities, substantial start-up funds, and a salary commensurate with experience. The University of Illinois at Urbana-Champaign provides a highly interactive, interdisciplinary research environment and state-of-the-art research support facilities. Urbana-Champaign offers the residential advantages of a medium-sized university city, excellent cultural opportunities, and easy access to Chicago and St. Louis. Information concerning the Department of Microbiology and the School of Molecular and Cellular Biology can be found at: **http://www.life.uiuc.edu/micro**.

Applications should be submitted to: **School of Molecular and Cellular Biology, University of Illinois at Urbana-Champaign, 393 Morrill Hall, 505 S. Goodwin Ave., Urbana, IL 61801**. An application must include a curriculum vitae, with a complete list of publications and a concise summary of past research accomplishments and future plans. Please arrange to have four letters of recommendation sent to the same address.

Electronic submissions as pdf files are encouraged and should be sent to **mcbsearch@life.uiuc.edu**. To ensure full consideration, applications should be received by January 15, 2003. Interviews may be conducted before the closing date but no hire will be made until after the search is closed.

The University of Illinois at Urbana-Champaign is an Affirmative Action, Equal Opportunity Employer.

Molecular Therapeutics

The Department of Molecular Therapeutics at **The University of Texas M. D. Anderson Cancer Center** in Houston has faculty positions available for outstanding applicants with interests in molecular, cellular and genetic approaches to cancer etiology and management and, in particular, molecular therapeutics. Individuals working in the areas of signal transduction, oncogenes and tumor suppressor genes as they relate to molecular therapeutics are particularly encouraged to apply.

We offer a highly attractive recruitment package, an active graduate and postdoctoral training program and the unmatched scientific environment of the Texas Medical Center. Tenure or tenure-track faculty positions available for applicants who hold a Ph.D. and/or M.D. and be able to demonstrate their potential as independent scientists. Those interested should send a C.V., a two-page research summary and the names and addresses of at least three references to:

Gordon B. Mills, M.D., Ph.D.,
Chairman, Department of Molecular Therapeutics
The University of Texas M. D. Anderson Cancer Center
1515 Holcombe Boulevard, Unit 317
Houston, TX 77030

THE UNIVERSITY OF TEXAS
MD ANDERSON
CANCER CENTER
Making Cancer History™

M. D. Anderson Cancer Center is an Equal Opportunity Employer and does not discriminate on the basis of race, color, national origin, gender, sexual orientation, age, religion, disability or veteran status, except where such distinction is required by law. The University of Texas M. D. Anderson Cancer Center values diversity in its broadest sense. Diversity works at M. D. Anderson. Smoke-free Environment.

FACULTY POSITION
Developmental/Evolutionary Biology
University of Chicago

The Department of Organismal Biology and Anatomy is seeking an individual who uses modern experimental approaches to address questions at the interface of developmental and evolutionary biology. Candidates at all levels will be considered. Applicants engaged in the study of any invertebrate, vertebrate or plant system are encouraged to apply. We are particularly seeking an individual interested in establishing intellectual and research collaborations with existing faculty in developmental biology, evolutionary biology, functional genomics, neurobiology, paleontology and biomechanics. Candidates will be expected to teach in their area of expertise at the undergraduate and graduate levels. Review of applications will begin on December 1, 2002.

Applicants should send a curriculum vitae including a list of publications; contact information for three references; and a statement of research and teaching interests to: **Evo-Devo Search Committee, Department of Organismal Biology and Anatomy, University of Chicago, 1027 East 57th Street, Chicago, IL 60637**.

The University of Chicago

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Equal Opportunity Employer.

FACULTY POSITION
Chemical Oceanography
University of Washington

The School of Oceanography at the University of Washington invites applications for a tenure-track **ASSISTANT PROFESSOR** position in chemical oceanography. We seek an Organic geochemist who studies organic matter cycling in the ocean and/or in the coupled ocean-terresterial atmospheric system. Persons who use specific organic compounds as tracers of carbon cycling processes are especially encouraged to apply. A Ph.D. degree is required by the date of appointment. The successful candidate will be expected to teach at both the undergraduate and graduate levels, to advise graduate students, and to conduct independent research. Applicants should send both printed and electronic copies of their curriculum vitae, a statement of research and teaching interests, a list of publications, recent reprints, and the names of four references to: **Professor Bruce W. Frost, Director, School of Oceanography, Box 357940, University of Washington, Seattle, WA 98195. E-mail: frost@ocean.washington.edu**. Preference will be given to applications received by 13 December 2002. *The University of Washington is an Affirmative Action/Equal Opportunity Employer. The University is building a culturally diverse faculty and strongly encourages applications from women, minorities, individuals with disabilities, and Vietnam-era veterans and other covered veterans.*

The Biomedical Engineering Program in the Purdue School of Engineering and Technology on the Indiana University/Purdue University Indianapolis (IUPUI) campus is seeking qualified individuals for a tenure-track position at the **ASSISTANT/ASSOCIATE PROFESSOR** level. Applicants must have a Ph.D. in engineering or a related discipline and research expertise in one of the following areas: neuroscience and neural engineering, cardiovascular biology and engineering, molecular biotechnology, or quantitative biology. The successful candidate will be expected to teach courses in biomedical engineering for the Purdue Biomedical Engineering Program (**website: http://www.engr.iupui.edu/bme/**) and establish a state-of-the-art research program in collaboration with the Indiana University School of Medicine or the IUPUI School of Science. A qualified candidate may be offered joint appointments in both engineering and the collaborating school. The desired start date is August 15, 2003. All applications received before January 24, 2003, will receive full consideration, although applications will be accepted until the position is filled. Send curriculum vitae along with a brief teaching and research plan and a list of at least three references to: **Dr. Charles H. Turner, Chair of the Search and Screen Committee, Biomedical Engineering, 541 Clinical Drive, Room 600, Indianapolis, IN 46202**. *IUPUI is an Equal Opportunity/Affirmative Action Employer; Minorities/Females/Disabled. Women and minority candidates are encouraged to apply.*

VICE PRESIDENT/DIRECTOR OF PRODUCT DEVELOPMENT

Aspira Biosystems, Inc., is a small biotechnology company located in South San Francisco, California, developing sequence-specific protein capture agents and protein chips for biomedical research and diagnostics. We are seeking a Vice President/Director of Product Development. This candidate should have commanding knowledge of polymer chemistry and molecular recognition as well as working knowledge of protein chemistry and protein analysis. This successful candidate will have a proven track record of success in leadership. This candidate must have demonstrated a creative and pragmatic approach to analyzing and solving various research and development issues. A Ph.D. in polymer chemistry or related field and a minimum of six years of industrial experience are required. This candidate must be highly motivated and enjoy a fast-paced, challenging environment. If you are interested, please submit your résumé via **e-mail: recruit@aspirabio.com** or via **FAX: 650-873-0431**.

POSITIONS OPEN

U.S. Department of Agriculture–Agricultural Research Service, Appalachian Farming Systems Research Center, Beaver, West Virginia, is seeking a permanent full-time **RESEARCH ECOLOGIST**. As a team member, the incumbent will be expected to develop new theoretical approaches to understanding complex ecological systems. The assigned area of research is to investigate soil processes related to pasture vegetation dynamics and animal performance. The personal research assignment is to develop and apply novel approaches to studying complexity in soil/plant interactions, identify key soil and plant ecological processes that mediate pasture productivity and animal performance, identify and differentiate system components that are controllable vs. uncontrollable, develop or utilize agent-based simulations to model system behavior. A Ph.D. is desirable. *U.S. citizenship is required.* Salary range: $45,285 to $59,702 per annum plus benefits. For more information, contact: **Dr. William Clapham, Research Leader; Telephone: 304-246-2857**. For a copy of application procedures and vacancy announcement, contact **Janie Carr; 301-504-1414. Website: http://www.ars.usda.gov/afm/hrd/resjobs**. *USDA–ARS is an Equal Opportunity Employer.*

UNIVERSITY OF CHICAGO

The Department of Ecology and Evolution is seeking to fill a **FACULTY POSITION** at open rank with an individual using genomic techniques to address questions in the ecology, evolution, or behavior of prokayotes or eukaryotes. Information about the Department and the closely affiliated Committees on Evolutionary Biology and on Genetics can be found at **websites: http://pondside.uchicago.edu/ecol-evol, http://pondside.uchicago.edu/ceb, and http://www.bsd.uchicago.edu/committees.html#genetics**. Send curriculum vitae, selected reprints and preprints, statements of research and teaching interests, three letters of reference to: **Search Committee, Department of Ecology and Evolution, University of Chicago, 1101 East 57th Street, Chicago, IL 60637**. Applications will be accepted until the position is filled but applications should be received before December 5, 2002, to ensure full consideration. *The University of Chicago is an Equal Opportunity/Affirmative Action Employer.*

THE UNIVERSITY OF ALASKA, ANCHORAGE

The College of Arts and Sciences invites applications for a tenure-track position at the rank of **ASSISTANT PROFESSOR** in an interdisciplinary science (oceanography, meteorology, astronomy, climatology, geophysical or science education possible). Tenure will reside in the department most closely aligned with area of disciplinary expertise. Familiarity with interdisciplinary and liberal studies programs and undergraduate nonmajor science education preferred. Will also be expected to teach and conduct research in area of disciplinary expertise. Teaching experience and demonstrable commitment to research required. Review of applications will begin January 5, 2002, and continue until filled. Refer to **website: http://www.finsys.uaa.alaska.edu/uaahrs** for specific information about this position and for application requirements. Send application to: **UAA Human Resources Services, University of Alaska, Anchorage, 3211 Providence Drive, Anchorage, AK 99508**.

POSTDOCTORAL ASSOCIATE for sensory neurobiology group to study cellular/molecular signaling in taste buds (e.g., **Chaudhari et al.,** *Nat. Neurosci.* **3:**113, 2000; **Caicedo and Roper,** *Science* **291:**1557, 2001; **Caicedo et al.,** *J. Physiol.* **544:** 501, 2002). Experience in calcium imaging and/or patch clamp required. Publications in English language journals essential. Salary up to $50,000 depending on experience. Send curriculum vitae and names of references to: **Dr. S. Roper, Physiology/Biophysics (R430), University of Miami Medical School, 1600 N.W. 10th Avenue, Miami, FL 33136. E-mail: roper@miami.edu**.

POSITIONS OPEN

PLANT PHYSIOLOGIST: West Virginia University invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level in the Department of Biology effective August 16, 2003. We are seeking applications from individuals with a broad biology background to develop a strong, independent research program and who are committed to excellent teaching at the undergraduate and graduate level including a comprehensive plant physiology course. Preference will be given to individuals who can interact with the existing programs in environmental, organismal, and molecular biology at West Virginia University. Opportunities also exist to interact with emerging University initiatives in biotechnology and forensic biology. We especially seek individuals who use stable isotope or molecular techniques in their research. West Virginia University is located in Morgantown, West Virginia, which was recently voted "Best Small City in the East" by the *Rating Guide to Life in America's Small Cities*. The Department of Biology has also recently moved into the state-of-the-art Life Sciences Building with excellent laboratory and greenhouse facilities. Qualified applicants should submit statements of research qualifications and teaching philosophy, curriculum vitae, representative publications, estimated start-up costs, and three letters of recommendation. Review of applications will commence on December 15, 2002. Applications should be sent to: **Richard Thomas, Search Committee Chair, Department of Biology, West Virginia University, P.O. Box 6057, Morgantown, WV 26506**. For more information: departmental **website: http://www.as.wvu.edu/biology/; Telephone 304-293-5201, Extension 31516**. *West Virginia University is an Equal Opportunity/Affirmative Action Employer and does not discriminate on the basis of race, color, religion, sex, age, marital status, disability, veteran status, national origin, or sexual orientation.*

ASSISTANT PROFESSOR
Anatomy

Applications are invited for a **TENURE-TRACK POSITION** as Assistant Professor of anatomy at the Northeastern Ohio Universities College of Medicine. Applicants should have an active research program in vertebrate structure and function at the organismal level or in the area of development biology focusing on musculoskeletal development. Teaching responsibilities include medical gross anatomy and Doctoral-level graduate education. The Department is interested in expanding its current strengths in functional morphology, primate/vertebrate paleontology, and development biology.

The Northeastern Ohio Universities College of Medicine is a free-standing medical school operating in a consortium with Kent State University, the University of Akron, and Youngstown State University. A Doctoral program offering degrees in biological anthropology, neuroscience, physiology, pharmacology, and cell/molecular biology is offered through the School of Biomedical Sciences at Kent State University. Applications consisting of a cover letter stating research interests, curriculum vitae, and three letters of recommendation should be sent to: **Human Resources Department, c/o Assistant Professor of Anatomy, Northeastern Ohio Universities College of Medicine, 4209 State Route 44, P.O. Box 95, Rootstown, OH 44272-0095 U.S.A. E-mail: jobs@@neoucom.edu**. Review of applications will begin February 15, 2003, and continue until filled. *NEOUCOM is an Equal Opportunity Employer and Educator.*

RESEARCH POSITIONS
Harvard Medical School

(1) **SENIOR IMMUNOLOGIST**. Senior Fellow/potential junior faculty. Expert in T cell biology, immunotherapy to oversee immuno-gene therapy group. (2) **IMMUNOLOGY POSTDOCTORALS**: tumor expression library cloning, Ab phage display, animal models, GvH, TCR cloning. (3) **GENETICS POSTDOCTORAL**: gene expression, TFs, EMSAs, functional assays. Send résumé, names of three references by FAX to **Dr. R.P. Junghans; FAX: 617-432-7007**.

NC STATE UNIVERSITY

Bioinformatics Faculty Positions

North Carolina State University wishes to add faculty at all levels to its **Bioinformatics Graduate Program** and its **Bioinformatics Research Center** (bioinformatics.ncsu.edu). The program, which has about 50 students pursuing Masters and Ph.D. degrees in bioinformatics, enjoys strong support from the state, NIH, NSF and industry. The research center is housed in a new facility on NC State's unique multidisciplinary Centennial Campus (centennial.ncsu.edu), and has long-standing strength in statistics and statistical genetics.

Faculty are currently sought to enhance computational aspects of bioinformatics and other complementary areas broadly construed. Each appointee will be associated with the Bioinformatics Research Center and will be appointed to an academic department or departments that best suit his or her area of expertise. Applicants must have a Ph.D. in a relevant discipline.

Send letter of application, CV and the names of three references to Dr. Raymond E. Fornes, Chair; Bioinformatics Search Committee; Campus Box 8209; NC State; Raleigh NC 27695-8209. Review of applications will begin immediately and continue until the positions are filled.

In its commitment to diversity and equity, NC State seeks applications from women, minorities, and persons with disabilities. AA/EOE. Individuals with disabilities desiring accommodations in the application process should contact Ms. Joye Stephenson at joye_stephenson@ncsu.edu, telephone 919-515-7865, or fax 919-515-7668.

MAYO CLINIC

Section of Scientific Publications
Manuscript Editor Position
Rochester, Minnesota

The Mayo Foundation and Mayo Clinic Section of Scientific Publications seek a full-time manuscript editor at Rochester, MN. Candidates should have substantial experience in editing peer-reviewed manuscripts, book chapters, books, and NIH grants. A relevant Ph.D. or M.D. degree is desirable but not essential. The current staff includes 7 biomedical editors and 23 editorial assistants and proofreaders. Candidates will be expected to furnish examples of their work so that the edited manuscript can be compared with the unedited copy. Successful applicants will be considered for a faculty appointment at Mayo Medical School (rank commensurate with experience). Mayo Clinic Rochester offers competitive compensation and comprehensive benefits including a relocation package. Our education and research emphasis also provides excellent opportunities for academic advancement. Apply by **January 15, 2003**.

Send CV to:

Joseph G. Murphy, M.D., FRCPI
Chair, Section of Scientific Publications
Mayo Foundation and Mayo Clinic
Plummer Building, S-10
200 First Street SW, Rochester, MN 55905
Fax: 507-284-2107

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

Assistant Professor
CELLULAR AND MOLECULAR PHYSIOLOGY
THE UNIVERSITY OF IOWA
CARVER COLLEGE OF MEDICINE

The Department of Physiology and Biophysics is seeking outstanding candidates for three tenure track positions at the rank of Assistant Professor. Although we are primarily interested in candidates at the rank of Assistant Professor, we will consider applications at all tenure track ranks. Successful candidates are expected to develop a high quality independent research program. We are particularly interested in individuals who would complement existing strengths in gene expression, molecular endocrinology, neurobiology, membrane trafficking, signal transduction and cardiovascular research.

Candidates should have a Ph.D. or M.D. degree and two years of relevant postdoctoral training and a strong record of research accomplishment. Substantial startup funds for equipment, personnel support and supplies are available. The University of Iowa is located on the Iowa River in Iowa City (**http://www.iowacity.com/**), an affordable college community with many cultural amenities.

Applicants should submit a curriculum vitae, a one page summary of research accomplishments, a one page description of future plans and copies of major publications. Applicants should arrange to have three letters of recommendation forwarded to the search committee. Review of applicants will begin December 1, 2002. Send all materials to:

Faculty Search Committee
Department of Physiology and Biophysics
The University of Iowa
5-660 Bowen Science Building
Iowa City, IA 52242
http://www.physiology.uiowa.edu/

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

CENTER DIRECTOR

The U.S. Department of Agriculture (USDA) is seeking candidates for the position of Director of the Plum Island Animal Disease Center (PIADC) at Greenport, New York. PIADC is the principal USDA laboratory for research and diagnosis of animal diseases which are exotic to the United States. Duties of the Director include direction and coordination of the research and diagnostic programs as well as the overall operation and management of the Center. Research is funded and administered through the Agricultural Research Service (ARS). The Foreign Animal Disease Diagnostic Laboratory is funded and administered through the USDA Animal and Plant Health Inspection Service (APHIS). The Director represents ARS and APHIS in communications in the veterinary and biomedical communities, representatives of other governmental agencies, congressional staff, livestock producers and commodity groups, news media and the general public, on foreign animal diseases.

The successful candidate will have the DVM or equivalent degree, demonstrated skill in organizing and leading multidisciplinary teams of scientists, and a strong record of personal research accomplishments. A Ph.D. or equivalent degree is highly desirable. This is a Senior Executive Service position with a salary range from $130K to $138K, depending on qualifications. U.S. citizenship required. For further information about the position, please call **Mrs. Wilda Martinez** at **215-233-6593**. For application procedures, call **Stacy Aldrich** at **301-504-1448**, or e-mail **saldrich@ars.usda.gov**. Applications must be received by **January 17, 2003**.

USDA/ARS IS AN EQUAL OPPORTUNITY EMPLOYER

Agricultural Research Service

USDA United States Department of Agriculture

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR CELL/MOLECULAR BIOLOGIST BIOLOGIST

Texas Woman's University invites applications for two tenure-track faculty positions in the Department of Biology. Areas of interest include neuroscience, cell signaling, gene expression, and related fields that may complement current research and teaching areas. Successful candidates will teach undergraduate and/or graduate courses and supervise training of M.S. and Ph.D. students. A Ph.D. degree, postdoctoral experience, research productivity, and the potential to develop an extramurally funded research program are expected. TWU, a comprehensive public university, is a teaching and research institution enrolling approximately 8,500 undergraduate and graduate students. TWU is located in Denton, Texas (population 80,000), 36 miles from the Dallas and Ft. Worth areas.

Submit a letter of application, curriculum vitae, a brief description of current research interests, teaching experience, philosophy of teaching, and three letters of reference to: **Faculty Search Committee, Department of Biology, P.O. Box 425799, Denton, TX 76204. E-mail: luphouse@twu.edu; website: http://www.twu.edu/as/biol.** Review of applications will begin immediately and continue until positions are filled. *Affirmative Action/Equal Opportunity Employer.*

UNIVERSITY OF PENNSYLVANIA, Department of Mechanical Engineering and Applied Mechanics, invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level. Applicants with appropriate experience may be considered at a more senior level. Areas of primary interest include computational mechanics, micro- and nanoscale engineering, and design. Penn emphasizes excellence in research and in teaching, and the Department maintains strong ties to other engineering departments and to the Medical School, the School of Arts and Sciences, and the Wharton School of Business. Candidates must have a Doctorate, must be committed to teaching at the undergraduate and graduate levels, and are expected to develop an externally funded research program. Send résumé, reprints of selected articles, and names of at least three references to: **Dr. John L. Bassani, Chair of Mechanical Engineering and Applied Mechanics, 297 Towne Building, 220 South 33rd Street, University of Pennsylvania, Philadelphia, PA 19104-6315** or electronically to the attention of: **Lynda Mules; e-mail: lynda@seas.upenn.edu.** For additional information about the Department of Mechanical Engineering and Applied Mechanics at the University of Pennsylvania, please refer to our **website: http://www.me.upenn.edu.** *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.*

A **POSTDOCTORAL RESEARCH ASSOCIATE** position is available to investigate the metabolism and mechanism of action of chemical carcinogens, DNA repair, and expression of p53 and p21 proteins. A Ph.D. in biochemistry, biochemical toxicology, or a related field is required. Experience with HPLC, cell culture, and Western and Northern blotting techniques is desirable. Please send résumé and names of three references to: **Dr. H. Sikka, Environmental Toxicology and Chemistry Laboratory, Great Lakes Center, State University of New York College at Buffalo, 1300 Elmwood Avenue, Buffalo, NY 14222. Telephone: 716-878-5422; FAX: 716-878-5400; e-mail: sikkahc@buffalostate.edu.**

POSTDOCTORAL FELLOWSHIP position is available at Northwestern University to work in projects on the mechanisms of interferon signaling in malignant cells. Previous experience in molecular biology/biochemistry preferred. Applicants should submit their curriculum vitae to: **Leonidas C. Platanias, M.D., Ph.D., Professor of Medicine, Deputy Director, Robert H. Lurie Comprehensive Cancer Center, Northwestern University Medical School, Olson 8250, 303 East Chicago Avenue, Chicago, IL 60611. E-mail: l-platanias@northwestern.edu.** *Equal Opportunity Employer.*

POSITIONS OPEN

DIRECTOR
Protein and Mass Spectrometry Core Facility

The Oregon Health and Sciences University seeks an experienced **RESERCH ASSOCIATE** to direct a new, well-equipped, Universitywide proteomics core facility containing a new ESI and MALDI source mass spectrometers. The candidate will help develop a technical team that will provide services, which would include identifying proteins and their modifications, as well as implementing other proteomics measurements using several front-end methodologies including 2–D electrophoresis and chromatography. Preference will be given to individuals who have experience in mass spectrometry, protein and peptide purification, and bioinformatics. Prior experience in operating a core facility, performing collaborative projects with Investigators of diverse interests, and good interpersonal and leadership skills will also be helpful. The candidate will also be given the opportunity to play a major role in enhancing the current and future Universitywide proteomic initiative. Salary will be commensurate with experience. Please send curriculum vitae and three references to:

Daniel Dorsa, Ph.D.
Vice President for Research
Oregon Health and Sciences University
3181 S.W. Sam Jackson Park Road
Mail Code L 335
Portland, OR 97239
Website: http://www.ohsu.edu

OHSU, where leading, teaching, and discovery come together.

OHSU is an Affirmative Action/Equal Opportunity Institution.

FACULTY POSITION
Comparative Medical Genetics

The Ohio State University, Department of Veterinary Biosciences, invites applications for a tenure-track or tenured position in comparative medical genetics. We seek an individual with knowledge and experience in genetic models of cancer or hereditary diseases. Applicants should have completed a Ph.D. or equivalent, have relevant postdoctoral experience, and a record of excellence in research. Applicants for tenured position must have a proven record of success in attracting extramural research funds; tenure-track applicants should have excellent potential. Development of an independent, nationally recognized research program; involvement in collaborative research between the Medical Center and College of Veterinary Medicine; and a strong commitment to graduate education are essential for the successful applicant.

Applications should include curriculum vitae; statement of career goals; summary of current research activities; and the names (with complete mailing, telephone, FAX, and e-mail addresses) of at least four individuals from whom letters of reference may be solicited. Applications will be accepted until February 1, 2003, or until the position is filled. Address all correspondence to: **Chair, CMG Search Comittee, Department of Veterinary Biosciences, College of Veterinary Medicine, The Ohio State University, 1925 Coffey Road, Columbis, OH 43210.** Full job description and department details: **website: http://www.vet.ohio-state.edu/docs/biosci/index.html.**

The Ohio State University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS

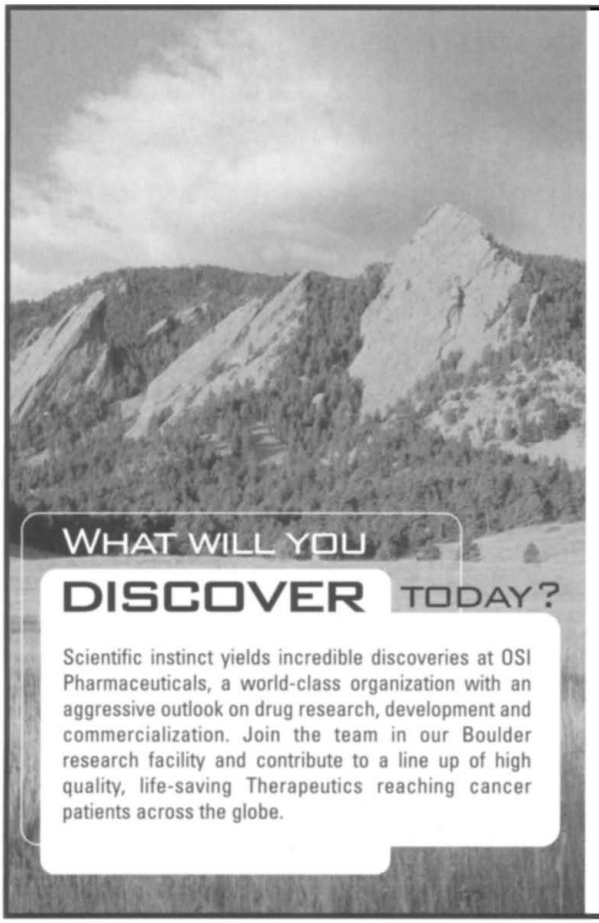
Two Postdoctoral positions are available immediately to study the molecular mechanisms of a new chemotherapeutic agent in ovarian cancer cells. The research will be involved in DNA damage response, MAPK activation, and apoptosis. Please send your curriculum vitae and three references to: **Dr. Weixin Wang, Ph.D., Assistant Professor, MBR Cancer Center, West Virginia University, P.O. Box 9300, Morgantown, WV 26506. Telephone: 304-293-2243; FAX: 304-293-5244; e-mail: wwang@hsc.wvu.edu.**

POSITIONS OPEN

FACULTY POSITION
Microbial Biochemistry/Molecular Microbiology
The Ohio State University
Department of Microbiology

Applications are invited for a tenure-track faculty position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level in the Department of Microbiology at The Ohio State University. Applicants must have a Ph.D. in microbiology, biochemistry, molecular biology, genetics or other related disciplines, and postdoctoral research experience; documented evidence of high-quality research; and a strong commitment to teaching and research at a major research university. The successful applicant will be expected to develop and maintain a productive research program with extramural support and to participate in teaching at the undergraduate and graduate level. Preference will be given to individuals with expertise in the physiology of microbes and/or pathogenesis of microbes and a research program focused on biochemical or molecular biological studies of microorganisms of medical, environmental, agricultural, or industrial importance. The Department has added six new faculty members over the past three years, and an additional position is now vacant for a research-oriented scholar to join this vigorous community of Researchers in molecular microbiology. The successful applicant will be provided with a very competitive salary and an excellent start-up package. To expedite the review process, applicants should send a copy of their curriculum vitae and a short description of their research interests by **e-mail: microsearch@osu.edu.** In addition, please submit a letter of interest, curriculum vitae, description of future research plans, and the names of at least three potential references to: **Dr. Joseph A. Krzycki, Search Committee Chair, Department of Microbiology, The Ohio State University, 484 West 12th Avenue, Columbus, OH 43210-1292.** For a more detailed description of the Department, please visit the **website: http://www.biosci.ohio-state.edu/~microbio/.** Please apply early for fullest consideration but applications will be accepted until the position is filled. *OSU is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and individuals with disabilities are encouraged to apply.*

ASSISTANT PROFESSOR, bryology and (or) phycology. The Department of Biological Sciences, University of Alberta, invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level in bryology and (or) phycology. The successful candidate will be expected to teach in our core program and in an area of expertise, to develop an active research program, and to serve as an herbarium curator. The Department of Biological Sciences in the Faculty of Science has 73 faculty members and 270 graduate students and is broadly based with six research interest groups. Research facilities include a molecular biology service unit, a fully equipped microscopy unit, field stations, and an herbarium (ALTA) that includes more than 150,000 bryophytes and lichens. More information about the Department can be found at **website: http://www.biology.ualberta.ca/.** Research interests focusing on the ecology and systematics of bryophytes and (or) algae in arctic and alpine environments are particularly welcome. Candidates should submit curriculum vitae; a one-page summary of research plans; and reprints of their three most significant publications electronically by December 15, 2002, to **e-mail: positions@biology.ualberta.ca** or by mail to: **Dr. L. S. Frost, Acting Chair, Department of Biological Sciences, CW 405 Biological Sciences Building, University of Alberta, Edmonton, Alberta T6G 2E9 Canada.** Applicants must also arrange for three letters of reference to be sent to the Chair. The effective data of employment will be July 1, 2002. *The University of Alberta hires on the basis of merit. We are committed to the principle of Equity in Employment. We welcome diversity and encourage applications from all qualified women and men including persons with disabilities, members of visible minorities, and aboriginal persons. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority.*



OSI Pharmaceuticals™

In-vivo Pharmacology - #037

Perform new drug discovery screening, manage research associates and actively participate on project teams, while advising the development group on experimental data for drug profiling and translational research. Candidates must have extensive Xenograft and in-vivo (rodent model) testing experience; solid computer skills; and strong knowledge of cell culture, biochemical analysis, molecular biology, pharmacology and cell biology techniques. Discovery and development experience with non-small molecule therapeutics including antibodies, peptides, and proteins is desirable. This Ph.D. supervisory position requires 2 - 6 years of experience with anti cancer agents and some management experience.

PK Scientist - #003

Looking for an individual who will work as part of a research team to design and implement preclinical pharmacokinetic and ADME studies for OSIP anti-cancer drug discovery. This work combines all study aspects: bioanalytical method development, oversight of sample analysis, study design, data analysis and report writing/presentation. PhD in Bioanalytical Chemistry, Pharmacology, Pharmacokinetics or a Pharm D with an emphasis on pharmacokinetics. Minimum of 4 years experience in experimental design, conduct and analysis of data from drug candidate pharmacokinetic/ADME studies is required. Ideally, the candidate will have experience in all aspects of biopharmaceutics: bioanalytical chemistry, in vivo drug metabolism, preclinical and clinical pharmacokinetics.

Both positions require the ability to organize and present scientific data.

OSI offers significant opportunities to contribute to a vital field, along with great benefits and a business casual environment. You will also enjoy tremendous lifestyle advantages in Boulder, CO—an area defined by its stunning scenic beauty, stimulating University atmosphere, and diverse cultural/professional attractions.

Qualified candidates should forward their resume, indicating salary history and position of interest, to: E-mail: pburnett@osip.com; Fax: (303) 546-7894; Mail **Human Resources, OSI Pharmaceuticals, 2860 Wilderness Place, Boulder, CO 80301.** OSI Pharmaceuticals is an equal opportunity employer.

WWW.OSIP.COM

THE UNIVERSITY OF TEXAS AT AUSTIN
CHAIRMAN OF NEUROBIOLOGY

The Section of Neurobiology in The School of Biological Sciences, College of Natural Sciences invites applications for a tenured Professor and Chairman position. Candidates should have a well established research program in an area of Neurobiology that will complement ongoing research in the Section and enhance future research initiatives. Neurobiology currently has 17 faculty members with research strengths in synaptic neurophysiology, ion channels, addiction, and systems and developmental neurobiology (**http://www.utexas.edu/neuroscience/Neurobiology/**). The position will provide an excellent start up package, substantial opportunities to develop Neurobiology at UT and a supportive, interactive and interdisciplinary research environment. UT Austin has well-respected interdisciplinary graduate programs in Neuroscience (more than 60 faculty) and Cellular and Molecular Biology (more than 90 faculty) and provides state of the art resources for molecular neuroscience, as well as the opportunity to be part of the excellent Institute for Cellular and Molecular Biology (**http://www.icmb.utexas.edu**). Austin is located in the Texas hill country and is widely recognized as one of America's most beautiful and livable cities.

Please send curriculum vitae, summary of research interests, vision for development of Neurobiology at UT and names of at least three references to: **Dr. Adron Harris, Neurobiology Search Committee Chairman, The University of Texas at Austin, Waggoner Center for Alcohol and Addiction Research, 1 University Station A4800, Austin, TX 78712-0159.** Applications should be received by **December 1, 2002**. *The University of Texas at Austin is an Equal Opportunity/Affirmative Action Employer.*

EMBL

International PhD Programme

The European Molecular Biology Laboratory will award predoctoral fellowships in 2003 to University graduates wishing to study for a PhD at EMBL Heidelberg (Germany), at the EMBL Outstations in Hinxton (Cambridge, UK), Hamburg (Germany), and Grenoble (France) or at Monterotondo (Italy). Areas of study include:

- **Cell Biology & Biophysics**
- **Developmental Biology**
- **Gene Expression**
- **Structural & Computational Biology**
- **Bioinformatics**
- **Biochemical Instrumentation**

Candidates must hold, or anticipate receiving in 2003, either a first or upper second class honours degree, a masters degree, a diploma or equivalent in the biological sciences, physics, chemistry, medicine or mathematics.

Candidates for EMBL fellowships should be citizens of an EMBL member state (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Israel, Italy, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom).

In addition, two fellowships will be awarded to candidates from East Europe (member states of the Council of Europe) sponsored by the "Fondation Louis-Jeantet de Médecine". Additional locally-funded opportunities are available in laboratories connected with the Louis-Jeantet Foundation.

The deadline for receipt of completed applications is January 3, 2003. Successful candidates are awarded fellowships in early March 2003 to start work at EMBL in October 2003 at the latest. The duration of a fellowship is 3½ years. Recognizing the high quality of the EMBL International PhD Programme, EMBL became in December 1997 the first international institution providing training in Molecular Biology in Europe that was granted the right to award its own PhD degree. Currently, EMBL's PhD students obtain their degree from a national university or receive a joint degree from a national university and the EMBL. In the near future, we anticipate that they will have the additional option to receive their degree from EMBL alone. EMBL is also interested in promoting research at the interface between Molecular Biology and Medicine. We offer the possibility to pursue an MD/PhD degree to medically qualified candidates on a case-by-case basis.

Application forms and a brochure giving further information about research at EMBL and the groups participating in the EMBL International PhD Programme are available on request from the: Dean of Graduate Studies, Dr Matthias W Hentze, EMBL Postfach 10 22 09, D-69012 Heidelberg, Germany, (Tel. +49 6221 387 430, Fax: +49 6221 387 400, E-mail: predocs@embl-heidelberg.de).

Application forms can also be downloaded directly from:
http://www.embl-heidelberg.de/ExternalInfo/PhdProgramme/Download.html

POSTDOCTORAL POSITION
Columbia University

Position available immediately to study signaling pathways involved in regulating dendritic cell (DC) function. A major focus will be to study the role of NF-kB transcription factors in DCs using already-available knockout mice (see *Immunity* **16**:257–270, 2002). Current approaches include *in vivo* studies of DC function, DNA microarray/bioinformatic techniques, and generation of knockout/transgenic mice. A recent Ph.D. with publications in international journals is essential. A background in immunology and molecular biology with experience in mouse studies is highly desirable. Please send curriculum vitae and summary of past experience to: **Amer A. Beg, Department of Biological Sciences, MC 2458, Columbia University, 1110 Fairchild Center, 1212 Amsterdam Avenue, New York, NY 10027. E-mail: aab41@columbia edu. FAX: 212-865-8246.** *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE

A position is available immediately in the Department of Microbiology and Immunology at CUNY Medical School to study the role of the Epstein-Barr virus nuclear antigen-1 (EBNA-1) in autoimmunity. A strong background in molecular biology and immunology is required. Candidates should have experience in recombinant protein expression and isolation in prokaryotes and eukaryotes. Knowledge of protein localization using fusion reporter genes is encouraged. Experience with DNA-based and protein immunizations of mice, flow cytometry, immunohistochemistry, and ELISAs is also recommended. Salary is commensurate with experience. Availability for an interview is required. Interested individuals should send their curriculum vitae and names, addresses, and telephone numbers/e-mail addresses of three references to: **Linda Spatz, Ph.D.** and **Paul Gottlieb, Ph.D., Department of Microbiology and Immunology, CUNY Medical School, City College of New York, 138th Street and Convent Avenue, New York, NY 10031. E-mail: lspatz@med.cuny.edu.**

A **POSTDOCTORAL POSITION** is available immediately in Stoddard Cancer Research Institute (SCRI), Des Moines, Iowa. The position is founded by A-T Children's Foundation. An individual with a Ph.D. degree in neurobiology with a capability of brain stereotactic injection is a must. It is preferred that the person also has either a molecular biology, virology, or an immunology background. Current research projects in the laboratory are to use herpes simplex virus vector for *Ataxia telangiectasia* (AT) gene therapy. SCRI is a not-for-profit academic research group funded by the Central Iowa Health System. Send curriculum vitae and names of three references to: **Dr. Suming Wang, Stoddard Cancer Research Institute, 1415 Woodland Avenue, Des Moines, IA 50309. Telephone: 515-241-8740; FAX: 515-241-8788; e-mail: wangsm@ihs.org.** *Equal Opportunity Employer/Affirmative Action/Minorities/Females/Disabled/Veterans.*

RESEARCH FELLOW II

The American Red Cross Holland Laboratory has a **POSTDOCTORAL POSITION** available to study the biochemical and molecular aspects of cell-cell and cell-matrix interactions and signal transduction in leukocytes. Representative projects (funded by NIH) include identifying signaling proteins responsible for a novel leukocyte deficiency as well as understanding the roles of integrin and protease receptors in several disease models. Excellent benefits package offered. Please send curriculum vitae and three references to: **Holland Laboratory, American Red Cross, Attention: Dr. Li Zhang, Vascular Biology, 15601 Crabbs Branch Way, Rockville, MD 20855. E-mail: zhangl@usa.redcross.org.** *Equal Opportunity Employer; Minorities/Females/Disabled/Veterans.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS
Eastern Virginia Medical School

Two positions are available for Postdoctoral trainees. The research involves a multidisciplinary approach to the study of leukemia/lymphoma as well as other cancers. The goals of this program are to understand the mechanisms underlying the transformation process and the development of early detection and therapeutic strategies. The successful applicant will apply state-of-the-art proteomic tools; sophisticated imaging approaches; and molecular techniques to achieving these goals in well-equipped, state-of-the-art laboratories. The position requires a Ph.D. with expertise in molecular biology, protein chemistry, mass spectroscopy, or fluorescence microscopy. Interested individuals should respond to: **O. John Semmes, Ph.D., Department of Microbiology and Molecular Cell Biology, Eastern Virginia Medical School, 700 West Olney Road, P.O. Box 1980, Norfolk, VA 23507. Website: http://www.evms.edu/micro/faculty-semmes.html.** Send curriculum vitae, three letters of recommendation, and copies of transcripts.

POSTDOCTORAL POSITION
DRUG DELIVERY

Applications are invited for a Postdoctoral position, available for a year with a possibility of extension, preferably commencing by December 1, 2002. The project is focusing on block copolymer-driven drug delivery and, in particular, drug release kinetics and polymer-drug interactions. The project will build on both experimental and modeling techniques that will facilitate molecular-up design strategies for drug delivery systems. Informal inquiries should be addressed to: **Dr. David Gidalevitz; e-mail: d.gidalevitz@leeds.ac.uk** or **Dr. Robert B. Hammond; e-mail: r.b.hammond@leeds.ac.uk**. Application packs are available from: **Mrs Joy Bielby, Institute for Materials Research, SPEME, University of Leeds, Leeds, LS2 9JT, England, UK. E-mail: mtljb@leeds.ac.uk; Telephone:+44 113 343 2348. Closing date: 22 November 2002.**

POSTDOCTORAL POSITIONS
Columbia University

Postdoctoral positions are available in a multidisciplinary environment at the Division of Clinical Pharmacology and Experimental Therapeutics, Department of Medicine, Columbia University. (1) Chemist/Biochemist interested in the chemistry of nucleic acids-chemical modifications of mono- and oligonucleotides, *in vitro* and *in vivo* selection and modifications, biophysical and biochemical characterizations; (2) Bioanalytical Chemist: oligonucleotide-based arrays of sensors; (3) Organic Synthetic Chemist: synthesis of individual organic molecules and libraries; (4) Chemist/Biochemist/Material Scientist interested in remote control of molecular machines. Salary commensurate with experience. Send résumé to: **Dr. Milan N. Stojanovic; e-mail: mns18@columbia.edu.** *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION
University of Wisconsin
Antifungal Gene Expression

Position involves targeting of expressed antifungal protein genes and patterns of gene expression and signaling during fungal pathogenesis in barley. Associate will join a group studying cereal gene expression and transformation with the goal of producing cereals resistant to *Fusarium graminearum* and other pathogens. Qualifications: expertise in molecular biology, targeting of proteins, expression vectors, transformation of cereals, or *in situ* hybridization, fluorescence microscopy; Ph.D. in plant genetics, pathology, molecular biology, or related field; communication and interpersonal skills. Send letter of application and curriculum vitae to: **Dr. Heidi Kaeppler; e-mail: hfkaeppl@facstaff.wisc.edu.** *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIPS
TROPICAL FOREST ECOLOGY
Center for Tropical Forest Science
Arnold Arboretum Asia Program
of the Smithsonian Tropical Research Institute

The CTFS-AA Asia Program coordinates a network of long-term research programs in the tropical forests of eight Asian countries. Postdoctoral Fellows are sought in forest ecology and the evolution and biogeography of forest communities. Strong analytical background preferred; established record of research and scholarly publication in tropical forest ecology and/or evolution required. Field experience not essential. Positions based at Harvard University. Send curriculum vitae and names of three references to: **Stuart Davies, CTFS-Asia Program, The Arnold Arboretum, Harvard University, 22 Divinity Avenue, Cambridge, MA 02138 U.S.A. E-mail: sdavies@oeb.harvard.edu.** *The Arnold Arboretum of Harvard University and Smithsonian Tropical Research Institute are Equal Opportunity/Affirmative Action Employers.*

EAST TENNESSEE STATE UNIVERSITY
Department of Biochemistry
and Molecular Biology

POSTDOCTORAL FELLOWS positions available to study the molecular mechanisms of DNA repair in both mammalian and bacterial systems as well as the biological effects of DNA damages. Projects are funded by NCI and NIEHS of NIH. Individuals with strong background in biochemistry, biophysics, molecular biology, or cell biology are encouraged to apply. Experience in protein purification and characterization of protein-DNA or protein-protein interactions will be a plus. Candidates should have a Ph.D./M.D. degree. Please send curriculum vitae with names of three references to: **Dr. Yue Zou, Department of Biochemistry, College of Medicine, East Tennessee State University, Johnson City, TN 37614-1708. E-mail: zouy@etsu.edu; Telephone: 423-439-2020; FAX: 423-439-2030.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION
Prion Research
Case Western Reserve University
School of Medicine

Position available to study the mechanism of folding/misfolding, conformational conversions, and amyloid formation by the recombinant prion protein. Candidates with experience in protein chemistry and biophysical methods are particularly encouraged to apply. Please send curriculum vitae and names of three references to: **W. K. Surewicz, Ph.D., Professor, Department of Physiology and Biophysics, Case Western Reserve University School of Medicine, Cleveland, OH 44106-4970. E-mail: wks3@pop.cwru.edu; website: http://physiology.cwru.edu.** *Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF WASHINGTON

POSTDOCTORAL POSITION available in molecular oncology to study function and regulation of tumor suppressor genes TSC1 and TSC2. Candidates should have strong background in molecular, cell biology, and/or biochemistry. A Ph.D. in life sciences is required but with no more than three years of postdoctoral experience. Send curriculum vitae and names of references to: **Dr. Raymond Yeung, Department of Surgery, University of Washington School of Medicine, 1959 N.E. Pacific Street, Box 356410, Seattle, WA 98195-6410.**

POSTDOCTORAL POSITIONS available for the study of *Bacillus subtilis* and *B. anthracis* spore assembly. Applications sought from recent or soon-to-graduate Doctoral students with experience in biochemical and/or genetic analysis of bacteria. Send curriculum vitae and names of three references to: **Dr. Adam Driks, Department of Microbiology and Immunology, Loyola University Medical Center, 2160 South First Avenue, Building 105, Maywood, IL 60153. E-mail: adriks@lumc.edu.**

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- 12 Fellowships Annually
- Fellowship Stipends up to $30,000
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- Support for 12-24 months

An applicant must:

- Be enrolled full-time in a Ph.D. or equivalent doctoral program in a biomedical life or physical science
- Be engaged in and within 1-3 years of completing dissertation research

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- 10 Fellowships Annually
- Fellowship Stipends up to $55,000
- Department Grants of $15,000
- Support for 12-24 months

An applicant must:

- Hold a Ph.D. or equivalent degree in a biomedical life or physical science
- Be appointed as a postdoctoral fellow by the end of the year 2003 at an academic or non-academic research institution (private industrial laboratories are excluded)

Applicants must be African American (Black, non-Hispanic), U.S. citizens or permanent residents, and attend an institution in the U.S.A. Applications must be postmarked by December 16, 2002

For application forms and more information, please contact your department chairperson or Jerry L. Bryant, Ph.D., at the **United Negro College Fund**, 8260 Willow Oaks Corporate Drive, P.O. Box 10444, Fairfax, VA 22031-4511, by fax (703) 205-3574, by e-mail at ***uncfmerck@uncf.org***, or visit our website at ***www.uncf.org/merck/***

FELLOWSHIPS

2003 SUMMER RESEARCH FELLOWSHIPS

Funding Available for Summer Research at The Marine Biological Laboratory in Woods Hole

The Marine Biological Laboratory is pleased to announce the availability of funding for Summer Research Fellowships in 2003 for junior or senior investigators holding a Ph.D., M.D., or equivalent degree. These prestigious awards provide costs for research and housing, and also enable Fellows to benefit from the rich intellectual and interactive environment of the scientific community at the MBL.

Proposals for Fellowship support will be considered in, but are not limited to, the following fields of investigation:

Cellular & Molecular Physiology
Developmental Biology
Neurobiology
Ecology
Parasitology
Microbiology
Molecular Biology

Specific Fellowships in Cell & Developmental Biology are provided by the newly established Laura and Arthur Colwin Fellowship Fund. Additional specific Fellowships also provide state-of-the-art microscopy support.

Application Deadline for Fellowships is January 15, 2003

Applications are reviewed by the MBL Fellowship Committee. Notification of decisions will be mailed by March 15.

For Application Forms and Additional Information, Please Contact:
Sandra Kaufmann
Fellowship Coordinator
508-289-7441; skaufman@mbl.edu

The MBL is an EEO/Affirmative Action Institution

Applications are encouraged from women and members of underrepresented minorities.

Additional information is available on our web-site:

http://www.mbl.edu/fellowships

Marine Biological Laboratory, 7 MBL Street, Woods Hole, Massachusetts 02543-1015

Marine Biological Laboratory

2003 Course Offerings

Substantial financial assistance is available for many of our courses!

Advances in Genome Technology & Bioinformatics
October 5 - November 1

Analytical & Quantitative Light Microscopy
May 8 - May 16

Biology of Parasitism: Modern Approaches
June 12 - August 9

Embryology: Concepts & Techniques in Modern Developmental Biology
June 15 - July 27

Frontiers in Reproduction: Molecular & Cellular Concepts & Applications
May 18 - June 29

Medical Informatics
1st Session: May 25 - June 1
2nd Session: September 28 - October 5

Methods in Computational Neuroscience
August 3 - August 31

Microbial Diversity
June 15 - August 1

Molecular Biology of Aging
August 5 - August 23

Molecular Mycology: Current Approaches to Fungal Pathogenesis
August 7 - August 25

Neural Development & Genetics of Zebrafish
August 17 - August 30

Neural Systems & Behavior
June 15 - August 9

Neurobiology
June 8 - August 9

Neuroinformatics
August 16 - August 31

Optical Microscopy & Imaging in the Biomedical Sciences
October 8 - October 17

Pathogenesis of Neuroimmunologic Diseases
August 10 - August 23

Physiology: The Biochemical & Molecular Basis of Cell Signaling
June 15 - July 26

Summer Program in Neuroscience, Ethics, & Survival (SPINES)
June 21 - July 19

Workshop on Molecular Evolution
July 27 - August 8

For more information contact:
Carol Hamel, Admissions Coordinator
(508) 289-7401
admissions@mbl.edu

http://courses.mbl.edu

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POSITIONS OPEN

STONY BROOK
STATE UNIVERSITY OF NEW YORK

POSTDOCTORAL ASSOCIATE

Stony Brook University seeks a Postdoctoral Associate available immediately to study structure/function of AKAP250 and scaffold proteins in GPCR biology. Ph.D., D.O., or M.D. required. Send curriculum vitae and references to: **Dr. Craig C. Malbon, Molecular Pharmacology, Stony Brook University, Stony Brook, NY 11794-8561. E-mail: brockner@pharm.sunysb.edu.** Visit us at **website: http://www.stonybrook.edu/cjo** for more details. *Affirmative Action/Equal Opportunity Employer.*

RESEARCH POSITIONS
Chemistry/Biochemistry
Montclair State University

Two research positions in the Department of Chemistry and Biochemistry, one at the **M.S.** level and one at the **POSTDOCTORAL** level, are available in the area of antibiotic resistance (See *J. Biol. Chem.* **276:**31913–31918, 2001). The successful candidate for the Research Associate position will have an M.S. in chemistry or biochemistry and will be familiar with standard biochemical techniques. The successful candidate for the Postdoctoral position will have a Ph.D. in chemistry or biochemistry and will have expertise in the study of biologically active molecules and mechanism of action. Applications including a cover letter, curriculum vitae, and three letters of recommendation should be sent to: **Professor Jeffrey H. Toney, Department of Chemistry and Biochemistry, Montclair State University, Upper Montclair, NJ 07043.** *Montclair State University is an Equal Employment Opportunity/Affirmative Action Employer. Women and minorities strongly encouraged to apply.*

POSDTDOCTORAL POSITIONS

Postdoctoral positions are available to study blood-feeding arthropod interactions with host innate and specific acquired immunity and to develop novel vaccine strategies to control infestation and pathogen transmission. Proficiency is required in immunology, molecular biology, and protein expression and purification. Desired skills/experience include flow cytometry, immunoassays for antibody and cell-mediated immune responses, low- and high-pressure column chromatography, two-dimensional gel electrophoresis, PCR, RT-PCR, Northern blot analysis, gene cloning, and prokaryotic and eukaryotic expression systems. Position includes salary (negotiable), fringe benefits, and the opportunity to be a member of a multidisciplinary microbial pathogenesis research group focusing on arthropod-borne infectious agents in a stimulating scientific environment and state-of-the-art facility. Send curriculum vitae along with the names, addresses, telephone numbers, and e-mail addresses of three references to: **Dr. Stephen Wikel, Director, Center for Microbial Pathogenesis, School of Medicine, University of Connecticut Health Center, 263 Farmington Avenue, MC 3710, Farmington, CT 06030-3710.** *UCHC is an Equal Opportunity Employer; Minorities/Females/Veterans/Persons With Disabilities.*

POSTDOCTORAL POSITION

Available immediately to study signaling events downstream of cell-cell adhesion receptors (e.g., *Curr. Opinion Cell Biol.* **13:**604–610, 2001; **website: http://www2.utmb.edu/scccb/Anastasiadis.htm**). Experience in molecular and cell biology, publications in refereed journals, and proficiency in English are preferred. Send curriculum vitae and names of three references via **e-mail: pananast@utmb.edu** or to: **Panos Z. Anastasiadis, Ph.D., Sealy Center for Cancer Cell Biology, University of Texas Medical Branch, 301 University Boulevard, Galveston, TX 77555-1048.** *UTMB is an Equal Opportunity/Affirmative Action Employer; Minorities/Females/Disabled/Veterans.*

POSITIONS OPEN

POSTDOCTORAL TRAINING
Computational Genomic Epidemiology of Cancer

This NIH-funded program offers an unprecendented set of instructional and research opportunities to exceptional Postdoctoral candidates in order to promote their careers as independent Researchers at the intersection of genetics, epidemiology, biostatistics, computer science, and cancer research. The Center for Computational Genomics (**website: http://genomics.cwru.edu**) and the Comprehensive Cancer Center (**website: http://cancer.cwru.edu**) serve as conduits for the program, which links together the Departments of Genetics (**website: http://genetics.cwru.edu**), Epidemiology and Biostatistics (**website: http://epbiwww.cwru.edu**), and Computer Science (**website: http://www.eecs.cwru.edu**). Trainees may work in a highly interactive fashion with multiple faculty mentors who hve innovative research programs including (1) **Evan E. Eichler**: gene duplication and DNA transposition in the human genome; (2) **Robert C. Elston**: statistical methods for the identification of disease-causing genes; (3) **Sanford Markowitz**: molecular abnormalities, microarrays, and linkage in colon cancer; (4) **Joseph H. Nadeau** mouse models of multifactorial diseases; (5) **Yoh-Han Pao** data mining and machine learning; (6) **S. Cenk Sahinalp** combinatorial pattern matching, data structures, and compression; and (7) **John S. Witte** applied and statistical genetic epidemiology of complex diseases.

Training support is for one to three years. Salary is extremely competitive (up to $65,000 per year), and trainees receive $30,000 in annual research funds. *U.S. citizens, permanent residents, and outstanding foreign candidates are invited to apply* by e-mailing: **John S. Witte; e-mail: witte@darwin.cwru.edu** curriculum vitae, three letters of reference, and a statement of research interests. More information about the program an be found at **website: http://cancer.cwru.edu/training/train_f.html.**

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POSTDOCTORAL POSITION
HIV RESEARCH
Laboratory of Molecular Virology
Department of Microbiology and Tropical Medicine
The George Washington University Medical Center

Postdoctoral position is available immediately to study mechanisms of HIV–1 nuclear import by confocal fluorescent microscopy. We look for a candidate familiar with confocal microscopy of live cells. Experience with cell cultures and molecular biology techniques is a plus. Review of application submissions to begin 5 November 2002 and continue until position is filled. Send curriculum vitae and names of three references by e-mail or FAX to:

Professor Michael Bukrinsky, Vice Chairman
Department of Microbiology and Tropical Medicine
The George Washington University
Ross Hall, Room 734
2300 I Street, N.W.
Washington, DC 20037
E-mail: mtmmib@gwumc.edu
FAX: 202-994-2913

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POSTDOCTORAL FELLOWSHIP available immediately to investigate the molecular microbiology of the skin. Applicants should have an M.D. or Ph.D. degree and *be a citizen or permanent resident of the United States.* Please send your curriculum vitae and the names and telephone numbers of three references to:

Martin J. Blaser, M.D.
Professor of Medicine and Microbiology
New York University School of Medicine
550 First Avenue OBV A606
New York, NY 10016

POSITIONS OPEN

POSTDOCTORAL POSITION

Position available immediately for a recent graduate with Ph.D. or M.D. degree to join a dynamic research team engaged in the study of the structure and function of human CD8 co-receptor and antigen recognition of TCR specific in melanoma tumor antigen.

A highly motivated individual with expertise in biochemistry is encouraged to apply. Experience in expression of the recombinant proteins, protein purification, and refolding is desired. Please send résumé and the names of three references to:

Hsiu-Ching Chang, Ph.D.
Harvard Medical School
Dana-Farber Cancer Institute
44 Binney Street, Dana 1540
Boston, MA 02115
FAX: 617-632-3351
E-mail: hsiu-ching_chang@dfci.harvard.edu

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POSTDOCTORAL POSITIONS are currently available for two projects: (1) characterization of T cell responses to *Yersinia pestis*, the causative agent of pneumonic plague; and (2) mechanisms of infection-stimulated immunopathology. Our long-term efforts are increasingly aimed at biodefense applications with emphasis on combating the immunopathological events that accompany infection with highly virulent pathogens. We are defining mechanisms underlying those events using pathogens that require BSL2 precautions and plan to extend our findings to models of BSL3/4 pathogens in the near future. Applicants should have a Ph.D. in immunology, pathology, or a related field. Experience with animal models of infection and/or disease is desirable. More detailed descriptions of ongoing projects are available at **website: http://www.trudeauinstitute.org.**

Trudeau Institute is a not-for-profit biomedical research institute with state-of-the-art facilities, an international reputation for excellence, and a highly collaborative research environment focused on basic immunology and infectious disease. Located in the heart of the Adirondack Mountains overlooking beautiful Saranac Lake, New York, Trudeau offers competitive salary and benefits including day care, pension, and subsidized on-site housing. Interested applicants should send curriculum vitae, addresses of three references, and a letter describing their research interests to the address listed below:

Stephen T. Smiley, Ph.D.
Trudeau Institute
P.O. Box 59
Saranac Lake, NY 12983
Telephone: 518-891-3080
FAX: 518-891-5126
E-mail: ssmiley@trudeauinstitute.org

POSTDOCTORAL FELLOWS/SCIENTIST

Several positions are immediately available to apply contemporary and advanced molecular genetic techniques to stem cells, infectious disease, and cancer research. Examples of our recent research can be found in *PNAS* **97:**2852, 2000; *JBC* **276:**33129, 2001; *The Scientific World* **2:**684, 2002. Investigators with a Ph.D. in molecular biology are encouraged to apply. Selected individuals will be compensated with highly competitive salary and fringe benefits. To apply, please send three recommendation letters directly to: **Peter M. C. Wong, Ph.D., Department of Pathology and Laboratory Medicine, Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, 3307 North Broad Street, AHB, Room 552, Philadelphia, PA 19140. Telephone: 215-707-8361; FAX: 215-707-8351; e-mail: petermcw@aol.com** or **peter.wong@temple.edu.** *Temple University is an Equal Employment Opportunity/Minorities/Females/Disabled/Veterans.*

POSITIONS OPEN

The Division of Neurovascular Biology and Neurosurgery at the University of Rochester is seeking a **POSTDOCTORAL FELLOW** with experience to work in a busy laboratory at the cutting edge of brain research. Will be working on studies of iron and the aging brain using both *in vitro* and *in vivo* models. A good scientific knowledge on transport of solutes in biological systems and relevant laboratory skills are required. Laboratory is part of the Frank P. Smith Laboratory for Neurological Research under the general direction of **Berislav Zlokovic, M.D., Ph.D.**, with direct supervision by **Rashid Deane, Ph.D.** Salary is commensurate with experience. Please contact: **Kathy Adamski, Center for Aging and Developmental Biology, 601 Elmwood Avenue, Box 645, Rochester, NY 14642. Telephone: 585-273-3132; FAX: 585-273-3133; e-mail: kathy_adamski@urmc.rochester.edu**.

A **POSTDOCTORAL POSITION** supported by an NIH grant is available to study the molecular mechanism of pancreatic beta cell adaptation and development on transgenic/diabetic animal models. Applicants must have a Ph.D. or M.D. degree with experience in molecular biology, biochemistry, metabolism, immunohistochemistry, cell culture, insulin secretion, and animal surgery. Good communication skills are essential. Send curriculum vitae and three references to: **Dr. Ye Qi Liu, Kosair Children's Hospital Research Institute, Department of Pediatrics, University of Louisville School of Medicine, 570 South Preston Street, Suite 304, Louisville, KY 40202. Telephone: 502-852-2654; e-mail: vqliu001@gwise.louisville.edu**.

The Frank P. Smith Laboratory of Neurosurgery and the Division of Neurovascular Biology at the University of Rochester is seeking a **POSTDOCTORAL FELLOW** with experience in stroke modeling in small rodents. Projects to involve neuronal repair. Minimum experience of two years with demonstrated skills in stroke modeling is sought. **Berislav Zlokovic, Director**, and **Cargill H. Alleyne, Jr., Principal Investigator.** Salary is commensurate with experience.

Please contact: **Kathy Adamski, Center for Aging and Developmental Biology, 601 Elmwood Avenue, Box 645, Rochester, NY 14642. Telephone: 585-273-3132; FAX: 585-273-3133; e-mail: kathy_adamski@urmc.rochester.edu**.

FELLOWSHIPS

REGENTS FELLOWSHIP
Conservation Biology

The Department of Biological Sciences at the University of New Orleans has a **DOCTORAL FELLOWSHIP** available commencing fall 2003. The Fellowship term is for a four-year period and includes a full tuition waiver; an annual stipend of $20,000; and a research/travel allowance. The Department offers opportunities to conduct research related to conservation biology in areas including biochemical/physiological adaptations, reproductive biology, genetics, systematics, evolution, and ecology. For more information, **e-mail: biograds@uno.edu** or see our **website: http://www.uno.edu/~bios**. To apply, contact: **Director of Graduate Studies, Department of Biological Sciences, University of New Orleans, Lakefront Campus, New Orleans, LA 70148**. *Equal Employment Opportunity/Affirmative Action Employer.*

GRADUATE RESEARCH FELLOWSHIPS
Plant Biology

The Interdisciplinary Plant Group at the University of Missouri has five Graduate Student Fellowships supported by an award from the Monsanto Company. Applications from candidates interested in interdisciplinary research in genomics, proteomics, or metabolic engineering are strongly encouraged.

Application materials can be found at **website: http://www.plantgroup.org**. For additional information about the MU/Monsanto Fellowship program, contact: **Nila Emerich; e-mail: emerichn@missouri.edu; Telephone: 800-553-5698**.

ANNOUNCEMENTS

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Statement required by the Act of 12 August 1970, Section 3685, Title 39, United States Code, showing the ownership, management, and circulation of:

1-9. *Science*, Publication No. 0036-8075, is published weekly on Friday, except the last week in December, at 1200 New York Ave., NW, Washington, DC 20005. Date of filing: 11 October 2002. This is also the address of the publisher, the editor, and the managing editor, who are, respectively, Beth Rosner, Donald Kennedy, and Monica M. Bradford.

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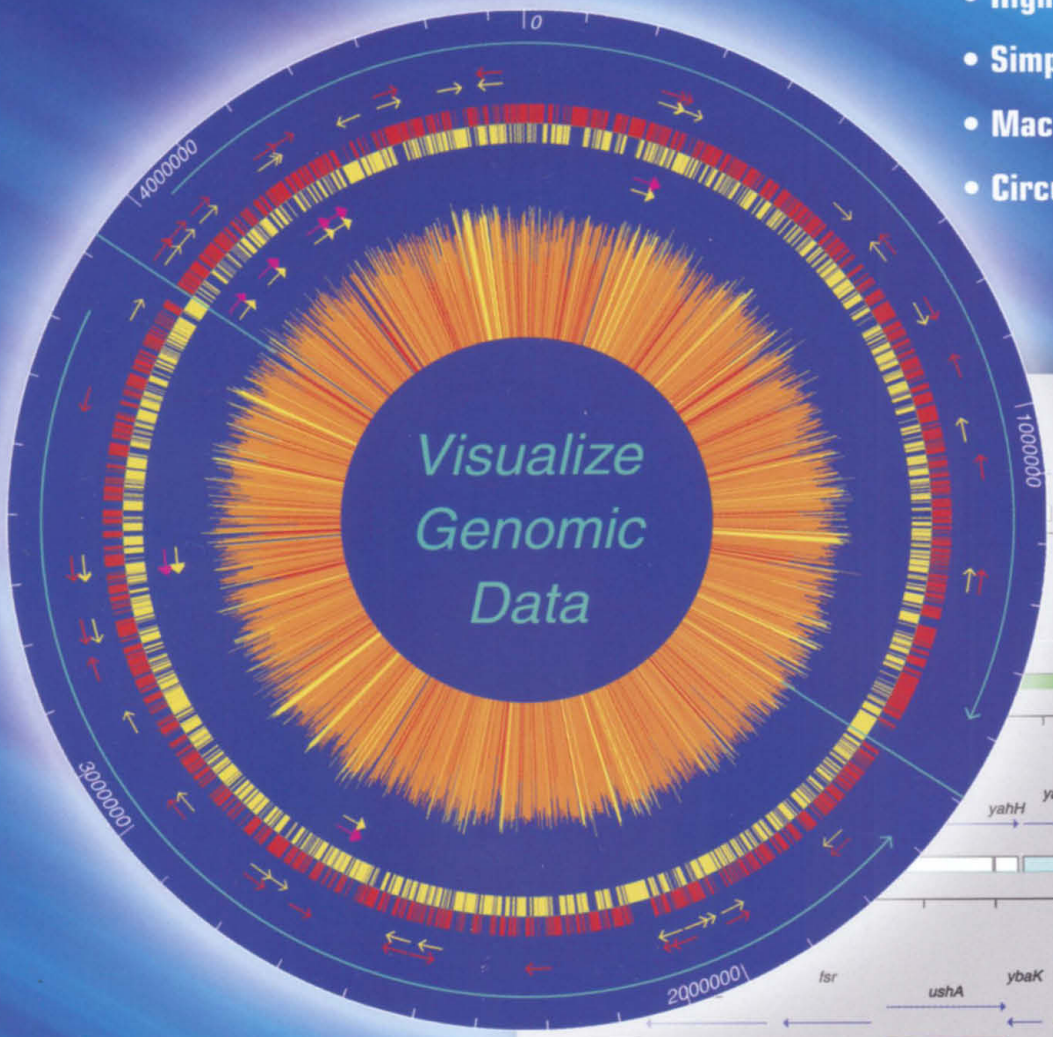

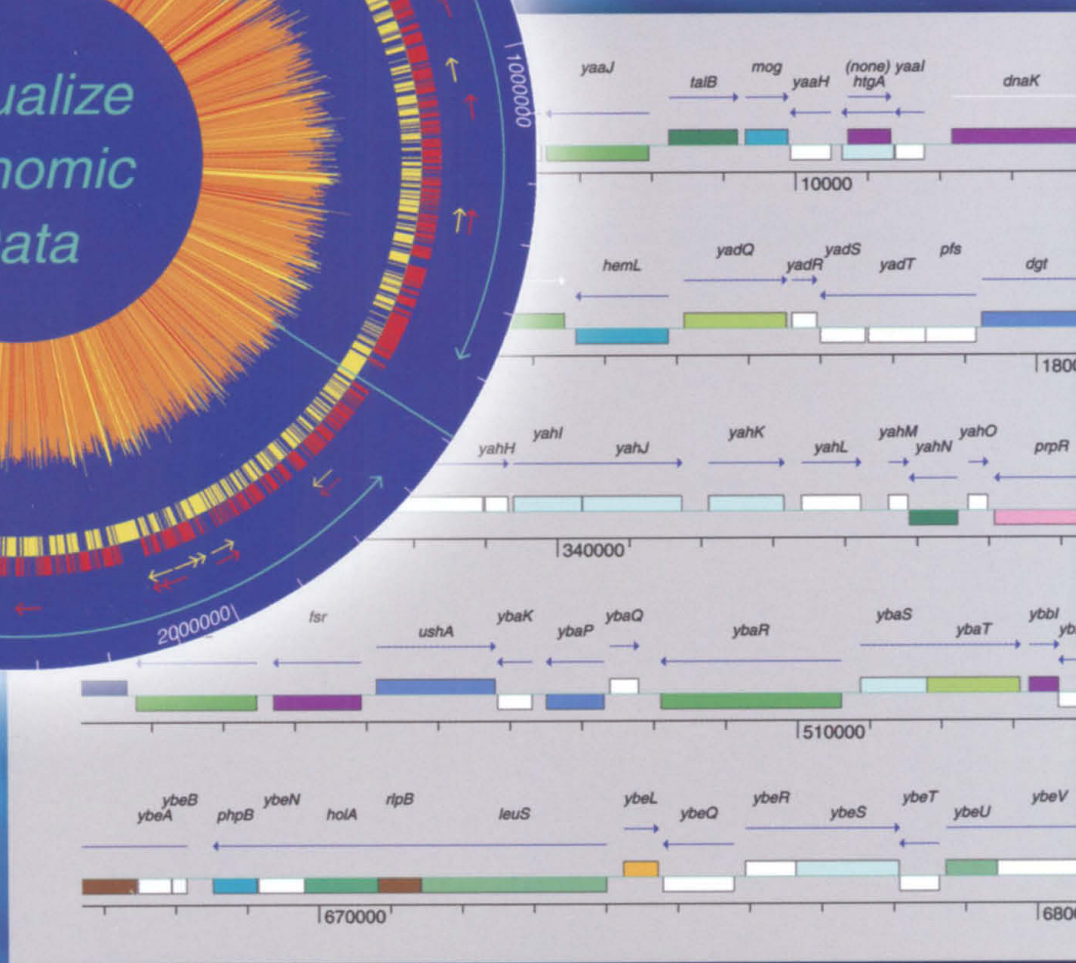

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