# NEW PRODUCTS

**Gene Construction Kit**
**Textco, Inc.**
West Lebanon, NH
Contact manufacturer for pricing information
603-643-1471

## DESKTOP CLONING TOOL

The Gene Construction Kit (GCK) from Textco was devised to help molecular biologists diagram and keep track of the numerous constructs produced in a laboratory over a period of years. The program enables scientists to create everything from flowcharts illustrating cloning strategies to publication-quality maps of constructs.

The program's clever interface is set up to allow one to view nucleic acid sequences and the information relating to them in one of four windows: Construct, List, Gel, and Illustration. Starting with a DNA sequence, one can make figures of constructs in the Construct window; create lists of sequence features (like restriction enzyme recognition sites, promoters, binding sites for proteins) in the List window; view a simulated gel electrophoresis pattern of a restriction digest in the Gel window; and create documents for presentation or publication in the Illustration window. Through all of these manipulations, the information in each window remains linked, so that changes in the sequence are reflected immediately in the display of the construct. The range of figure-creating choices is impressive, permitting clear and attractive illustrations to be easily made.

The program allows users to import sequences directly from GenBank by entering the accession number of the desired sequence. This is handled by Deluxe Importer, one of the handiest features of this program that allows transfer of GenBank features into editable GCK files. For example, a signal peptide sequence noted in the GenBank sequence can be readily displayed in a choice of formats on the corresponding figure in the Construct window. One may also use the regular Import feature to bring in sequences in a variety of commonly used formats.

Another very useful attribute of the program is its ability to "keep tabs" on the genealogy of a construct. Thus, if two subclones are created from construct X, which itself was made by the insertion of a 5-kb fragment into the vector pET 32a, the program can track this lineage easily. Anyone who has ever made multiple, related constructs can appreciate the utility of this feature. Indeed, the program's attention to the practical needs of molecular biologists is reflected in the many intelligently designed details. Among these are the option to "fill-in" or trim the ends of restriction fragments before use in virtual cloning, as well as the simplicity with which restriction sites from the Construct window can be used to generate the gel electrophoretic pattern of fragments created by restriction enzymes in the Gel window.

The most recent version of this program has several enhancements, including the Deluxe Importer described here and the ability to use the program native in OS X on the Mac. Windows users may run the program under Windows 98, NT4, 2000, or XP.

**—Indira Rajagopal**

Department of Biochemistry and Biophysics, Oregon State University, Corvallis, OR 97331, USA. E-mail: rajagopi@ucs.orst.edu

**National Gene Vector Laboratories**
For more information
317-274-0448
www.ngvl.org
**www.scienceproductlink.org**

## NATIONAL GENE VECTOR LABORATORIES

The National Gene Vector Laboratories (NGVL), funded by the National Institutes of Health, offer vector production facilities at Indiana University, Baylor College of Medicine, and City of Hope/Beckman Research Institute. Two pharmacology/toxicology centers have been established at the University of Florida and Southern Research Institute. The vector production facilities generate clinical grade adenoviral, adeno-associated virus, DNA plasmid, lentivirus, herpes simplex virus, and retrovirus vectors for phase I/II gene therapy protocols. The pharmacology/toxicology centers provide support for investigators needing studies for their clinical protocols using adeno-associated virus, herpes simplex virus, and lentivirus, or other novel vector systems. Requests for vector production or pharmacology/toxicology support are reviewed by a Scientific Review Board and Steering Committee of the NGVL with selection based on scientific merit, feasibility, and availability of resources. If an application is approved, clinical grade materials and studies will be provided without charge for human gene therapy trials.

**Program in Human Gene Therapy and Molecular Medicine**
For more information
858-534-5207
http://medicine.ucsd.edu/gt or
www.molecularmed.com
**www.scienceproductlink.org**

## PROGRAM IN HUMAN GENE THERAPY

The goals of the Program in Human Gene Therapy of the University of California, San Diego (UCSD), are to catalyze basic research into the genetics and cell biology of gene transfer and to facilitate the application of basic and preclinical research to the treatment of disease. The program's Vector Development core laboratory offers the preparation of research-grade gene transfer materials (including the production of retroviral, adenoviral, adeno-associated viral, and herpes viral vectors) and assistance at all stages of vector development, including advice on the design of vector constructs, plasmid preparation, development of producer cells, and production of virus. The production of clinical-grade vectors is provided by Molecular Medicine, a joint venture between UCSD and Boehringer Mannheim (Roche).

**Gene Therapy Systems**
For more information
858-457-1919
www.genetherapysystems.com
**www.scienceproductlink.org**

## TRANSFECTION AND GENE REAGENTS

NeuroPORTER Transfection Reagent is screened and optimized for efficient transfection of neuronal cells, including certain primary neurons, neuronal cell lines, and glial cells. It is a new cationic lipid-based reagent screened for superior transfection efficiency for neuronal cells and minimized cytotoxicity. Small interfering RNAs (siRNA) are emerging as important tools for inhibiting gene expression in mammalian cells. siRNAs are short (less than 30 nucleotides in length), sequence-specific, double-stranded RNAs that can catalytically cleave more than 95% of the target mRNA in the cell, effectively silencing target gene expression. GeneSilencer siRNA Transfection Reagent has been extensively screened in many cells lines in order to achieve efficient delivery of siRNA, functional gene silencing after siRNA delivery, compatibility with diverse growth conditions (with and without serum), and low cytotoxicity. The manufacturer offers other related reagents, including TurboCells Chemically Competent *Escherichia coli*, which allow efficient transformation in just 3 min.

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**Vector Core Laboratory**
For more information
734-647-3413
www.med.umich.edu/vcore
**www.scienceproductlink.org**

## VECTOR CORE LABORATORY

The Vector Core Laboratory of the University of Michigan provides the resources to produce state-of-the-art recombinant adenoviruses, retroviruses, and nonviral vectors for use in molecular biology research. Libraries of available producer cell lines, adenoviruses, retroviruses, and nonviral vectors are available to investigators. The facility can also provide more comprehensive services, such as constructing vectors for a designated purpose, producing the corresponding recombinant vectors, evaluating their efficacy for gene transfer, using them to transduce cells, and providing those cells to the investigator. Core services include cotransfection of adenoviral shuttle vectors with adenovirus helper DNA into viral producer cell lines, plaque purification of viral stocks, growth of high titer recombinant vector stocks, and assay of recombinant and helper virus titers in stocks.

**Bio-Rad Laboratories**
For more information
800-424-6723
www.discover.bio-rad.com
**www.scienceproductlink.org**

## FLUORESCENT ENCLOSURE FOR SPOT CUTTER

The ProteomeWorks spot cutter for two-dimensional gels and membrane blots features fluorescence capability. Suitable for proteomics labs, the spot cutter with fluorescence enclosure now images SYPRO Ruby protein-stained gels in addition to traditional visible stains. Switching modes from visible to ultraviolet is nearly effortless and requires no recalibration, so lab workflow is unaffected by frequent imaging changes. The new fluorescence enclosure can be purchased in a system with a new spot cutter, or it can be added to existing ProteomeWorks spot cutters.

**C.B.S. Scientific**
For more information
800-243-4959
www.cbsscientific.com
**www.scienceproductlink.org**

## HORIZONTAL ELECTROPHORESIS SYSTEM

The High Visibility Auto-Loader, a new addition to a line of submarine horizontal electrophoresis systems, is designed for rapid sample analysis using manual or robotic loading. Applications include high-throughput screening of nucleic acid fragments, high-throughput screening of polymerase chain reaction products, and high-throughput screening of synthetic oligonucleotides. High-precision gel tray and combs allow for repeated accurate location of sample wells by robotic pipettors. Each unit accommodates 96 samples and 8 markers with a 3-cm pathlength. The gel dimensions are 12.5 cm by 15 cm and buffer volume is 600 ml. A red bottom stage provides increased contrast, enhancing the visibility of well location in the agarose and increasing the accuracy of manual sample loading. The specialized 26-well Teflon-coated aluminum combs are compatible with multi-channel pipettors and tapered for sample focusing and easy removal from agarose

**CyberResearch**
For more information
800-341-2525
www.cyberresearch.com
**www.scienceproductlink.org**

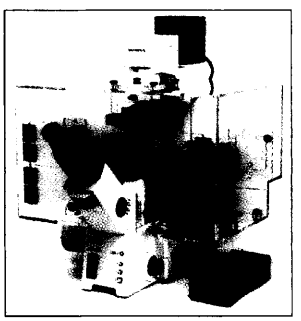
## FIELD MOUSE

Many people find it inconvenient to switch back and forth from the mouse on their desktop computers to a touchpad or trackball on a laptop. Miniaturized optical mice that can be used anywhere are offered as a solution for keeping the same pointing operations in any environment. To conserve power in the field, the optical light-emitting diode in the mouse automatically dims when the mouse is not in motion. Only 2.5 inches long and 1 inch wide, the mice are available in PS/2 and USB versions. Both versions provide conventional left- and right-click buttons. A 2.5-foot cord connects the mouse to the computer. The PS/2 version is compatible with Windows 95, 98, NT, 2000, ME, XP, and CE and Mac 8.6 or higher.

**Solent Scientific**
For more information
+44 (0)23 9236 3377
www.solentsci.com
**www.scienceproductlink.org**

## TEMPERATURE CONTROL FOR INVERTED MICROSCOPES

A new temperature-controlled incubation chamber is available for the IX2 series of inverted microscopes from Olympus. This acrylic chamber provides the precise environmental control required for optimum cell viability, even for users conducting time-lapse live cell imaging studies lasting many days. Typically, these studies would require a constant 37°C temperature; the new chamber has a selectable temperature from 32°C to 42°C. Carbon dioxide enrichment of the atmosphere and moisture control can also be provided within the chamber. This incubator fully encloses the whole stage, together with some elements of the microscope frame. Circulating warm, filtered air guarantees a constant temperature. The chamber is designed to give the user full access to the multiple ports of the Olympus IX2 microscopes for attachment to cameras, laser light sources, and even a confocal system.



**Charles Austen Pumps**
For more information
+44 (0) 1932 355277
www.charlesausten.com
**www.scienceproductlink.org**

## OIL-FREE LABORATORY PUMPS

Reliably delivering flow rates up to 40 l/min and vacuum generation down to 8 mbar, Innovac is a suitable pump for rotary evaporation, gel drying, and other applications. The pump's "wetted" parts are constructed entirely of PTFE, making the Innovac chemically resistant to virtually all corrosive gases and solvent vapors. Innovac's tough alloy case features unique "T-Slot" rails for quick, easy mounting of all needed attachments, such as vacuum gauges, vapor traps, and condensers.

**Amaxa**
For more information
+49 (0) 221-99199-400
www.amaxa.com
**www.scienceproductlink.org**

## LITERATURE

*Gene Transfer Begins Here: Catalog 2002/2003* lists a large range of Nucleofector kits for the nonviral transfer of primary cells and cell lines. Immature and mature dendritic cells are now transfectable and can be analyzed within hours using the Human Dendritic Cell Nucleofector Kit I. With the Cell Line Optimization Nucleofector Kit, high and reproducible transfection efficiencies can be obtained for virtually any cell line in less than 2 weeks. A protocol is available for the nucleofection of PC-12 cells. The catalog's chapters are organized according to research area, with detailed description of each kit, including scientific information.

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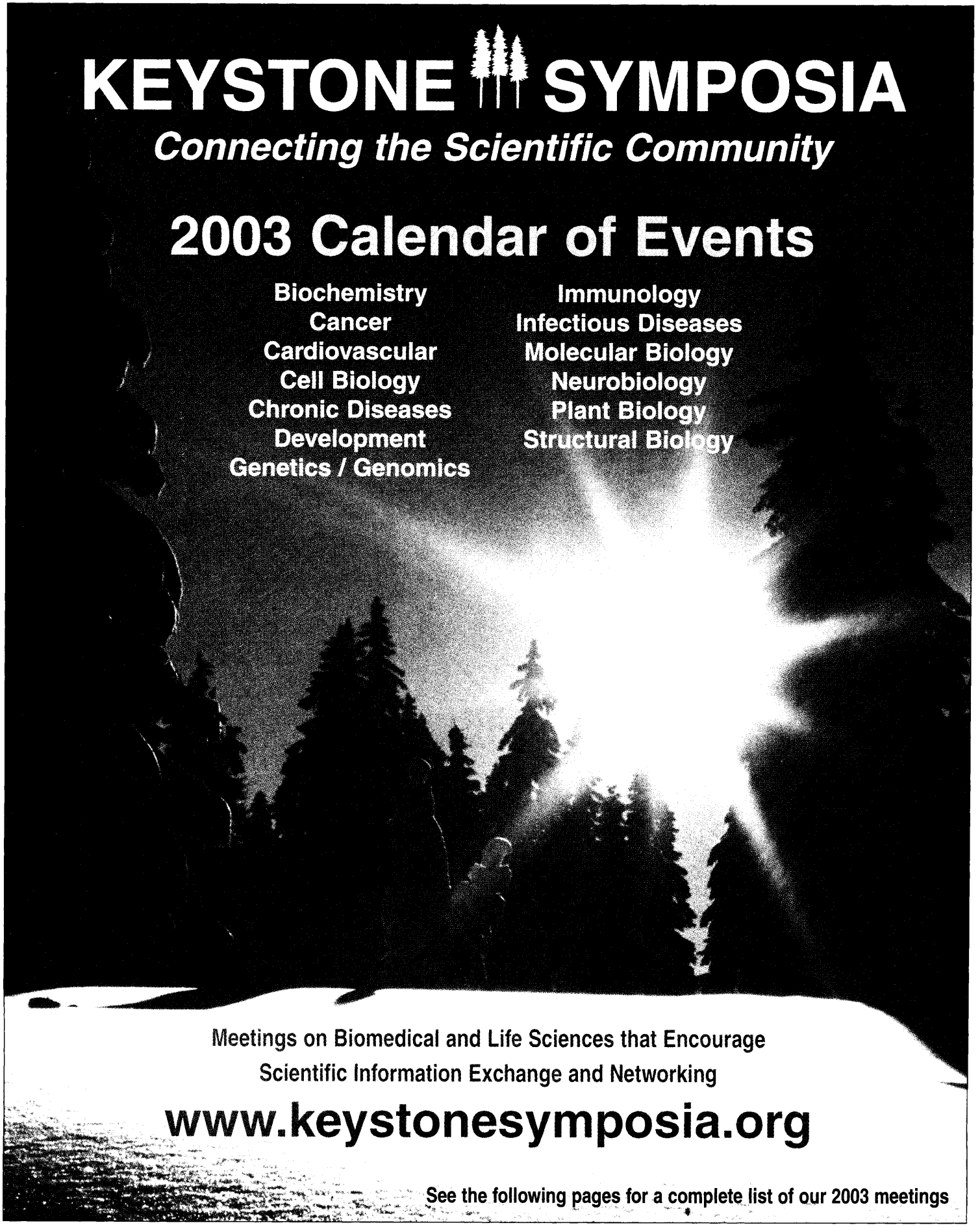
Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement 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.

# KEYSTONE SYMPOSIA

*Connecting the Scientific Community*

## 2003 Calendar of Events

Biochemistry
Cancer
Cardiovascular
Cell Biology
Chronic Diseases
Development
Genetics / Genomics
Immunology
Infectious Diseases
Molecular Biology
Neurobiology
Plant Biology
Structural Biology



Meetings on Biomedical and Life Sciences that Encourage
Scientific Information Exchange and Networking

**www.keystonesymposia.org**

See the following pages for a complete list of our 2003 meetings

# 2003 Keystone Symposia Calendar of Events

## Biochemistry

**Eicosanoid Lipid Mediators: From Molecular Discovery to Clinical Application (D5) ***
Jilly F. Evans, Colin D. Funk and Takao Shimizu
**Sponsored by Aventis Pharmaceuticals, Inc.**
Granlibakken Resort • March 11 - 16, 2003
Tahoe City, California, USA

- Cyclooxygenase Biochemistry and Cell Biology
- Prostaglandin Receptors
- Lipoxgenases and Leukotrienes
- Prostaglandin and Leukotriene Synthases
- Phospholipases
- Novel Eicosanoids
- Leukotriene Receptors
- Eicosanoids and Disease

**Signaling Via Cell-Cell Interactions (D6) ***
Rudy L. Juliano and Keith W.T. Burridge

Keystone Resort • March 18 - 23, 2003
Keystone, Colorado, USA

- Integrins and Signal Transduction
- Epithelial Cell Junctions, Rho GTPases and Signaling
- PAR Genes and Epithelial Polarity
- CAMs, Signaling, and Neuronal Guidance
- Scaffolds, the Cytoskeleton and Signaling
- CAMs and Nucleocytoplasmic Trafficking
- Leukocyte Interactions

**Proteomics: Technologies and Applications (E2)**
Ruedi Aebersold and Stanley Fields

Keystone Resort • March 25 - 30, 2003
Keystone, Colorado, USA

- Identification and Quantification of Proteins on a Proteome-Wide Scale
- Analysis, Interpretation, and Management of Proteomics Data
- Protein Interactions and Protein Linkage Maps
- In Vivo Analysis
- Systematic Analysis of Protein Activities and Protein Arrays
- Structural Proteomics
- Control of Protein Abundance and Activity
- Methods to Infer Function

## Cancer

**Molecular Targets for Cancer Therapy (E1) ***
Karen H. Vousden and William G. Kaelin, Jr
**Sponsored by DNAX Research, Inc. and Novartis Pharmaceuticals Corporation**
Banff Springs Hotel • March 19 - 24, 2003
Banff, Alberta, Canada

- Proliferation
- Telomerase/Angiogenesis
- Apoptosis
- Protein Stability/Protein Transport
- Transcription
- Enabling Technologies
- Tumor Models

## Cardiovascular

**Molecular Pathology of Cardiac Arrhythmias (A6) ***
Dan M. Roden and Andrew R. Marks

Hilton of Santa Fe • January 14 - 19, 2003
Santa Fe, New Mexico, USA

- Ion Channel Structure-Function and Regulation
- Genetics of Cardiac Arrhythmias
- From Molecule to Whole Heart
- Calcium and Cardiac Arrhythmogenesis
- Physiological Triggers for Cardiac Arrhythmias
- Ion Channel Assembly and Modulation
- High Throughput Screening and Identification of Novel Therapeutic Targets

## Cell Biology

**Cell Migration and Invasion (B2) ***
Alan Rick Horwitz, J. Thomas Parsons and Anne J. Ridley

Beaver Run Resort • January 18 - 23, 2003
Breckenridge, Colorado, USA

- Dynamics at the Leading Edge
- Formation of Adhesions
- Spatial Signals
- Cell Polarity and Cytoskeletal Dynamics
- Signaling Pathways
- Migration in Development
- Invasion and Metastasis
- Modeling Cell Migration

**Molecular Mechanisms of Apoptosis (B6) ***
Stephen W. Fesik, Xiaodong Wang and Craig B. Thompson
**Sponsored by Novartis Pharmaceuticals Corporation and The Director's Sponsor Fund**
Banff Springs Hotel • February 8 - 13, 2003
Banff, Alberta, Canada

- Identification of New Apoptotic Genes
- Biochemical Pathways
- Initiation of Apoptosis
- Clearance Mechanisms
- Apoptosis in Disease
- Therapeutic Applications
- Structural Biology

**Optical Imaging: Applications to Biology and Medicine (C2)**
Dorothea Becker, Scott E. Fraser and Daniel L. Farkas

Taos Convention Center • February 11 - 16, 2003
Taos, New Mexico

- Optical Imaging in Biology: Concepts, Goals and Approaches
- In Vivo Optical Imaging for Tumor Detection and Monitoring
- Optical Imaging in Stem Cell Research and Tissue Engineering
- Optical Imaging in Gene Therapy and Regenerative Medicine
- Optical Imaging of Neurons: From Molecules to Circuits
- Multimodal Imaging of Neural Development
- Optical Imaging of Angiogenesis and Microcirculation
- Emerging Methodologies of Optical Bioimaging and Intervention

*Meetings with * are offering CME credits*

**www.keystonesymposia.org • 800-253-0685 or 970-262-1230**

# 2003 Keystone Symposia Calendar of Events

**Dynamics of Cellular Organization (D1) ***
Jennifer A. Lippincott-Schwartz and David L. Spector

Sagebrush Inn & Conference Center • February 22 - 27, 2003
Taos, New Mexico, USA

- Dynamics of Nuclear Organization I
- Cytoplasmic Organization and Dynamics
- Cell and Organelle Motility
- Membrane Trafficking and Cell Polarity
- Intercellular Organization and Invasion
- Signaling Networks: Linking Cytoplasm and Membrane with the Outside World
- Cell Responses: Tension, Tearing and Resealing

**Conformational Diseases of the Secretory Pathway (D2) ***
Randal J. Kaufman and Tom A. Rapoport

Sagebrush Inn & Conference Center • March 1 - 6, 2003
Taos, New Mexico, USA

- The Endoplasmic Reticulum
- The Contribution of N-Linked Glycans in to Quality Control
- Disulfide Bridge Formation in the ER
- Selective Folding and Export Processes
- Proteolysis: ER-Associated Degradation and Death
- Extraction/Release of Polypeptides from Membranes
- Cellular Response to Misfolded Protein
- Aberrant Protein Folding in Human Disease

## Chronic Diseases

**Toward Understanding Islet Biology (J1) ***
Lydia Aguilar-Bryan and Markus Stoffel
**Sponsored by Pfizer Global Research and Development**
Keystone Resort • January 21 - 26, 2003
Keystone, Colorado, USA

- Beta Cell Differentiation, Growth, Regeneration and Death
- Gene Expression in Islets and Transcription Factors:
- Stimulus-Secretion Coupling
- Insulin Dependent-Diabetes: Genetics, Autoantigens and Transplantation

**Obesity: New Insights into Pathogenesis and Treatment (J2) ***
Michael W. Schwartz, Sheila Collins and Gregory S. Barsh

Keystone Resort • January 21 - 26, 2003
Keystone, Colorado, USA

- Humoral Regulation of the Hypothalamus and Obesity Pathogenesis
- Neurobiology of Food Intake
- Thermogenesis, Uncoupling and Metabolism
- Adipocyte Biology
- Genetics, Genomics and New Technologies
- Approaches to Obesity Treatment
- Neuronal Signal Transduction and Energy Homeostasis
- Model Organisms and Novel Approaches

**PPARs: Transcriptional Regulators of Metabolism and Metabolic Disease (B5) ***
Ronald M. Evans, Bruce M. Spiegelman and Christopher K. Glass
**Sponsored by Pfizer Global Research and Development**
Keystone Resort • February 4 - 9, 2003
Keystone, Colorado, USA

- Molecular Mechanisms
- Adipogenesis and Obesity
- Fatty Acid Metabolism
- Glucose Homeostasis and Diabetes
- Cholesterol Homeostasis and Atherosclerosis
- Inflammation
- Differentiation and Cancer

## Development

**From Stem Cells to Therapy (E3) ***
Janet Rossant, David J. Mooney,
Margaret A. Goodell and Farshid Guilak

Sheraton Steamboat Resort • March 29 - April 3, 2003
Steamboat Springs, Colorado, USA

- Stem Cells and Pluripotency
- Stem Cell Differentiation
- Adult Stem Cell Plasticity
- The Stem Cell Niche
- Manipulating Stem Cells by Controlling Their Environment
- Critical Issues for Therapeutic Use of Stem Cells
- From Stem Cells to Tissues
- Clinical Uses for Stem Cells

## Drug Discovery

**New Advances in Drug Discovery (A3)**
James A. Wells and Robert F.G. Booth
**Sponsored by ICOS Corporation**
Yarrow Resort Hotel • January 7 - 12, 2003
Park City, Utah, USA

- New Approaches to Small Molecule Drug Discovery
- Impact of Proteomics/Genomics on Drug Discovery
- Panel Discussion: Bottlenecks in Drug Discovery
- Emerging Target Classes
- New Drug Candidates

## Genetics / Genomics

**Functional Genomics: Global Analysis of Complex Biological Systems (C6)**
Stuart Kim, Rick Young and Adam Arkin

Hilton of Santa Fe • February 20 - 25, 2003
Santa Fe, New Mexico, USA

- Genetic Regulatory Hierarchies
- Functional Modules
- Global Analysis
- Knock Outs
- Human Genetics
- Proteomics
- Disease and Pharmacogenomics
- Data Analysis

*Meetings with * are offering CME credits*

**www.keystonesymposia.org • 800-253-0685 or 970-262-1230**

# 2003 Keystone Symposia Calendar of Events

## Immunology

**Chemokines and Chemokine Receptors (A1) ***
Ann Richmond, Sergio A. Lira, Steven L. Kunkel and Amanda E.I. Proudfoot
**Sponsored by Berlex Biosciences**
Beaver Run Resort • January 7 - 12, 2003
Breckenridge, Colorado, USA

- Chemokine Receptors and Their Processing
- Chemokine Ligands
- Signals from Chemokines/Chemokine Receptors
- Chemokines in Innate and Adaptive Immunity
- Immune Function/Homing and Trafficking
- Chemokines and Disease
- Emerging Therapeutics

**Mechanisms of Immunologic Tolerance and Its Breakdown (A2) ***
David W. Scott, Rachel R. Caspi, Anne Cooke and Terry L. Delovitch

Snowbird Resort • January 7 - 13, 2003
Snowbird, Utah, USA

- Development of the Repertoire, Homeostasis and Tolerance
- Genetics, Genomics and Autoimmune Disease
- Suppression and Regulation of the Immune System
- Immune Modulation of Inflammation and Autoimmunity
- Clinical Trials for Autoimmune Disease

**B Cells and Antibodies: Laboratory to Clinic (A5) ***
Michel C. Nussenzweig, Frederick W. Alt and Louis M. Staudt

Keystone Resort • January 14 - 19, 2003
Keystone, Colorado, USA

- Early B Cell Development
- Mechanisms of B Cell Activation
- Clinical B Cell Immunology
- Autoimmunity
- Antigen Receptor Diversification
- Late B Cell Differentiation

**Regulatory and Effector Functions of Macrophages (J3) ***
David M. Mosser, Christopher L. Karp and Siamon Gordon

Taos Convention Center • January 30 - February 4, 2003
Taos, New Mexico, USA

- Receptors of Innate Immunity: Toll-Like Receptors
- The Regulation of Cytokine Production in Leukocytes
- Modulation of Immune Responses by Antigen Presenting Cells
- Macrophage-Mediated Pathogenesis - Infectious Etiologies
- Innate Control of Intracellular Infections
- Pathogen Regulation of Macrophage Functions
- Macrophage Development and Differentiation
- Macrophage Pathologies, Non-Infectious Etiologies

**Linking Innate with Adaptive Immune Responses (J4) ***
Wayne M. Yokoyama and Albert S. Bendelac
**Sponsored by DNAX Research, Inc. and The Director's Sponsor Fund**
Taos Convention Center • January 30 - February 4, 2003
Taos, New Mexico, USA

- Receptors of Innate Immunity: Toll-Like Receptors
- Apoptosis and Innate Immunity
- Model Systems of Innate Immunity
- NK Cells in Innate Immunity Against Pathogens
- Innate Control of Intracellular Infections
- Dendritic Cells as a Bridge Between the Innate and Adaptive Response
- The Interplay Between Innate and Adaptive Immunity
- Innate Immunity in Human Disease Pathogenesis

**Antibody-Based Therapeutics for Cancer (B4) ***
Louis M. Weiner and Paul Carter
**Sponsored by Amgen Inc.**
Banff Centre • February 4 - 9, 2003
Banff, Alberta, Canada

- Antibody Structure and Function
- Antibodies as Tools for Target Discovery
- Immunoconjugates
- Advances in Antibody Engineering
- Antibody-Based Immunomodulation Strategies
- Antibodies as Effector Molecules
- Clinical Updates

**Basic Aspects of Tumor Immunology (C5) ***
Nicholas P. Restifo and Nina Bhardwaj

Keystone Resort • February 17 - 23, 2003
Keystone, Colorado, USA

- Novel Cellular Immunotherapies: Adoptive Transfer
- Identification of Target Antigens
- Novel Immunotherapies: Active Immunization
- Autoimmunity and the Immunotherapy of Cancer
- Impediments to Vaccine Function
- New Mouse Models
- Tracking the Anti-Tumor Immune Response
- Negative Regulatory Influences on Anti-Tumor T Cell Function
- Death and the Immune Response
- Vaccines Based on Tumor Cells or Tumor Cell Extracts

**Dendritic Cells: Interfaces with Immunobiology and Medicine (J7) ***
Ralph M. Steinman, Anne O'Garra and Jacques Banchereau

Keystone Resort • March 3 - 8, 2003
Keystone, Colorado, USA

- Dendritic Cells and the Control of Immunity vs. Tolerance
- Dendritic Cell Maturation in vivo
- Antigen Capture by DC in situ
- Exogenous Pathway and Cross-Presentation
- Transmission of Signals to the Nucleus
- Signal Transduction and Antigen Presentation
- Endocytosis and Lysosomal Transport
- Mechanisms of Proteolysis in the Cytosol

*Meetings with * are offering CME credits*

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# 2003 Keystone Symposia Calendar of Events

## Infectious Diseases

**Cell Biology of the Immune Response (J8) ***
Ira Mellman, Richard Flavell and Ralph M. Steinman

Keystone Resort • March 5 - 10, 2003
Keystone, Colorado, USA

- Transmission of Signals to the Nucleus
- Signal Transduction and Antigen Presentation
- Endocytosis and Lysosomal Transport
- Mechanisms of Proteolysis in the Cytosol
- Functional Specializations of the Endocytic Pathway
- Cell Migration
- Consequences of Cell Adhesion
- Cellular Mechanisms of Immune Evasion

**Molecular and Cellular Basis of Septic Shock (D3) ***
Richard Bucala, Seamas Donnelly and Barbara Sherry

Granlibakken Resort • March 7 - 11, 2003
Tahoe City, California, USA

- Overview of Sepsis and Multi-Organ Failure
- Biology of the Innate Immune Response
- Microbial and Molecular Pathogenesis of Sepsis
- Downstream Effects of Microbial Invasion
- Regulatory Pathways of the Systemic Inflammatory Response
- Therapeutic Intervention in Septic Shock

**The Regulation of Mucosal Inflammation (X3) ***
Warren Strober and Fiona Powrie

Keystone Resort • April 1 - 6, 2003
Keystone, Colorado, USA

- The Organization and Development of the Mucosal Immune System
- Mechanisms of Tolerance Induction in the Mucosal System
- Dendritic Cell Function in the GI and Pulmonary Tracts
- Effector and Regulatory Mechanisms of Mucosal Inflammation
- Regulation of Mucosal Responses in the GI and Pulmonary Tracts
- New Models of Mucosal Inflammation
- Epithelial Cell Function and Mucosal Homeostasis
- Chemokines and Mucosal Function

**Hygiene, Allergy, and Asthma (X4) ***
Marsha Wills-Karp, Robert L. Coffman and Fernando D. Martinez

Keystone Resort • April 1 - 6, 2003
Keystone, Colorado, USA

- Epidemiology of Allergic Responses
- The Natural History of Atopic Diseases
- Dendritic Cell Function in the GI and Pulmonary Tracts
- Links Between Innate and Adaptive Immunity
- Regulation of Mucosal Responses in the GI and Pulmonary Tracts
- Allergen Structure and T Cell Response
- Development and Function of Th2 Cells
- Clinical Applications

**Tuberculosis: Integrating Host and Pathogen Biology (B3) ***
Gilla Kaplan, Clifton E. Barry III and Stewart Cole

Sagebrush Inn and Conference Center • January 25 - 30, 2003
Taos, New Mexico, USA

- Exploratory Genomics - Prokaryotic
- Mycobacterial Lipids and Lipid Metabolism in TB Pathogensis
- Regulation and Genetics
- Adaptation of the Host and Pathogen to Coexistance
- Macrophage MTB Interaction
- Immune Responses and Vaccine Development
- Host Immune Responses to MTB Infection
- Exploratory Genomics - Eukaryotic

**HIV Vaccine Development: Immunological and Biological Challenges (X1) ***
Richard A. Koup, David C. Montefiori and Brigitte Autran
**Sponsored by Wyeth Vaccines Research**
Banff Springs Hotel • March 29 - April 4, 2003
Banff, Alberta, Canada

- Pioneer Lecture - Virology
- Viral Diversity
- New Findings From Human Clinical Trials
- Pre-Clinical Leads in Non-Human Primates
- Pioneer Lecture - Immunology
- Immune Responses in HIV Infection
- The Envelope and Entry
- Immunopathogenesis
- Novel Approaches in Pre-Clinical Development

**Twenty Years of HIV Research: From Discovery to Understanding (X2) ***
Jay A. Levy, Alan Landay and Richard Gaynor
**Sponsored by Abbott Laboratories**
Banff Springs Hotel • March 29 - April 4, 2003
Banff, Alberta, Canada

- Pioneer Lecture - Virology
- Viral Diversity
- Pioneer Lecture - Epidemiology
- HIV Pathogenesis
- Pioneer Lecture - Immunology
- Immune Responses in HIV Infection
- Pioneer Lecture - Clinical Approaches
- Antiviral Strategies

**Molecular Aspects of Transmissible Spongiform Encephalopathies (Prion Diseases) (E4) ***
Byron Caughey, Charles Weissmann, Suzette Priola and Bruce Chesebro
**Sponsored by Roche Diagnostics**
Beaver Run Resort • April 2 - 6, 2003
Breckenridge, Colorado, USA

- TSE Agents and Pathogenesis
- Structures and Propagation of Prion Proteins
- Prion Protein and Pathogenesis
- Formation and Misfolding of PrP
- Biochemical Aspects of Neuropathogenesis
- Diagnostics and Therapeutics

*Meetings with * are offering CME credits*

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# 2003 Keystone Symposia Calendar of Events

## Molecular Biology

**Chromatin: Organizing the Genome for Patterns of Gene Expression in Health and Disease (A4) ***
Stephen B. Baylin, Susan M. Gasser and Tony Kouzarides

Big Sky Resort • January 10 - 15, 2003
Big Sky, Montana, USA

- Histone Modification
- Chromatin Remodeling
- Heterochromatin
- Chromatin in Replication and Repair
- Chromatin and Chromosomes
- Heritable Silenced States
- Transcriptional Control During Cell Fate Decisions
- Chromatin Dysfunction and Disease

**Gene Suppression: Drug Target Validation (B1)**
Peter B. Dervan, Stephen W. Fesik and Michael Briggs
**Sponsored by Abbott Laboratories**
Granlibakken Resort • January 17 - 22, 2003
Tahoe City, California, USA

- RNA Interference
- Protein Engineering to Repress Transcription
- Chemical Approaches to Transcriptional Control
- Antisense
- Knockout
- Ribozymes

**Computational Biology of Time (F1)**
Terrence Sejnowski and Sydney Brenner

Banff Centre • January 31 - February 4, 2003
Banff, Alberta, Canada

- Circadian Rhythms
- Coupled Biological Oscillators
- Sleep Rhythms
- Photoperiodism
- Cardiac Rhythms
- Cell Cycle

**Transposition and Other Genome Rearrangements (C1)**
Tania A. Baker, Ronald Plasterk, Daniel F. Voytas

Hilton of Santa Fe • February 8 - 14, 2003
Santa Fe, New Mexico, USA

- Classical Transposons: Mechanism and Control
- Conservative Site Specific Recombination
- Retrotransposition
- Recombinase Structure and Function
- Transposition Silencing and RNAi
- Unusual Elements and Reactions
- Developmentally Programmed Rearrangements
- Transposon Functions and Consequences
- Host-Transposon Communication and Regulation
- Transposons and Genome Organization

**The Enzymology of Chromatin and Transcription (D4) ***
Shelley L. Berger and Jerry L. Workman

Hilton of Santa Fe • March 10 - 16, 2003
Santa Fe, New Mexico, USA

- Histone and Factor Acetylation
- Histone Deacetylation
- Histone Methylation
- Ubiquitination/Proteolysis
- ATP-Dependent Chromatin Remodeling
- Silencing
- Recruitment/Initiation/Elongation
- Biology/Structure
- Genomics/Proteomics/Regulatory Circuits

**RNA Trafficking, Transport and Processing (E5)**
Anne Ephrussi, Iain W. Mattaj and Gideon Dreyfuss

Snowbird Resort • April 5 - 10, 2003
Snowbird, Utah, USA

- Pre-mRNA Processing
- Coupling pre-mRNA Processing and Export
- Other mRNA Export Pathways
- RNA on the Move
- RNA Localization in Development
- RNA Localization and Translational Control
- Translational Regulation
- Regulation of RNA Stability

## Neurobiology

**Axonal Connections: Molecular Cues for Development and Regeneration (C3)**
John G. Flanagan, Marc Tessier-Lavigne and Stephen M. Strittmatter

Keystone Resort • February 13 - 17, 2003
Keystone, Colorado, USA

- Pathway Selection and Choice Points
- Target Recognition
- Inhibitors of Regeneration
- Inhibitory Cues in Development
- Pathways Downstream of Axonal Receptors
- Signals in Degeneration and Regeneration

*Meetings with * are offering CME credits*

**www.keystonesymposia.org • 800-253-0685 or 970-262-1230**

# 2003 Keystone Symposia Calendar of Events

## Plant Biology

**Plant Biology: Functions and Control of Cell Death (E6)**
Jeff Dangl, Paul Schulze-Lefert and Jane Glazebrook
**Sponsored by Monsanto Company**
Snowbird Resort • April 10 - 16, 2003
Snowbird, Utah, USA

- Cell Death in Pathogen Recognition
- The Cell Biology of Pathogen Driven Plant Cell Death
- Developmental and Environmentally Controlled PCD
- Senescence and PCD
- PCD and Reactive Oxygen
- Necrotrophic and Jasmonic Acid-Mediated PCD
- Generation and Control of Reactive Oxygen and Nitric Oxide Signals
- Abiotic and Environmental Controls of PCD

## Structural Biology

**Membrane Proteins - Structure and Mechanism (J5)**
Joseph J. Falke and Douglas C. Rees

Taos Convention Center • February 4 - 10, 2003
Taos, New Mexico, USA

- NMR Studies of Membrane Proteins
- Membrane Protein Genomics and Assembly
- Ion Channels
- Receptors
- Transporters
- Interfacial Proteins

**Frontiers of NMR in Molecular Biology VIII (J6)**
James H. Prestegard, Angela M. Gronenborn and Brian D. Sykes

Taos Convention Center • February 4 - 10, 2003
Taos, New Mexico, USA

- NMR Studies of Membrane Proteins
- Computational/NMR Interface in Protein Structure Determination
- Large Proteins and Large Protein Assemblies
- Structural Genomics - New Experimental Approaches
- New Methods in NMR
- Posttranslational Modifications
- Small Molecule-Macromolecule Interactions and Drug Design
- Nucleic Acids and Protein-Nucleic Acid Complexes
- Motions in Proteins and Nucleic Acids
- Computational Analysis of Motions in Proteins

## Director's Sponsors

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- **Lilly Research Laboratories**
- **Pharmacia Corporation**

## Meetings with * are Offering CME Credits

These meetings are offering CME credits provided by the
University of Colorado School of Medicine
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## Joint Meetings

The following meetings have concurrent sessions:
J1/J2, J3/J4, J5/J6, J7/J8, X1/X2, X3/X4.

Registration for one meeting allows attendance at either meeting (pending space availability).

## Abstract & Early Registration Deadlines

Abstract Deadlines are approximately
4 months before the meeting start date.

Early Registration Deadlines are approximately
2 months before the meeting start date.

## Arrival Day

Registration begins at 3 pm and continues until 7 pm.
Orientation starts at 7:15 pm and is generally followed by a Keynote Address at 7:30, pending the current program.

## During the Meeting

**Each meeting has a distinct agenda however, generally the format is as follows:**

| | |
|---|---|
| 7 - 8 am | Breakfast |
| 8 - 11 am | Morning Plenary |
| 11 am - 1 pm | Poster Setup |
| 11 am - 2:30 or 4:30 pm | Afternoon Off |
| 1 -10 pm | Open Poster Viewing |
| 2:30 - 4:30 pm (optional) | Afternoon Workshops |
| 4:30 - 5 pm | Snacks and Coffee Available |
| 5 - 7 pm | Evening Plenary |
| 7 - 8 pm | Social Hour |
| 8 - 10 pm | Poster Session |

## About Keystone Symposia

Since 1972, Keystone Symposia has been organizing conferences on biomedical and life sciences that are designed to encourage scientific information exchange and networking. Each year, Keystone Symposia holds over 40 conferences on cutting edge topics with over 10,000 scientists from around the world in attendance.

Keystone Symposia is a 501(c)(3) nonprofit organization directed and managed by the scientific community.

**www.keystonesymposia.org • 800-253-0685 or 970-262-1230**

# What does www.keystonesymposia.org have to offer?

- Access to Your Account Information
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- Online Registration & Abstract Submission
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## 2003 Keystone Symposia Information Request Form

**Send this form to Keystone Symposia, 221 Summit Place #272, Drawer 1630, Silverthorne, CO 80498; Fax: 970-262-1525**

## Contact Information

Last Name _____ First Name _____ Middle Initial _____

Department _____ Institute _____

Address _____

City _____ State or Province _____ Zip or Postal Code _____ Country _____

Phone _____ Fax _____ Email _____

**Occupation (check one):** ❑ Professor ❑ Postdoc ❑ Student (Non Postdoc) ❑ Research ❑ Physician ❑ Journalist

**Degree:** ❑ M.D. ❑ Ph.D. ❑ D.V.M. ❑ M.S. ❑ B.S.

**Institute Type:** ❑ Academic ❑ Industry ❑ Government ❑ Non-Profit

The Gender and Ethnicity questions are optional, but the information assists us when we apply for government grants which help fund student scholarships.

**Gender:** ❑ Female ❑ Male **Ethnicity:** ❑ American Indian/Alaskan Native ❑ Asian/Pacific Islander ❑ Black, non-Hispanic ❑ Hispanic ❑ White, non-Hispanic

## Requested Information

❑ **Please mail me a 2003 Meeting Catalog (Second Announcement).**

❑ **Please send me an email reminder with information on the following meetings:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ❑ A1 | Chemokine Receptors* | ❑ J3 | Macrophages* | ❑ C5 | Tumor Immunology* | ❑ E1 | Cancer Therapy* |
| ❑ A2 | Immunologic Tolerance* | ❑ J4 | Adaptive Immune Responses* | ❑ C6 | Functional Genomics | ❑ E2 | Proteomics |
| ❑ A3 | Drug Discovery | ❑ F1 | Computational Biology of Time | ❑ D1 | Cellular Organization* | ❑ E3 | Stem Cells* |
| ❑ A4 | Chromatin* | ❑ B4 | Antibody-Based Therapeutics* | ❑ D2 | Conformational Diseases* | ❑ X1 | HIV Vaccine* |
| ❑ A5 | B Cells and Antibodies* | ❑ B5 | PPARs* | ❑ J7 | Dendritic Cells* | ❑ X2 | HIV Research* |
| ❑ A6 | Cardiac Arrhythmias* | ❑ J5 | Membrane Proteins | ❑ J8 | Immune Response* | ❑ X3 | Mucosal Inflammation* |
| ❑ B1 | Gene Suppression | ❑ J6 | Frontiers of NMR | ❑ D3 | Septic Shock* | ❑ X4 | Hygiene, Allergy and Asthma* |
| ❑ B2 | Cell Migration and Invasion* | ❑ B6 | Apoptosis* | ❑ D4 | Enzymology* | ❑ E4 | TSE Diseases* |
| ❑ J1 | Islet Biology* | ❑ C1 | Transpostion | ❑ D5 | Eicosanoid Lipid Mediators* | ❑ E5 | RNA Trafficking |
| ❑ J2 | Obesity* | ❑ C2 | Optical Imaging | ❑ D6 | Signaling* | ❑ E6 | Plant Biology |
| ❑ B3 | Tuberculosis* | ❑ C3 | Axonal Connections | | | | |

Meetings with * are offering CME credits provided by the University of Colorado School of Medicine Office of Continuing Medical Education.

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## WORLD HEALTH ORGANIZATION

# DIRECTOR
# INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC)
# LYONS, FRANCE

Applications from highly qualified persons are invited for the post of Director, IARC which falls vacant on 1 January 2004 on the retirement of the current Director. The appointment of the new Director will be made in May 2003 for a term of five years with the possibility of one further 5-year term.

IARC is one of the leading cancer research agencies. It coordinates and conducts both epidemiological and laboratory research into the causes of cancer.

The ideal candidate, who should preferably have a MD or PhD, should have substantial scientific experience and reputation in the field of cancer research, preferably including an understanding of cancer genetics, epidemiology, public health research and health policy issues and extensive international experience, demonstrated qualities of leadership, integrity and managerial ability; adequate knowledge of English and French, with knowledge of other languages as an asset.

Salary level is US$ 98 141 per annum for a staff member without dependants, plus a cost of living allowance of approximately US$ 16 000, and US$ 108 379 per annum for a staff member with dependants, plus a cost of living allowance of approximately US$ 17 700, plus allowances. The cost of living allowance is only indicative and may fluctuate from one month to the other. Salaries and allowances are net of taxes.

A Search Committee has been established by the Governing Council of IARC to facilitate the selection of the best possible candidate. Further information may be obtained from the Chairman of the Search Committee at the address provided below.

Applications may be submitted by the governments of Member States of the World Health Organization (WHO) or by individuals. Applications must be accompanied by a curriculum vitae, preferably using the standard form which can be downloaded from the web sites of IARC (http://www.iarc.fr) and WHO (http://www.who.int). The deadline for the receipt of applications is 19 February 2003. However, the Search Committee will begin in mid-November 2002 to evaluate applications received thus far. Early applications are therefore strongly encouraged. Applications should be sent to the Director-General of WHO, with a copy to the Chairman of the Search Committee, as follows:

**Dr Gro Harlem Brundtland**
**Director-General**
**World Health Organization**
**1211 Geneva 27**
**Switzerland**

with a copy to:
**Dr Thomas Zeltner**
**Director**
**Office fédéral de la santé publique**
**3003 Berne**
**Switzerland**

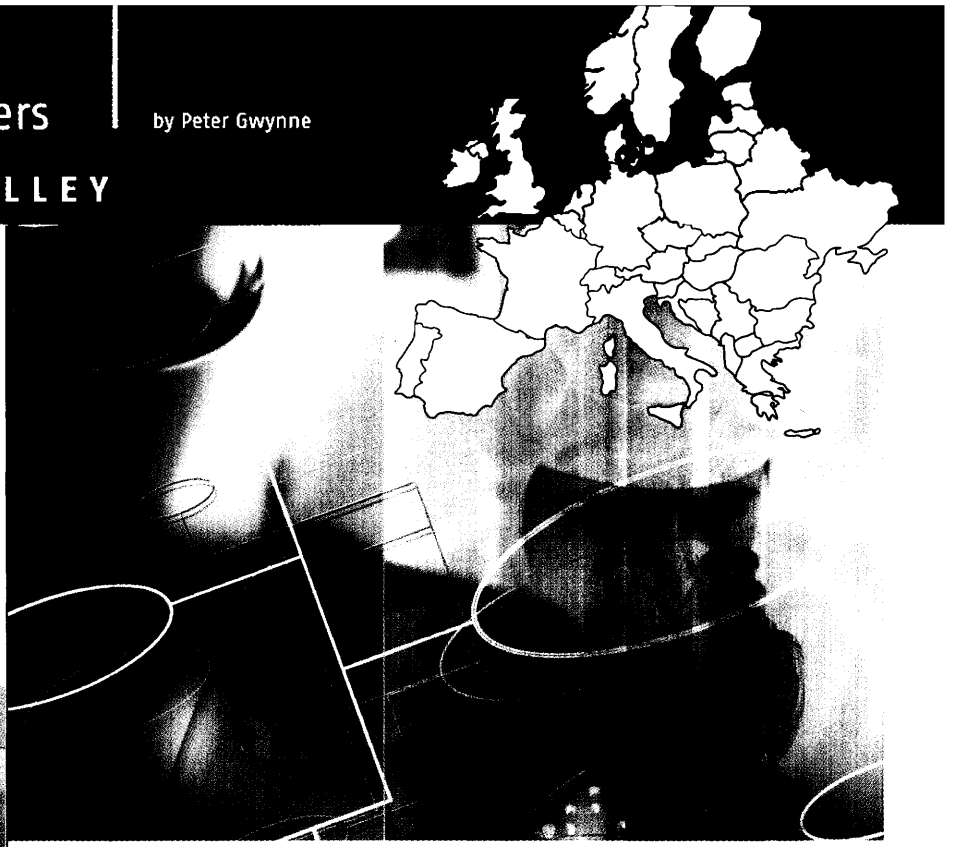
Correspondence should bear the reference "Appointment of the Director of IARC".

Please note that applications sent only to the Search Committee will not be considered.

# European Careers

## MEDICON VALLEY

by Peter Gwynne



# *Sound Investment*

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*Spanning the waterway between Denmark and Sweden, Medicon Valley has become a major center for investment in life science. Continued growth of the valley depends on a supply of qualified scientists.*

Located on opposite sides of the Øresund waterway, Denmark's greater Copenhagen and the Swedish province of Skåne have plenty in common in terms of life science. Both regions contain large pharmaceutical firms, small biotechnology companies, universities with strong life science departments, and excellent teaching hospitals. In addition, the two national governments on either side of the Øresund have recently committed themselves to the growth of commercial life science. And two years ago the opening of the 18-kilometer Øresund Fixed Link bridge to vehicles and trains significantly reduced the time of travel between Copenhagen and Malmö, Sweden, when compared with journeys by ferry.

It's hardly surprising, then, that the two regions have linked up to create Medicon Valley, a unique binational enterprise intended to become a major center for the development of commercial life science. "Greater Copenhagen and the Malmö-Lund region of Sweden are strong in life science R&D," explains Christian W. Matthiessen, professor of regional development at the University of Copenhagen's Institute of Geography. "The vision for politicians and local leaders is that these two strongholds can be combined. Planners can utilize a series of interactions in the area that they do not utilize today."

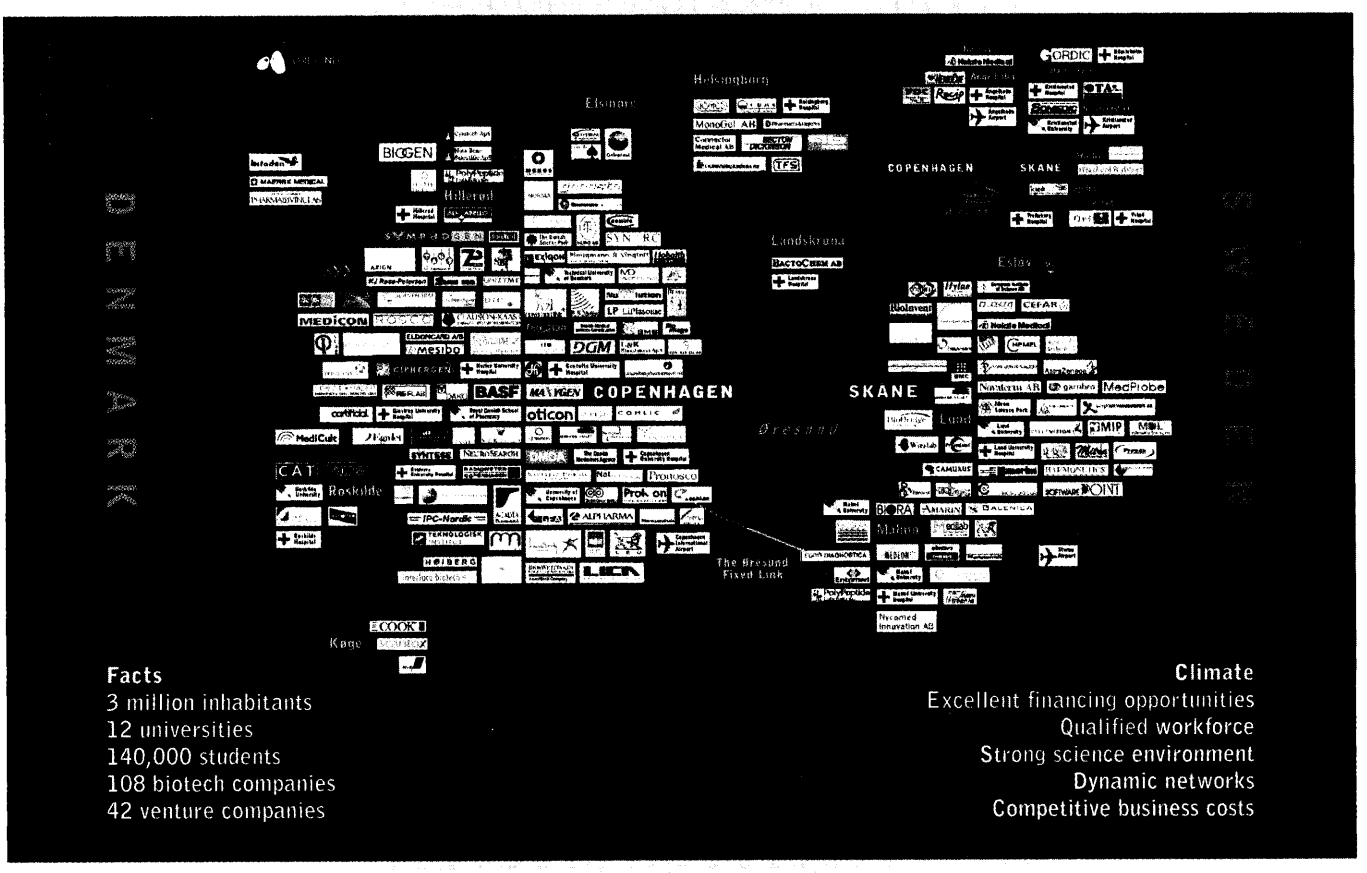
Those interactions have already started. In the six years since the concept gelled, the valley has grown spectacularly. Today it boasts about 500 companies involved in life science, more than 150 of which focus on R&D. New biotechnology companies are springing up in the region at a rate of about one per month. The industry's 32,000 employees represent 40 percent of all life science workers in Denmark and Sweden. And 60 percent of life science exports from those two countries originate in the valley. "Medicon Valley is a very powerful force in biotechnology," says Lars Vedin, head of life and bio sciences at the Swedish government's Invest in Sweden Agency.

The valley's reputation has spread far beyond Scandinavia. In May 2001 American biotechnology giant Biogen announced plans to build a production facility in Hillerød, near Copenhagen. What stimulated the decision? "In Medicon Valley you have a tradi-



CONTINUED ➢

# Medicon Valley: Europe's Most Promising Bio-Region




To be Europe's number one bioregion in 2005 is the ambitious goal of Medicon Valley.

Medicon Valley is a cross-boarder region encompassing Copenhagen on the Danish side and Skåne on the Swedish side, only separated by the narrow strait, Øresund.

The region comprises a large number of private companies, universities and other public research institutions, plus incubator environments, hospitals, and an investment community with good appetite. This mixture facilitates a strong entrepreneurial spirit and dedication towards the development and implementation of biotechnological and pharmaceutical activities, which is second-to-none.

## Copenhagen Capacity and Region Skåne make a difference

Copenhagen Capacity and Region Skåne Inward Investment are publicly funded agencies, which in 1996 launched a cross-border partnership to promote Medicon Valley and assist foreign biotech and pharmaceutical companies with relocation to the region.

We have previously assisted 50+ companies including BIOGEN, Genmab, Acadia Pharmaceuticals, Structural Bioinformatics, Pantheco and Ciphergen Biosystems with their relocation to Medicon Valley, and would be happy to service you too.

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**Further information can be obtained at www.mediconvalley.com**

REGION SKÅNE

**Region Skåne**
www.invest.skane.se
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tion of pharmaceutical research, development, and production," explains Anders Lundström, head of the Nordic region for Biogen. "There are two big universities. There are good people. The infrastructure is very good. And English skills are good."

CHRISTIAN W. MATTHIESSEN

## BOSTON TO BEIJING TO BRUSSELS

Biogen is not alone in its enthusiasm. "In Europe there is growing awareness of the influence and attractiveness of Medicon Valley," says Lars Hedbys, site general manager for AstraZeneca in Lund, Sweden. The awareness extends worldwide. "Today Medicon Valley is known from Boston to Beijing to Brussels," says Børge Diderichsen, vice president of pharmaceutical company Novo Nordisk in Bagsværd, Denmark, and an influential figure in the region's creation. "The international branding of Medicon Valley has been very effective. It went faster than Coca-Cola's."

It was in 1996 that two publicly funded agencies, Copenhagen Capacity and Region Skåne Inward Investment, created the Medicon Valley concept in cooperation with the Øresund Committee. Since then the two agencies have launched a cross-border partnership and have set up Medicon Valley's branding. That branding has helped to create the largest center for life science in Scandinavia – and one of the strongest in the entire continent of Europe.

LARS HEDBYS

In much the same way that shopping malls start out with large department stores, Medicon Valley is anchored by two powerful pharmaceutical firms – Novo Nordisk in Bagsværd, and AstraZeneca in Lund. The region also contains five science parks with a strong emphasis on biotechnology. "And they are building five more," says Gitte Pedersen, a special adviser to the New York office of Invest in Denmark and CEO of Scandinavian-American consulting company Proximity.

While the science parks provide space for startup firms and overseas companies setting up local divisions in the valley, a dozen academic institutions led by the Universities of Copenhagen and Lund provide a steady source of manpower in the form of life scientists at various levels of training. "There is high-profile activity in the university world aimed at making the new corporate possibilities work for students," says the University of Copenhagen's Matthiessen. The Medicon Valley Academy, an organization that brings together industrial, governmental, and academic organizations in the region, helps to determine educational policies for turning out life scientists with the appropriate training.

Progress won't be entirely smooth. Corporate leaders of valley firms foresee shortages of scientists trained locally. "The universities in the Medicon Valley region are not able to sustain growth for all companies," says Kjell Stenberg, CEO of Combio, a drug discovery company in Copenhagen. "Importing people from different countries is mandatory. We have Germans, Indians, Italians, and, of course, Swedes. We're looking for Britons also. It's advantageous to have a mix."

Many local scientists would appreciate effective mixing of Danish and Swedish cultures. Differences in tax policies, pension plans, currencies, and other factors complicate true cross-border collaboration. "I think the threat we have to Medicon Valley is the problem of integration between Denmark and Sweden," says Tomas Leanderson, vice president of pharmaceutical development firm Active Biotech and a professor at Lund University. However, he adds, "If that can be solved, this will be a very attractive part of Europe to move to."

LARS VEDIN

## FAVORABLE FACTORS

Matthiessen of the University of Copenhagen and Aake E. Andersson of the Royal Technical University of Stockholm helped to get the Medicon ball rolling in the late 1980s. "We did bibliometric studies showing that south Sweden and east Denmark had two pretty much identical mixes of research disciplines but cooperated very little," Matthiessen recalls. "We looked at some other regions with the same mix that did not cross borders and found a vacuum of unutilized cooperation possibilities between Sweden and Denmark."

The international nature of the region offered an intriguing possibility. "One of the reasons we thought cross-border cooperation was interesting was that you would get access to a new network and to different cycles of economy," Matthiessen continues. "Denmark and Sweden do not correspond in economic cycles. Denmark is characterized by small firms and more international trade and commerce than Sweden. Our thinking that there was a vacuum to be filled was part of the inspiration for the Medicon Valley Academy."

The thinking set in train by the bibliometric studies coincided with other factors favorable to the creation of a binational center for life science. Thus, in the mid 1990s both governments developed an interest in stimulating biotechnology. "Very few European countries were able to get on the bandwagon of the first generation of biotechnology companies," says Invest in Denmark's Pedersen. "But interest in startups began in Denmark about five years ago." Sweden mirrored that interest. "From the prime minister on down, the government has taken the need to invest in biotechnology very seriously," says Julian Stubbs, CEO of the Dowell/Stubbs Group, a marketing communications company based in Stockholm, Malmö, and Gothenburg.

While neither government has put money directly into valley organizations, both have contributed to the region's infrastructure. "Public spending of more than US$10 billion has included expansion of highways and airports, new metro and train connections, and funding for research parks," says Pedersen.

BIRGITTE RODDIK

Today [Medicon Valley] boasts about **500** companies involved in life science, more than **150** of which focus on R&D. New biotechnology companies are springing up in the region at a rate of about **one** per month. The industry's **32,000** employees represent **40** percent of all life science workers in Denmark and Sweden. And **60** percent of life science exports from those two countries originate in the valley.



CONTINUED ➢


www.ku.dk

# Copenhagen University – modern research with 500 years of experience

**Synergy between basic research and industry**

With some 35,000 students and more than 7,000 employees, the University is the largest institution of research and education in Denmark. For almost a decade the University has promoted biotechnology as one of three top research priority areas, and today almost 200 researchers at the University work within the broad area of biotechnology.

Founded in 1479 the University has centuries of old tradition for conducting research and education on the highest academic level. There is a strong commitment to basic research and the acquisition of new knowledge - but today this is combined with a strong focus on collaborations with partners from the industry around research aimed at solving specific problems.
Similarly a guiding principle at the University is to prepare students for a broad range of jobs in the private and public sectors by closely integrating teaching and research.

The result is that more than a third of the University researchers have ongoing collaborations with partners from the industry, involving more than 100 Danish and foreign companies. Many researchers or candidates start their own company, and almost one fifth are working on patents.

Biotechnology at University of Copenhagen
http://www.ku.dk/satsom/biotek/

**Center of the "center"**

The biotechnological research at the University is centrally located in Denmark's capitol Copenhagen – and in one of Europes main centers of biotechnology, Medicon Valley.

Comprising greater Copenhagen in Denmark and Skåne in southern Sweden The Medicon Valley forms a "bioregion" with more than 12 universities, 26 research hospitals and over 150 related companies.

In recent years the University of Copenhagen has become a leading player in the Øresund University, which represents the research core in Medicon Valley. This virtual institution is set up as a structure to ensure increasing co-operation between universities and other higher educational institutions on both sides of the Sound separating Sweden and Denmark. Through this co-operation you have access to one of Europe's fastest growing networks within biotechnological education and research.

**Virtual University:**
With the Øresund University the University of Copenhagen enters into a network with more than 130,000 students and 10,000 researchers. The aim of the Øresund University is to become Europe's most important cross-national University system.
Visit the Øresund University:
http://www.uni.oresund.org/

**Building the Future – The BioCentre in Copenhagen**

Currently, part of the University Park in Copenhagen forms the construction site for a new ambitious research complex - the BioCentre. This entity will be based on the co-operation between university groups, research and clinical hospital units and industry. In addition, a privately financed and operated biotech science park will be established as part of the BioCentre.

The vision for this new research complex is to create a strong cross-disciplinary environment that will encourage the rapid development of new ideas from basic research discoveries to commercialisation and development of products for public use.

The first phase of the BioCentre to be completed in less than four years from now will constitute a 27.000-sq m building with a budget of 64 mill. EUR. The building will contain state-of-the-art laboratories, animal facilities, lecture hall and conference rooms.

One outstanding example of the strategy of the BioCentre is the Biotech Research & Innovation Centre (BRIC), a new special research unit hosted by the University of Copenhagen. Through a resourceful physical base BRIC aims at creating research synergy between the research areas bioinformatics, gene expression and gene regulation, transgenic technology and functional analysis.

**Synergy in collaboration**

The participants in the BioCentre project come together from various institutions to unite areas of expertise that will complement each other and form a basis for synergistic interaction:

*Institute of Molecular Biology* (University of Copenhagen). Includes molecular biology, genetics, cell biology, protein chemistry, and microbiology. The institute is moving it's entire activities - including the largest NMR research facility in Denmark - to the new center.
Further information at:
www.molbio.ku.dk

*Copenhagen Hospital Co-operation* (Hovedstadens Sygehusfællesskab) participates with two experimental research units: the world renowned Finsen Laboratory and the Bartholin Institute which both focus on research into basic cancer biology.

Other University institutes with engagement in biotechnology: Department of Chemistry, August Krogh Institute, Niels Bohr Institute and Panum Institute.
Further information at:
http://www.ku.dk/satsom/biotek/

*Biotech Research & Innovation Centre* (BRIC). Further information at:
www.bric.dk

**For further information please contact**

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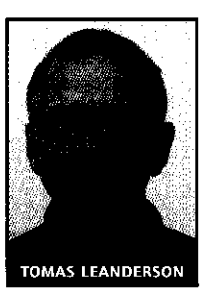
# MEDICON VALLEY

BIRGITTE RODDIK

**Biogen's arrival translates into high expenditure – more than US$300 million – and plenty of jobs for scientists in and beyond Medicon Valley. "We expect 300-400 staff when we go into full production in 2006," says Coleman.**

The US$10 billion has also contributed to construction of the Øresund Fixed Link, which has had its own impact on the region's prospects as a center for life science. "The bridge brings the Swedish side closer to the rest of Europe," Stubbs points out. Linking the two sides of the Øresund has produced a region large enough to entice both startups and overseas life science firms.

Once Medicon Valley took shape, the differences in Danish and Swedish economic cycles noted by Matthiessen and Andersson proved advantageous. "Our biotechnology sector is starting to mature. We're expected to get something out onto the market or to consolidate," says Active Biotech's Leanderson. "The situation on the Danish side is more optimistic. There are more startups there and fewer of the more mature biotech companies." The difference in expectations in periods of economic stress, he adds, "is one of the advantages of the Medicon Valley concept."

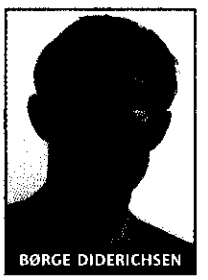


TOMAS LEANDERSON

## DIFFERENT STATES OF MATURITY

Certainly the valley has life science companies in different states of maturity. On one hand, about 20 startup companies opened for business last year. On the other, larger firms such as GeneMab, a producer of therapeutic antibodies, and CMC Biotech, a contract manufacturing organization, have recently decided to set up production plants in the region. Most significant, though, is the impending arrival of Biogen. "We announced last year that we will build a campus to include manufacturing and secondary finish operations," says Paul Coleman, Biogen's vice president, manufacturing and general manager, Denmark. "We would also consider Medicon Valley as a location for our European R&D, something we will consider over the next few years."

Even without an R&D center, Biogen's arrival translates into high expenditure – more than US$300 million – and plenty of jobs for scientists in and beyond Medicon Valley. "We expect 300-400 staff when we go into full production in 2006," says Coleman. "Initially we will need a higher percentage of scientists with higher degrees. But as we progress into operation, that proportion will change. We will need about 50 to 55 percent Bachelor's degrees as well as technicians with two-year degrees. We're likely to have fewer than 10 percent of senior scientists. But that could change if we bring in the R&D center."



BØRGE DIDERICHSEN

Where will Biogen find those scientists? "The great majority of people will come from this region," says Lundström. "Even if we decide to bring in an R&D center, we would hope to recruit locally," adds Coleman.

However, Medicon Valley's success may have exacted the penalty of a shortage of local talent. "An investigation by the Danish pharmaceutical industry shows a deficit of approximately 800 Ph.D.s over four years," says Novo Nordisk's Diderichsen. "Right now," adds Hedbys of AstraZeneca, "we're experiencing some difficulty with expert pharmacists. We will be facing more competition as new firms move into the valley; we need to be an attractive employer."

Certainly, confirms Stubbs of Dowell/Stubbs Group, "the local universities put out good scientists." The problem, says John Villadsen, founding director of the Center for Process Biotechnology located at the Danish Technical University (DTU) in Lyngby, "is that we don't educate enough of them." That's not entirely the fault of university authorities. "We can only educate people who volunteer for it," Villadsen points out. "It's much easier to become an anthropologist in Denmark than a biochemical engineer." And quality matters. "Universities in Denmark and Sweden are not just pushing graduates out of the door," Villadsen continues. "The poorly qualified just don't pass."

GITTE PEDERSEN

## REMEDYING THE SHORTAGE

Efforts are under way to address industry's growing need for scientists. "The universities realize that they have an obligation," says Villadsen. "We make plans together for better courses to appeal in some way to the younger generation." Matthiessen of Copenhagen University makes a similar point. "In the university world," he says, "there is high profile activity around making the new corporate possibilities work for students."

Industry and government also have plans to help remedy the shortage. "We are trying to increase the joint funding of academic research," says Diderichsen of Novo Nordisk. "The Danish government, the Royal Danish School of Pharmacy in Copenhagen, and nine pharmaceutical companies, coordinated by the Danish Association of the Pharmaceutical Industry, have jointly provided US$10 million for a Drug Research Academy. This will provide for the training of 36 Ph.D.s and will fund visiting professors and postdocs. Industrial people as well as academics will be involved in the teaching. This is a pioneering example of a major three-party collaboration to fund and run a graduate school of research and establish a competence and training lighthouse in the region."

KJELL STENBERG

The Medicon Valley Academy acts as a useful clearinghouse for new training initiatives. "We have an ongoing dialogue between different companies and universities," says Hedbys of AstraZeneca. "For example, a program in bioinformatics has just started."

Bioinformatics represents just one field with potential shortages in the valley. "We're looking for chemistry and biology people," says Stenberg of Combio. "The ideal candidate would have an organic synthetic back-



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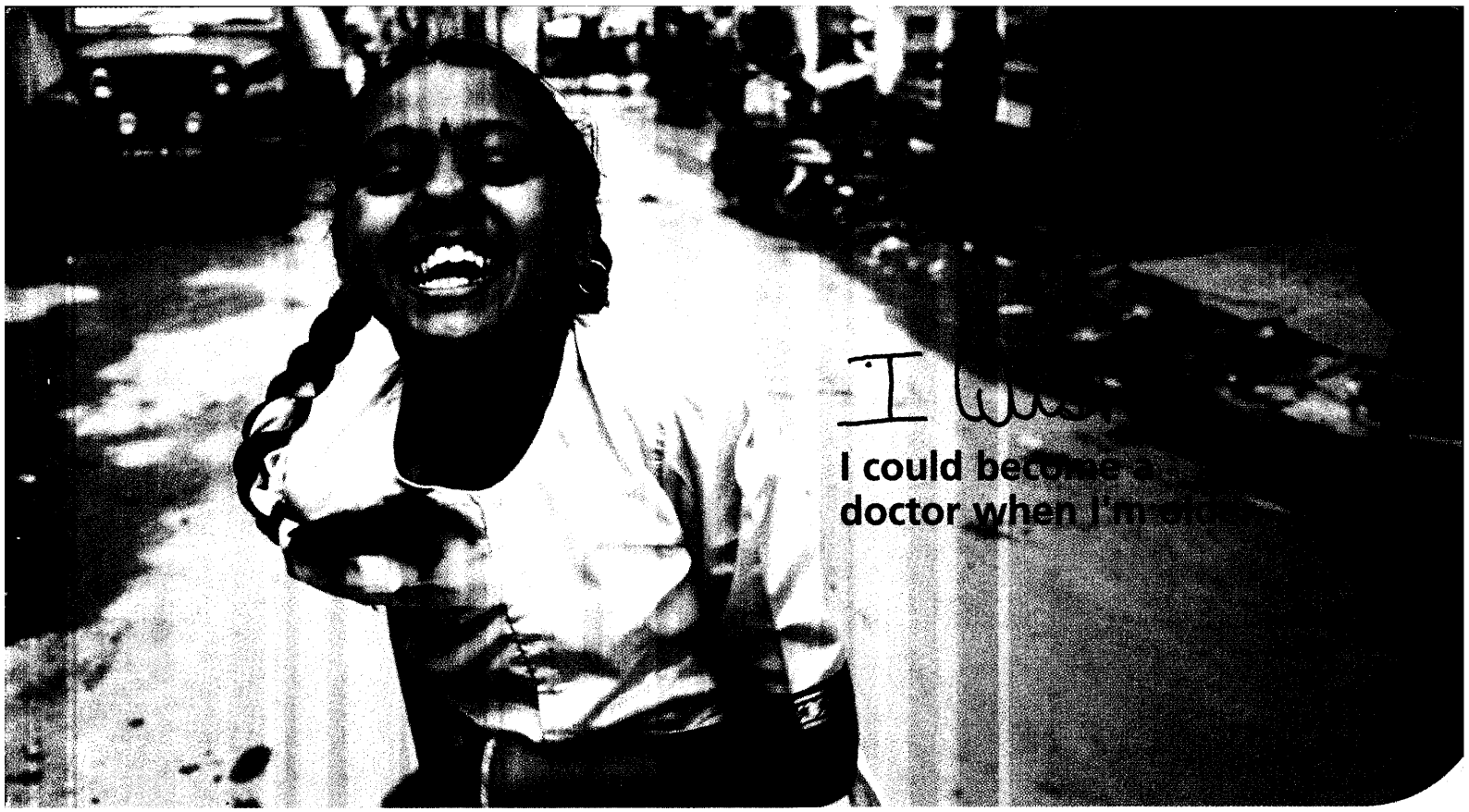


Shanthala Shamarao, 11 years old. Type 1-diabetes, India.

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JULIAN STUBBS

ground combined with some sort of know-how about small business. For biologists we want assay skills. We're focusing mainly on the Ph.D. level." In addition, says DTU's Villadsen, "Companies moving into production crave biochemical engineers. They want people with the same mental framework as engineers but who have studied biological subjects and have a rather broad education in the biosciences." Adds Leanderson of Active Biotech: "The real demand in Medicon Valley is for in vivo pharmacologists. We have a lack of good people there."

H. Lundbeck, a Valby, Denmark, pharmaceutical company devoted to the treatment of central nervous system disorders, has broad personnel needs. "The scientists we are recruiting are in all disciplines: medicinal chemistry, biological research, and pharmacology," says Lars-Peder Haahr, head of corporate R&D. "We have increased our discovery capacity very much in the last three years; we expect that the growth will continue. Scientists must be at least Ph.D.s. We prefer at least two years of postdoc work or similar industrial experience."


PAUL COLEMAN

## RECRUITING OVERSEAS

Often enough, firms must seek the scientists they need from abroad. "Medicon Valley is no limit for us; we're looking everywhere," says Haahr. "We have recruited Germans and Australians," adds Leanderson. "They bring in skills that we can't find locally." Even academic institutions look far afield for recruits. "About 40 percent of postdocs in my research center come from other European Union countries," says DTU's Villadsen. "We've also had people from India, Singapore, and other Asian countries. We recruit them because we find that they are good people. It's done strictly by merit."

Two factors can make foreigners think hard about moving to work in Medicon Valley: low salaries compared with those available in other European countries and North America, and income tax rates that can exceed 50 percent of earnings. "It's very difficult to get people from Germany and Switzerland," says Haahr. "Salary is the issue there."

The tax situation has become more fluid. "Foreigners can now stay in Denmark for three years and pay a flat 25 percent tax," explains Invest in Denmark's Pedersen. Sweden is following suit. "We have persuaded the government to give a tax reduction of 25 percent for three years for outside scientists coming to the country," says Vedin of the Invest in Sweden Agency.

That goes only part of the way to making Medicon Valley attractive to scientists from elsewhere. "While the corporate tax rate is low in Sweden, the personal income tax situation is a little bit unfavorable even with the expatriate tax rate," Vedin concedes. "The salary level in Scandinavia is lower than in the United Kingdom or the United States. But the living conditions, social security, and the health care system in Medicon Valley are attractive." Stubbs of Dowell/Stubbs agrees. "The salaries won't be the same as in the U.S., Germany, or Switzerland," he says. "But the quality of life is pretty highly rated."

Native English speakers have an added attraction: Their own tongue is the lingua franca of professional life in Medicon Valley. Indeed, says Pedersen of Invest in Denmark, "Some classes at the universities are given only in English." The sole down side there is the difficulty of learning the local languages through casual conversation. "We are so good in English that we tend to be impatient when people try to speak Danish or Swedish," she says.


JOHN VILLADSEN

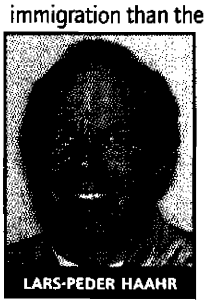
## QUALITY OF LIFE

Living conditions in Sweden offer particular attractions for scientists who work on the other side of the Øresund. "A Dane can work in Copenhagen and live in Sweden, saving half a million kroner [US$63,000]," says Villadsen of DTU. "Salaries are generally higher in Denmark. Sweden has cheaper housing and similar social services."

In fact fewer employees than originally expected commute over the Øresund, largely as a result of the unheralded complexities of cross-border life. "We have different tax systems in Denmark and Sweden. We also have different currencies, because neither country is in the euro system," explains Hedbys of AstraZeneca. "It's amazing how many different types of laws and attitudes exist," adds Combio's Stenberg. "We had to hire a consultant from a tax agency to sort things out."

The national differences can complicate daily life for individuals as well as institutions. "For foreigners the problem is very subtle," says Leanderson of Active Biotech. "But for a Swede or Dane it can be enormous. In Denmark you get a higher salary but you pay more into your pension scheme. In Sweden the employer pays more into your pension though your salary is lower. So you can end up having different pensions in two countries. Maternity leave is not harmonized between the two countries. And crossing the bridge with a car is expensive, so commuting is unnecessarily complicated."

Fortunately, both governments seem ready to address the problems. "The new government in Denmark has a more creative attitude toward immigration than the previous one," says Stenberg. Leanderson notes that several foreign scientists recruited by Active Biotech have settled comfortably in Medicon Valley. "They come for a reason," he says. "The quality of life here is pretty good if you don't look at just salary and taxes. You have a short commute from rural areas. There is good housing. Nature – forests or a beautiful coastline – is within an hour's drive. So is access to a big city. And life is rather safe because crime is not too bad."


LARS-PEDER HAAHR

With half a decade's worth of successful growth behind it, Medicon Valley looks to a promising future. As valley firms move to incorporate production into the existing mix of industrial and academic R&D, the region offers scientists a growing diversity of career opportunities.

*A former science editor of* Newsweek, *Peter Gwynne writes about science and technology from his base on Cape Cod, Massachusetts, U.S.A.*

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For further information contact Marja Jäättelä by telephone +45-35257318, or E-mail mhj@biobase.dk

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Candidates should have a strong background in molecular cell biology or protein chemistry. Methods used include production of recombinant proteins and monoclonal antibodies, knock-out mice, and analyses of signal transduction pathways regulating basement membrane assembly. Familiarity with these approaches, or signal transduction pathways stimulated by cell surface receptors is of advantage.

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**Professor Peter Ekblom**
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**Department of Cell and Molecular Biology**
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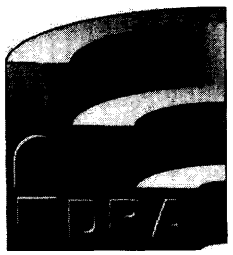
**SE-22184 Lund, Sweden**
**Phone: +46 46 222 0903 FAX: +46 46 222 0855**

Informal e-mail inquires: **Peter.Ekblom@medkem.lu.se**
or to:**Jan.Talts@medkem.lu.se**
**Marja.Ekblom@medkem.lu.se**
**Madeleine.Durbeej_Hjalt@medkem.lu.se**



# Drug Research Academy

## The Royal Danish School of Pharmacy

## 4 PhD Studentships

The Drug Research Academy is pleased to announce that 4 PhD studentships will be awarded by 1 October 2002 to encourage young science graduates to embark on a research career in drug research. The purpose of the Drug Research Academy is to train the next generation of drug researchers. Emphasis is given to integrated research training with the aim of performing innovative drug research in an interdisciplinary and highly integrated environment and the PhD study program includes obligatory PhD courses focusing on key elements in drug research. Furthermore, the industrial perspective is essential and research has to be carried out in an industrial environment for at least three months. Applications are invited for three-year studentships from candidates that hold or expect to hold a master's degree in a field relevant to one of the following projects:

**Phase I Dose Escalation Trials: An Assessment of Current and Novel Trial Designs.** Supervisors: Professor, Dr. med. Ole J. Bjerrum, The Royal Danish School of Pharmacy and Head of Clinical Pharmacology, PhD Mikael S. Thomsen, Novo Nordisk A/S.

**Microencapsulation of Solids by Effervescent Atomisation Technique.** Supervisors: Associate Professor, PhD Lars Hovgaard, The Royal Danish School of Pharmacy and Senior Research Scientist, PhD Poul Bertelsen, Nycomed Danmark A/S.

**Development of New Methods for Optimisation of Solid Phase Synthesis of Pharmaceuticals.** Supervisors: Professor, PhD Mikael Begtrup, The Royal Danish School of Pharmacy and Director, PhD Fredrik Björkling, LEO Pharma.

**Augmentation of Glutamatergic Neurotransmission as an Approach to Develop New Compounds for Treatment of Schizophrenia – Focus on Ionotropic Glutamatergic Receptors.** Supervisors: Professor, PhD, Dr. pharm. Hans Bräuner-Osborne, The Royal Danish School of Pharmacy and Pharmacologist, PhD Jana Podhorna, H. Lundbeck A/S.

The PhD studentship is to be completed in accordance with the Ministerial Order on the PhD Education and PhD Degree of the Ministry of Science, Technology and Development and the Regulations and Guidelines for the Awarding of the PhD Degree by the Royal Danish School of Pharmacy. The terms of employment are stated in the agreement between The Danish Confederation of Professional Associations and the Ministry of Finance.

All interested persons are encouraged to apply for the studentship regardless of age, gender, religion or ethnical origin.

The letter of application should include information explaining why this specific project is of interest to you and why you are especially qualified for this particular project (half a page or so). The application should include the following enclosures: Applicant information form, CV, copy of Master of Science diploma. A complete application has to be submitted for each project of interest.

The application should be marked reference number **02-345-16** and be submitted in 8 copies to PhD Study Administrator Marianne W. Jørgensen, The Royal Danish School of Pharmacy, PhD Administration, Universitetsparken 2, DK - 2100 Copenhagen and be in our hands by **21 August 2002 at 11am** in order to be considered.

Further information on the individual PhD projects can be found on our WWW site (**http://www.dfh.dk/stillinger/index_uk.html**) or by contact to Marianne W. Jørgensen, fax +45 3530 6001 or e-mail **mwj@dfh.dk**.

The Royal Danish School of Pharmacy (http://www.dfh.dk) is an institution of higher education under the Ministry of Science, Technology and Development. The School of Pharmacy's objective is to educate pharmacists and researchers and to conduct drug related research. The School of Pharmacy, which has no faculties, comprises five departments, a library, and an administration. The School of Pharmacy's staff totals approximately 350. There are about 1,200 undergraduates and some 120 PhD students.

17–20 NOVEMBER 2002

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**The registration deadline is Friday 20 September 2002.** For registration and abstract submission please visit our website. A limited amount of on-site accommodation is available, which will be allocated on a first-come, first-served basis. Late registration may be accepted at a higher fee, if the meeting is not oversubscribed.

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The Wellcome Trust Genome Campus
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# Program for the promotion of young researchers

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Inserm also wishes to encourage interdisciplinarity by supporting "collaborative projects" associating two researchers in close collaboration submitting two complementary and synergistic projects : each application shall be submitted and evaluated independently. Upon request before July 19th 2002, Inserm will help a researcher find a possible partner.

**1. Researchers with a permanent position at Inserm, or other research institutes, University or Hospital**

1.1 The applicant has a permanent position at Inserm ("chargé de recherche de 2ème or 1ère classe, directeur de recherche de 2ème classe"), or at another French research institute or a university ("maître de conférences or professeur des universités"). The awardee will be hosted either in an Inserm research laboratory or in a fully equipped facility devoted to an "AVENIR" group, to develop a creative project together with an innovating methodology. The mobility of the candidate, his/her autonomy, his/her ability to develop his/her own project and to interact with other teams on the site, will be considered positively during the assessment of the application. The "AVENIR" grant might be renewed once and should eventually lead the applicant to create his/her own Inserm unit.

1.2 The applicant has a permanent position in a French hospital ("praticien hospitalier", "maître de conférence des universités et praticien hospitalier", or "professeur des universités et praticien hospitalier"). He/she will develop an innovative research project with a strong clinical impact and a good interaction between clinical and basic research. Again the ability of the applicant to interact with other groups on the site will be considered positively during the assessment of the application.

**2. Post-doctoral scientists and "Chefs de Clinique Assistants, Assistants Hospitalo-Universitaires".**

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2.1 In addition to the "AVENIR" package, non profit associations and foundations ("Association française contre les myopathies, Association pour la recherche sur le cancer, Fondation pour la recherche médicale, Ligue nationale contre le cancer"), the "Agence nationale de recherche sur le Sida", the "Etablissement français du sang", the Ministry of Health (DHOS, DGS), CANAM, hospitals, universities, local councils and biomedical industries will provide the post-doctoral applicant with a monthly fellowship of 2.300 euros for 3 years.

2.2 When the applicant holds a non permanent position in a French hospital namely : "Chef de Clinique Assistant or Assistant Hospitalo-Universitaire"), his/her status and salary will remain unchanged.

"AVENIR" applications will be evaluated by the "AVENIR" Committee, consisting of experts in the specific fields of the proposals.

Inserm intends to select 10 young researchers with a permanent position at research institutes or University (§ 1.1), 10 clinicians (§ 1.2), and 20 post-doctoral scientists (§ 2.1 and § 2.2).

**The application file can be downloaded from the Inserm website http://www.inserm.fr/avenir 2002**
**Applications should be postmarked no later than October 4th, 2002, to:**
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**If you need help to find a partner (collaborative projects), please contact before July 19th, 2002 and for general information:**
• Marie-Catherine Postel-Vinay
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Inserm - 101 rue de Tolbiac - 75654 Paris Cedex 13 - France
Tel: + 33 1 44 23 67 05 - postel-vinay@tolbiac.inserm.fr

For our **Antibiotic Research Institute Vienna** we are seeking the following key position

# Head of Microbiology

**Qualifications**

- University degree as MD or PHD in (human or veterinary) medical sciences, microbiological or pharmaceutical sciences
- Preferably 5 years research experience in the pharmaceutical industry
- Established network in the relevant microbiological area
- Strong oral and written communication skills in English
- Knowledge of data processing systems
- Strong interpersonal skills

**Areas of responsibility**

- Preparing and realizing of preclinical evaluations in bacteriology as e.g.
  - in vitro systems
  - in vivo animal models
  - establishment of new test systems
  - experimental benchmark analysis
- Leading and managing the microbiology department's staff
- Reporting directly to the Head of Antibiotic Research Institute Vienna
- Publications and presentations of scientific results for international and national journals and conferences

If you are interested in working in our company in Vienna we would be delighted to meet you. We look forward to receiving your completed application.

BIOCHEMIE

Biochemie is a member of the Novartis Group and therefore part of a leading Healthcare concern. As Austria's largest pharmaceutical company we make 97 % of our turnover with exports in more than 120 countries. A significant contribution to our company's success is our employees' creativity and commitment.

**Biochemie GmbH**
Mag. Katharina Kaltner
Human Resources/Recruiting

Biochemiestraße 10
A-6250 Kundl
Tel. 0043/5338/200-2157
e-mail:
katharina.kaltner@gx.novartis.com
Internet: www.biochemie.com

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THE UNIVERSITY OF SHEFFIELD

## MEDICAL PHYSICS & CLINICAL ENGINEERING, DIVISION OF CLINICAL SCIENCES (SOUTH)

### CHAIR IN MEDICAL PHYSICS AND CLINICAL ENGINEERING

This post provides an exciting opportunity for an outstanding individual to join an excellent inter-disciplinary academic unit which has a bridging role in the application of engineering and physics to medicine. The unit was graded highly at 5A in the 2001 national Research Assessment Exercise

You will have an international reputation in measurement and modelling in biology and/or medicine, together with experience of inter-disciplinary collaboration, developing links with industry and a proven record in attracting research funding.

A lectureship will be available to support the post.

Informal enquiries can be made to Professor Rod Smallwood (tel: +44 (0) 114 271 3146, email: r.smallwood@shef.ac.uk)

*Closing date: 31 August 2002*

*The University is committed to equality through diversity*

For full post details/application pack visit:
**www.shef.ac.uk/jobs/adc**
or email: **jobs@sheffield.ac.uk**/tel: **0114 222 1631** (24hr).
*Please quote post ref ADCR2670 in all enquiries*

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LMU **University of Munich (LMU)**

### Chair in Structure of anorganic and/or biogenic Geomaterials

The Faculty of Geosciences is seeking applicants for a full professorship (C4/Lehrstuhl) in research into the structure of anorganic and/or biogenic geomaterials.

The successful applicant will be responsible for teaching and research at all levels, including the graduate program for mineralogy and undergraduate studies for geology and geophysics. Teaching is also expected in the interdisciplinary course of materials science. Further to this, due consideration must be given to the teaching of crystallography for physicists, chemists and biologists.

In research it is anticipated that the applicant will make full use of and expand on the manifold existing opportunities for experimental research in the newly founded Department for Earth and Environmental Sciences: in particular in the field of submicroscopic and atomic structure of anorganic and/or biogenic crystalline geomaterials.

The department maintains a research group at the newly built neutron source FRM II in Garching. This chair may also be combined *ad personam* with the position of the director of the Bavarian mineralogical collection and museum.

The University of Munich is seeking to increase the percentage of women in sciences and therefore welcomes especially applications from qualified female applicants. Disabled persons with equal qualifications will be preferred. The age of the applicant should not exceed 52 at the time of appointment.

The deadline for applications is September 30 2002.

Applications, including a curriculum vitae, a publication list and references should be sent to:

**Dekan, Faculty of Geosciences, Ludwig-Maximilians-Universitaet Munich, Luisenstr. 37, 80333 Munich, Germany.**

# This could be the first of many important discoveries

## Membrane Protein Biochemist - Structural Biology Team

## Sandwich, Kent, UK

As an experienced experimentalist in Membrane Protein research, you'll be as excited as we are about ongoing scientific advancements in this area. An acknowledged expert on the expression, purification and handling of membrane proteins you'll bring an added dimension to our drug discovery research. Our Structural Biology team (part of the Molecular Informatics, Structure and Design Department) works exactly like that - as a team. It means that as well as focusing on your own work, you'll also have the chance to appreciate other people's and develop your knowledge and skills accordingly.

Join us from either academia or the biotech/pharma industry, and with your distinguished record in this field you'll assume scientific leadership to shape our structure-based drug design programs on pharmaceutically important membrane proteins. You'll help us to take advantage of new developments as they happen, in a role that will involve maintaining an up-to-date knowledge of advances in the area and building relationships with leading external groups worldwide.

You can be sure all the resources you need to support your efforts are here, as no-one spends more on R&D than us. Within brand new facilities opened only last year at our $multi-billion global research site in Sandwich, you'll have a diverse range of state-of-the-art technology at your disposal. You'll get to use it to its full potential, as you share your results and contribute to wider scientific discussion.

You'll have a degree in Biochemistry or a related biological science plus a PhD or extensive postgraduate experience with a strong central element of membrane protein biochemistry. Bring us these skills and you'll have the opportunity to work in an attractive coastal environment with close links to Europe, at a leading R&D centre that's a core part of a global effort to improve people's lives.

**To apply, please write with your CV, quoting ref: T088/2002/S to Katy O'Kelly, Resourcing Assistant, Pfizer Global Research and Development (IPC 077), Ramsgate Road, Sandwich, Kent, CT13 9NJ, England, UK. Closing date: 9th August 2002.**

**www.pfizer.co.uk**

Pfizer Global Research and Development

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## FOURTH ADVANCED VACCINOLOGY COURSE (ADVAC-4)

**Veyrier-du-Lac (near Annecy, French Alps)**

**26 May-6 June 2003**

**Objective**
The course aims to facilitate critical decision making in vaccinology by providing participants with a comprehensive overview of the field.

**Who should apply ?**
Scientists and decision-makers from the public and private sector involved in vaccine development, in the elaboration of vaccination strategies or policy decisions related to the introduction of vaccines in public health programmes.

The course is organized by the Fondation Mérieux, with the co-sponsorship of

Children's Vaccine Program at PATH, European Commission CDC, ESPID, EVM, IARC, NFID, NIAID, WHO, University Geneva, Institut Pasteur, Fogarty International Center, Johns Hopkins Bloomberg School of Public Health

Deadline for applications: 15 November 2002

**Information: www.fond-merieux.org**



exonhit therapeutics UMBI SPLICING 2

## RNA Splicing in Human Pathologies

**September 24, 2002 8:00AM-6:00PM**
University of Maryland, Shady Grove Campus
Rockville, MD, USA

Leading researchers in alternative splicing will be presenting at this event, providing a forum to discuss advances and to investigate issues in this emerging field of genomics

Keynote Speaker:
**Adrian R. Krainer, Ph.D.**
Cold Spring Harbor Laboratory

Presenters:
**Mariano A. Garcia-Blanco, M.D., Ph.D.**
Duke University Medical Center

**Douglas Black, Ph.D.**
Howard Hughes Medical Institute, UCLA

**Christopher Burge, Ph.D.**
Massachusetts Institute of Technology

**Jamal Tazi, Ph.D.**
Institut de Génétique Moléculaire de Montpellier, CNRS

**Laurent Bracco, Ph.D.**
ExonHit Therapeutics

**Thomas A. Cooper, M.D.**
Baylor College of Medicine

**Joëlle Marie, Ph.D.**
Centre de Génétique Moléculaire, CNRS

**Robert Darnell, M.D., Ph.D.**
Rockefeller University Hospital

**Xiang-Dong Fu, Ph.D.**
University of California, San Diego

Register by August 30, 2002
Seating limited - free registration
Online registration at www.exonhit.com/splicing2002

# As a major European pharmaceutical company,

our success depends upon the dynamism of our research directed towards the discovery of new drugs. Thanks to its 2,400 specialised researchers, our growing company has a considerable pipeline of drugs in development.

In our Research centre near Paris, a major and expanding scientific and medical hub within Europe, and within easy reach of the French countryside, we are offering positions in

**CENTRAL NERVOUS SYSTEM.**

## BEHAVIOURAL PHARMACOLOGIST, PhD

In our cerebral ageing and chronic neurodegenerative diseases department, you will manage a team of technicians involved in screening and target validation activities using behavioural models of age-related cognitive disorders.
You have a strong research record in the psychopharmacology of cognitive functions such as attention, working and long-term memory. Previous experience with CNS behavioural screening activities would be an advantage. *Réf. BH*

## MOLECULAR PHARMACOLOGIST, PhD

As a member of our Neuropsychiatry department, you will contribute to target validation and drug characterization. You have substantial experience in cell culture techniques and cellular pharmacology, including studies of radioligand binding, G-Protein coupling and intracellular signals. Familiarity with quantitative imaging and molecular biology activities such as autoradiography and *in situ* hybridisation would be an advantage. *Réf. MP*

> > > > Our company offers an environment conducive to publications and collaborative studies. Material and technical facilities are excellent.

> > > > The successful candidate(s), who will join dynamic and interdisciplinary teams, will have relevant postdoctoral experience and will be highly motivated, committed and creative. Knowledge of CNS pharmacology would be ideal.

**Qualified applicants should send their letter of application, along with their curriculum vitae and photo to PUBLIVAL/7046 - 27 Route des Gardes, 92190 MEUDON (FRANCE) quoting the reference of the position.**

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## THE INSTITUTE OF MOLECULAR MEDICINE, LISBON, PORTUGAL

### RESEARCH GROUP LEADERS

The **INSTITUTE OF MOLECULAR MEDICINE, IMM**, wishes to recruit excellent young international research group leaders. Two positions are available in 2002, with three further positions opening in 2003. A total of 13 further positions will be available in 2004, 2005 and 2006.

The Institute of Molecular Medicine is located at the Lisbon University campus. The Institute is currently funded by The Ministry of Science-Fundação para a Ciência e Tecnologia, and by the Faculty of Medicine-University of Lisbon.

The Institute of Molecular Medicine is committed to foster top quality, interdisciplinary bio-medical research.

The prime selection criterion for candidate group leaders is scientific excellence relevant to the research interests of the Institute, as described in the IMM Web site: http://www.imm.ul.pt

An initial contract of 5 years' duration will be offered to the successful candidates. This can be renewed, depending on circumstances at the time of the review.

Applicants should submit a curriculum vitae, with a concise description of research interests and future plans. Two letters of recommendation should be independently sent to: **Prof. M. Carmo-Fonseca, Institute of Molecular Medicine, Faculty of Medicine, Avenida Prof. Egas Moniz, 1649-028, Lisboa, Portugal**.

Fax: 351 21 7951780 email: carmo.fonseca@fm.ul.pt

**Deadline to submit applications: 16 September 2002**

Interviews will be held 17-19 October 2002. Closing date: 31 October 2002.

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## International Max Planck Research School PhD Program in Structure and Function of Biological Membranes

**Max Planck Institute of Biophysics**
**Max Planck Institute of Brain Research**
**Goethe University**

**Frankfurt am Main, Germany**

Several **PhD fellowships** are available in the International Max Planck Research School in Frankfurt. The two Max Planck Institutes and research groups at Frankfurt University offer a unique environment for the study of biological membranes and membrane proteins. PhD opportunities exist in internationally leading laboratories in the areas of membrane protein structure determination, membrane biochemistry, molecular biology and functional studies by electrophysiological and spectroscopic methods as well as studies of whole membranes, cells and organs.

Highly qualified candidates with degrees in biochemistry, chemistry, physics, biology, medicine or related subjects are invited to apply for the next round of admission in November 2002. Application forms can be downloaded from the website of the Research School at ***www.mpibp-frankfurt.mpg.de***

Applications should arrive not later than

**31 August 2002**

For further details please contact

**Dr. Janet Vonck**
**MPI of Biophysics**
**Heinrich-Hoffmann-Straße 7**
**D-60528 Frankfurt am Main**
**Germany**

**Tel.** +49+69-96769-357
**Fax:** +49+69-96769-359
**e-mail:** Research.School@mpibp-frankfurt.mpg.de

# Put yourself at the heart of cardiovascular drug discovery

## Team Leader – In Vivo Pharmacology, Cardiovascular Biology

### Sandwich, Kent, UK

Cardiovascular disease is one of the major health care issues of the 21st Century - accounting for one third of all mortality in the developed world. We have already demonstrated our commitment by discovering two of the world's most prescribed cardiovascular medicines. Our efforts to treat this daunting medical challenge continue - with a brand new research building, state-of-the-art technology and unrivalled resources, we're dedicated to improving the lives of patients. Now we're looking for an expert whose credentials match even our own.

In this key Discovery therapeutic area, you'll be leading our *in vivo* pharmacology team. Concentrating on strategy, management and coaching, you'll share your knowledge of hypertension and cardiovascular disease with other team leaders and partner groups in the US. The role will also see you bringing in your own ideas and depth of knowledge, collaborating on major ongoing projects as part of a multi-disciplinary team and making a strong intellectual contribution on a global stage.

Specifically, you'll identify novel *in vivo* protocols and incorporate them into our suite of disease-relevant physiological systems. You'll set a strategy for the whole team that meets the needs of the therapeutic area, and allocate resources to projects and exploratory work.

Together with a BSc in pharmacology, physiology or a related discipline, you'll have a PhD or equivalent experience in the design and execution of *in vivo* studies and the establishment of *in vivo* models. Your strong theoretical and practical background in cardiovascular physiology or pharmacology will be evidenced optimally by 3-5 years' post-doctoral experience. It would be ideal if you have managed a team before or collaborated with academic groups, but it's essential that you have leadership potential.

**To apply, please write with your CV, quoting ref: T267/2001/S to The Resourcing Assistant, Discovery Biology, Pfizer Global Research and Development (IPC 077), Ramsgate Road, Sandwich, Kent, CT13 9NJ, England, UK.**

**Closing date: 9th August 2002.**

**www.pfizer.co.uk**

*Pfizer* Global Research and Development

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## THE UNIVERSITY *of* LIVERPOOL

## LECTURESHIPS IN PALAEONTOLOGY AND ENGINEERING GEOSCIENCE/ROCK MECHANICS

*Department of Earth Sciences*

**Initial salaries within the range £20,470 - £32,537 pa**

Applications are invited for two posts, available from 1 January 2003, to strengthen and expand geology research and teaching. The Department is nationally graded as excellent (5A) for research and teaching Earth Sciences. Candidates should have a proven research track record with evidence of research grant income and be able to contribute to all levels of undergraduate geology teaching. They should develop new research areas in any aspect of Palaeontology or in Engineering Geoscience/Rock Mechanics and/or complement our existing research areas in Stratigraphy, Oceanography and Rock Microstructures (http://www.liv.ac.uk/earth/research/research.html).

***Quote Ref: B/878/S*** ***Closing Date: 6 September 2002***

*Further particulars and details of the application procedure should be requested from the Director of Personnel, The University of Liverpool, Liverpool L69 3BX on 0151 794 2210 (24 hr answerphone) or via email: jobs@liv.ac.uk or are available online at http://www.liv.ac.uk/university/jobs.html*

COMMITTED TO EQUAL OPPORTUNITIES

St. Jude Children's Research Hospital
ALSAC · Danny Thomas, Founder

## POSTDOCTORAL POSITION
## Tumor Suppression in Brain
## (REQ #3427)

A postdoctoral position is available to study tumor suppression and growth regulation in the brain. Ongoing studies are focused on the Pten-Akt pathway. *PTEN* is targeted by inactivating mutations in diverse human tumors including glioblastoma, and germline mutations in *PTEN* can cause cancer predisposition and neurological abnormalities. We selectively deleted *PTEN* in specific neuronal populations in mice using a *cre-lox* approach, and showed that *PTEN* is an essential regulator of growth in the brain (Nature Genetics 29:404-411). Ongoing projects are directed toward the identification of critical downstream effectors and upstream regulators of *PTEN* function in brain, and understanding the role of this signal transduction pathway in brain tumors. Approaches will take advantage of available cutting-edge technology in genetic engineering in mouse and gene expression arrays. This position is ideally suited to applicants who have recently received a Ph.D. with experience in molecular biology, biochemistry, microarray analysis, and/or work with mouse models.

St. Jude Children's Research Hospital has a highly interactive research environment and state-of-the-art facilities including core laboratories for microarray analysis of gene expression and transgenic/knock-out technology. A competitive stipend and benefits package including funds for professional travel is available.

**Interested candidates should send a curriculum vitae and names and addresses of three references, indicating REQ #3427, to: Suzanne J. Baker, Ph.D., Department of Developmental Neurobiology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105.**

*St. Jude is an equal opportunity / affirmative action employer.*

**www.stjude.org**

## POSTDOCTORAL POSITION
## IMMUNOLOGY

Position available to study the role of transcriptional regulation in the control of lymphocyte development. Projects involve analysis of E2A and EBF function in lymphopoiesis using *in vitro* and *in vivo* assays. *(See J. Exp. Med.* **188:**699-713, 1998; *Nat. Immunol.* **2:**242-247, 2001; *EMBO J.* **21:**103-113, 2002). Experience in molecular and cellular biology essential.

Please send statement of interest, curriculum vitae, and names of three references to: Dr. Barbara L. Kee, Dept. of Pathology, University of Chicago, 5841 South Maryland Ave., MC 1089, Chicago, IL 60637. E-mail: bkee@bsd.uchicago.edu FAX: 773-834-5251.

The University of Chicago is an Equal Opportunity/ Affirmative Action Employer and welcomes applications from women and minorities.

UK

## Faculty Position in DNA Repair and Cancer Biology

### University of Kentucky Medical Center

The University of Kentucky College of Medicine invites applications from outstanding candidates for a tenure-track faculty position at the level of Assistant, Associate or Full Professor, to be based in the Markey Cancer Center as an integral part of an expanding initiative in DNA repair and cancer. Expertise is sought particularly in areas which complement current foci in mismatch repair, excision repair, and DNA damage response. Candidates studying DNA repair using advanced biomolecular technologies such as DNA and protein arrays/proteomics, as well as those employing unique animal models and/or molecular epidemiology are encouraged to apply. The successful candidate must have a Ph.D. and/or M.D. degree with productive postdoctoral experience, and will be expected to develop/maintain a vigorous, independent extramurally funded research program, as well as participate actively in graduate teaching programs in the UK Medical Center. Generous start-up funds, competitive salary, and modern laboratory space are available.

Applications, including curriculum vitae, a list of publications, three letters of reference, and a brief summary of accomplishments and future research directions should be sent to: **DNA Repair Search Committee, c/o Ms. Beth Williams, Markey Cancer Center, University of Kentucky College of Medicine, 800 Rose Street, Lexington, KY 40536**. The review of applications begins July 15, 2002 and will continue until the position is filled.

*The University of Kentucky is an Equal Opportunity Employer.*

Washington University in St. Louis

### Tenure Track Faculty Positions
### Retinal Degeneration, Glaucoma, Ocular Immunology/ Infectious Disease
### Department of Ophthalmology and Visual Sciences
### Washington University, St. Louis

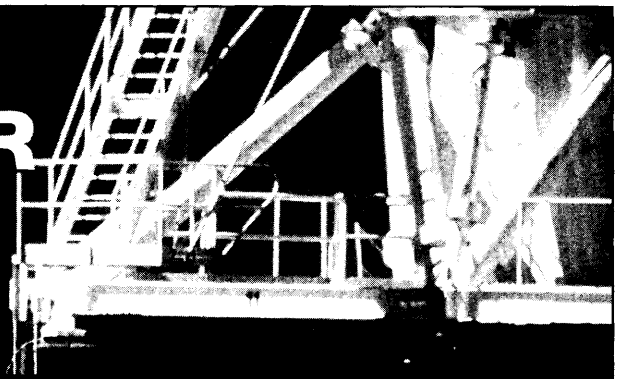
The Department of Ophthalmology and Visual Sciences invites applications for up to three full-time, tenure-track appointments at the rank of Assistant Professor or higher. Candidates must hold a Ph.D. or M.D. degree or equivalent, have relevant postdoctoral experience and a strong record of accomplishment in research. Candidates will be expected to establish or maintain a vigorous, independently funded research program. A competitive salary, ample start-up package and first-class laboratory space will be provided.

We are seeking candidates with interests in the broad areas of retinal degeneration, glaucoma, ocular angiogenesis and ocular immunology/infectious disease. The individuals selected will be expected to contribute to a strong basic and clinical research group that is a leader in grant funding from the NIH and private foundations. Scientists using approaches that include molecular biology, genetics, developmental biology, cell biology, microbiology and neurobiology will find a supportive community of distinguished colleagues at Washington University. The graduate program in the Division of Biology and Biomedical Sciences (DBBS) has been a model for free standing, interdisciplinary graduate training since 1973 and supports the largest M.D./Ph.D. training program in the U.S. Department members with appointments in the DBBS have access to a large pool of talented Ph.D. and M.D./Ph.D. students.

To ensure full and timely consideration, submit (1) a current curriculum vitae, list of publications and grant support, (2) a brief statement of research interests and (3) contact information for three references by surface mail or E-mail to: **Dr. David Beebe, Chair of the Search Committee, Dept. Ophthalmology and Visual Sciences, Campus Box 8096, Washington University, St. Louis, MO 63110** or **beebe@vision.wustl.edu**. Applications will be considered beginning in mid-August, 2002. We expect to fill these positions by the spring or summer of 2003.

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

# NRAO/ESO VACANCIES FOR ALMA KEY PERSONNEL



**The Joint Personnel Search Committee of the ALMA Board is now seeking applicants for the key positions within the JAO:**

The Atacama Large Millimeter Array (ALMA) will be a millimeter-submillimeter wave interferometer consisting of (64) 12m diameter antennas located on the Chajnantor Altiplano in the Atacama Desert of northern Chile. Built and operated by a bilateral North American (United States and Canada) - European (ESO member states and Spain) partnership, ALMA will be equipped initially with dual-polarization receivers covering 4 atmospheric windows: 84 - 119 GHz, 211 - 275 GHz, 275 - 370 GHz, and 602 - 720 GHz. The project, with a budget which exceeds half a billion dollars, is being carried out jointly by the European Southern Observatory (ESO) and the National Radio Astronomy Observatory (NRAO), managed by Associated Universities, Inc. The Governing Board of ALMA, made up of members representing the above mentioned parties/partners has created the Joint ALMA Office (JAO) which is responsible for the overall leadership and management of construction, commissioning, early operations, and the operation of ALMA as an Observatory.

## *ALMA Director*

The Director has the overall responsibility of leading the ALMA project and representing it to the global astronomical community and the funding agencies supporting the project. The Director reports to the ALMA Board, which will review the Director's progress on the project annually. The Director will be responsible for the operation of the Joint ALMA Office, and will ensure that ALMA is constructed to specification, on schedule and within the costs set out in the ALMA Bilateral Agreement. The Director will allocate observing time during early operations and operations in accordance with policies and procedures determined by the Board. Basic requirements for the position include a Ph.D. in astronomy, astrophysics, physics or a related field and a proven record of scientific leadership. The selected candidate must have significant management experience. Previous experience with large international scientific collaborations is desired.

## *ALMA Project Manager*

The Project Manager is responsible for the overall direction of the ALMA construction conducted by the North American and European project managers, for maintaining the integrity of the project schedule and work breakdown structure, and for periodically reviewing and summarizing the state of the project for the ALMA Management Advisory Committee. The Project Manager is also responsible for coordinating the ongoing ALMA technical development program carried out through the two project executives. The Project Manager reports to the ALMA Director, and his/her performance will be reviewed annually by the ALMA Board. Basic requirements for the position include an advanced degree in the physical sciences or engineering, and an established record of success in managing large projects. Experience in the management of international scientific projects is highly desirable.

## *ALMA Project Scientist*

The Project Scientist serves as the primary contact between the ALMA project and its various scientific constituencies, for example, the ALMA Scientific Advisory Committee, with respect to the scientific capabilities and mission of the instrument, serving as the ALMA project's primary advocate for the array's scientific capabilities and needs. The Project Scientist reports to the ALMA Director and his/her performance will be reviewed annually by the ALMA Board. Basic requirements for the position include a Ph.D. in astronomy, astrophysics, physics or a related field, and a record of leadership and ability in the field of radio astronomy. Experience in radio astronomical interferometry is highly desirable.

## *ALMA Project Engineer*

The Project Engineer ensures that the project as implemented fulfills the instrument's technical specifications. His/her duties include maintaining the integrity of ALMA's technical specifications, overseeing the definition, design, production, integration, verification and validation of ALMA's major components, overseeing the project's change control process, and developing and maintaining a detailed program to balance the requirements of completing construction, commissioning the ALMA components as they are completed, and initiating and maintaining early operations. The Project Engineer reports to the ALMA Project Manager and will be reviewed annually by the ALMA Board. Basic requirements for the position include an advanced degree in the physical sciences, or engineering; experience in astronomical project engineering is desirable.

All applications should include the names of five individuals willing to serve as professional references for the applicant.

Appointments to these positions are expected to begin on 1 January 2003. The initial location of the JAO will be decided in consultation with the Director, but the JAO is expected to be located in Chile by the start of 2004. ALMA Key Personnel will be selected by international search solely on the basis of professional qualification and merit, and irrespective of national origin. Their appointment requires the concurrence of the ALMA Board. It is intended that the Director, when selected, will be consulted in the appointment of further staff to the JAO. Applications for these positions should be sent to the Personnel Office, at either of the following addresses: **ESO, Karl-Schwarzschild-Str. 2, Garching, D-85748, Germany; or NRAO*, 520 Edgemont Road, Charlottesville, VA 22903 USA**. The Search Committee will begin reviewing applications on September 1, 2002. Applications will be considered until the positions are filled.

**Remuneration:** ALMA Key Personnel will be hired as employees of either ESO or AUI/NRAO. ESO and AUI/NRAO offer attractive remuneration packages including a competitive salary, comprehensive benefits, and provide financial support in relocating families. Furthermore, an expatriation allowance as well as some other allowances may be added.

**The National Radio Astronomy Observatory is operated by Associated Universities, Inc. (AUI) under cooperative agreement with the National Science Foundation. Further information is available on www.nrao.edu.*

***The European Southern Observatory is an intergovernmental organization. Further information is available on www.eso.org. Both are equal opportunity employers (M/F/H/V).*

DUPONT®

**DuPont** is a global research- and technology-based company committed to the miracles of science. We invite applications for the following positions in the Molecular Genetics Group of DuPont Crop Genetics. Our facility provides state-of-the-art instrumentation for genomic approaches, such as high throughput sequencing, high density microarray analysis, and advanced bioinformatic systems, as well as access to world-wide field testing resources of Pioneer Hi-Bred and interactions with a thriving scientific community. We are located in Newark, Delaware, adjacent to the University of Delaware Campus and Delaware Biotechnology Institute, in an area that offers an attractive lifestyle with easy access to various cultural, academic and recreational activities in the middle East Coast region.

**Post-doctoral Visiting Research Scientists**

We are looking for highly motivated Ph.D. level scientists with a strong background in plant genetics or plant breeding and molecular biology, and strong interest in map-based cloning of agriculturally important genes in model and crop species. Genes determining quantitative traits are of particular interest.

DuPont offers an attractive salary and comprehensive benefits.

Applicants should send their CV and three letters of recommendation, no later than August 31, 2002, by mail or fax to: **Dr. Scott Tingey, c/o Susan Faassen, DuPont Experimental Station, Crop Genetics E402/3206H, Rt. 141 & Henry Clay Rd., Wilmington, DE 19880-0402, USA. Fax No.: 302-695-8514.**

WAKE FOREST
UNIVERSITY

**FACULTY POSITIONS FOR BASIC SCIENTISTS IN WOUND HEALING, REGENERATION, AND TISSUE ENGINEERING**
**WAKE FOREST UNIVERSITY MEDICAL CENTER**

The Department of Plastic and Reconstructive Surgery, Wake Forest University is undertaking a revolutionary new initiative in wound healing and tissue engineering. We are assembling a team of highly qualified basic scientists (Ph.D., M.D.) who will do fundamental research on wound healing, tissue regeneration, and tissue engineering in direct concert with clinical surgeons and biomedical engineers.

The ideal candidates will possess significant experience and qualifications in their area of expertise, be highly motivated, able to work and communicate effectively with others. These basic scientists will be a critical component in a multidisciplinary team which will work together to define fundamental principles of wound healing, apply these directly to clinical problems, and pursue translational research. Team members may derive financial benefit from any commercial development. We are seeking basic scientists in the following areas.

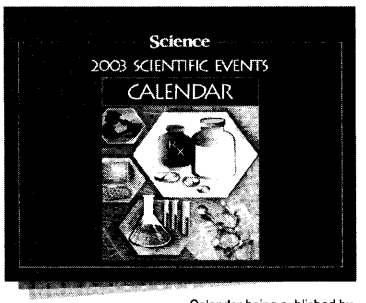
1. **Angiogenesis.** A highly skilled individual with a solid background in angiogenesis, particularly as it relates to wound healing, aging, infection, and/or neoplasm. A significant understanding of clinical and laboratory protocol development is necessary. In addition, this individual will work in concert with our pediatric section on their work with hemangiomas and vascular malformations.
2. **Apoptosis.** This individual will have expertise in the general field of apoptosis and specifically how it relates to nonhealing wounds, wounds occurring in patients with malignancy and wounds occurring in the aged patient. This individual will also work with other members of the team in craniofacial biology and craniofacial development.
3. **Developmental Biology.** This individual will apply the principles of wound with normal and abnormal development of the fetus. Experience with craniofacial malformations is highly desirable. Experience with intrauterine wound healing is also desirable.

The Department of Plastic and Reconstructive Surgery at Wake Forest Medical Center has a long history of highly innovative productivity and translational research. Individuals selected for these positions will be offered a competitive salary, significant job security, and the ability to be involved with and work in a revolutionary environment.

Applicants should E-mail or mail a CV to: **Dr. Louis C. Argenta, Professor and Chairman, Department of Plastic and Reconstructive Surgery, Wake Forest University School of Medicine, Medical Center Boulevard, Winston-Salem, NC 27157-1075; largenta@wfubmc.edu.**

*Wake Forest University is an Equal Opportunity Employer and actively seeks applications from women and minorities.*

Will your event be listed in *Science's* 2003 Events Calendar?




Calendar being published by *Science* Business Office.

**The 2003 Scientific Events Calendar** will be published in our 13 December 2002 issue. Deadline for submissions is 8 November 2002. This calendar reaches nearly 800,000[1] *Science* readers who could be potential delegates, exhibitors, and sponsors for your event.

To submit a free listing go to **www.sciencemeetings.org** or call your *Science* sales representative for more information on multiple listings and advertising in this year-round resource.

1 *Science* Harvey Research Readership surveys: 14 January 2000, 4 February 2000, 4 June 1999 (Japan) as applied to *Science* December 2001 BPA Publisher's Statement, publisher's own data.

**For full details contact:**
In the U.S. ..... Kathleen Clark
phone ..... 202-326-6555
fax ..... 202-289-6742
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phone ..... +44 (0) 1223 326 500
fax ..... +44 (0) 1223 326 532
e-mail .. rwalters@science-int.co.uk

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AAAS

# Combining talents to expand our vision

GlaxoSmithKline joins together the talented people of Glaxo Wellcome and SmithKline Beecham to create the world's leading research-based pharmaceutical company. We're the market leader in four of the five largest therapeutic categories, with unrivaled global marketing strength and R&D and Manufacturing capabilities supporting a research spend of $4 billion and sales of $27.5 billion annually. Best of all, the industry's greatest, most innovative minds are now assembled under one name. If your goal is to change the world with innovative medicines, now is the time to join our respected team.

## Section Head

Candidate will be responsible for the optimization of the drug properties of lead molecules for specific molecular targets directed at treatment of diabetes, obesity and/or endocrine deficiencies of aging. Candidate will lead a research group focused on the integrative physiology of model systems in these diseases (development of in vivo models and the molecular and cellular mechanism-based assays that predict in vivo activities). Backgrounds in nuclear receptor biology, physiology, endocrinology, in vivo models of metabolic diseases (diabetes, obesity, endocrine deficiencies of aging), cardiovascular-renal physiology, and or muscle cell biology are desired. Ph.D. or MD endocrinologist/physiologist/nuclear receptor biologist with at least 5 years experience in drug discovery or related academic integrative physiology field, with supervisory experience for a staff of Ph.D. and MS/BS scientists. Job Code 2455.

## Section Head/Group Leader/Res. Inv.

Candidate will lead a research group focused on the molecular and cellular biology of nuclear receptors, underpinning the development of in vitro assays for drug discovery. In addition to a strong back ground in nuclear receptor molecular and cellular biology, experience in endocrinology or model systems in metabolic diseases (diabetes, obesity, muscle cell biology, endocrine diseases of aging) are a plus. Ph.D. or Ph.D./MD nuclear receptor cellular/molecular biologist with at least 5 years experience in drug discovery or related academic nuclear receptor biology field. Job Code 2630.

## Research Scientist/Sr. Scientist/Res. Inv.

Seeking an electrophysiologist to participate in testing the cardiac safety of drug candidates. This position offers an exciting opportunity to participate in novel drug discovery and investigate structural relationships that determine ion channel block. The candidate will design, direct, evaluate and report in vitro cardiovascular pharmacology studies evaluating the liability of new drug candidates to prolong the QT interval. These studies will include whole-cell voltage-clamp assays to test discovery compounds for potential cardiac ion channel inhibition. The candidate will analyze and summarize research data with careful attention to accuracy, and give oral presentations of research results to laboratory staff. The candidate will need to stay abreast of the requirements by regulatory agencies and be able to develop new techniques for in vitro cardiovascular pharmacology accordingly. Experience in conventional microelectrode action potential recordings from cardiac Purkinje fibers or papillary muscle would be advantageous. Experience with Langendorff heart preparations, myocyte isolation and culturing or binding assays is a plus. MS with at least 1 year experience in patch clamp electrophysiology. In-depth knowledge of ion channel pharmacology and biophysics. Some experience with ion channel molecular biology and gene expression in heterologous systems. Job Code 2703.

## Senior Scientist

Conduct in vivo secondary pharmacology studies in conscious and anesthetized animals; design and perform experiments to monitor different functional activities, in particular, the central nervous system, cardiovascular, respiratory, autonomic and gastrointestinal; use in vivo physiology/pharmacology paradigms to predict the adverse effect liability of new drug candidates in various therapeutic areas; develop novel animal models and employ new techniques to design and execute in vivo secondary pharmacology studies tailored to the needs of specific projects. Requires a Ph.D. degree in pharmacology and/or physiology with at least 2 years of relevant research experience. Broad range of skills with conventional animal experimentation, including macro and microsurgery, systemic and local application of substances, monitoring and recording various physiological indices. Should be proficient in whole animal electrophysiological techniques. Experience with isolated tissue assays a plus. Be knowledgeable about regulatory requirements for human clinical trials. Understanding of applied pharmacology as it impacts the global drug development process. Good communication skills with proven ability to work independently and stay abreast of the requirements by regulatory agencies. Job Code 2706.

## Sr. Scientist/Research Investigator I

Support clinical studies in viral hepatitis by providing virology expertise within the laboratory as well as serving as protocol virologist for cross-functional teams. Work to select, develop, and validate assays necessary for development of antivirals targeting hepatitis C virus. Provide support for FTIH/PoC studies in hepatitis C area. Interact with various departments to process, analyze, and present virology studies both within and outside GSK. Work with external reference and diagnostic companies to maximize research technologies for study protocols and virology sub studies. Interact with outside investigators to support specific studies and technology development within the hepatitis area. Ph.D. in microbiology or biochemistry or related field with experience in molecular biology/virology with experience in laboratory setting. Ability to interact with multi disciplinary teams is required. BSL-3 experience is desirable. A background with hepatitis is highly desirable. Job Code 3232.

***For confidential consideration and efficient processing of your resume, please visit our Web site @ www.gsk.com. Indicating Job Code is essential to search. Principals only, no agencies, please.***

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MAYO CLINIC

**Research Scientists: Cell Adhesion — Angiogenesis**
**Rochester, Minnesota**

The Mayo Clinic Cancer Center, the Department of Medicine, and the Department of Biochemistry Molecular Biology announce openings for geneticists, and cell and molecular biologists at the Assistant, Associate, and Professor levels to study the molecular basis of cell adhesion, cell-cell contact, and angiogenesis. Qualified individuals are expected to initiate and maintain an outstanding, extramural-funded, research program in these fields as they apply to cancer or cardiovascular diseases. Requirements include evidence of an ability to obtain extramural funding and to work in a collaborative environment. Opportunities at Mayo include well-equipped core facilities, interaction with talented basic and clinical scientists with an outstanding track record in obtaining extramural federal funding, and access to a wide array of clinical material. Women and minorities are encouraged to apply.

Applicants should send a curriculum vitae and a statement of research interests by e-mail or mail to:

**Ms. Kristi Simmons**
**(Cancer Cell Biology Search)**
**Mayo Clinic**
**Guggenheim 1701**
**200 First St. S.W.**
**Rochester, MN 55905**
**simmons.kristi@mayo.edu**

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# Johnson & Johnson Pharmaceutical Research & Development, L.L.C.,

located in Raritan, NJ, conducts pharmaceutical research in therapeutic areas including anti-microbial, analgesics, central nervous system, endocrinology, gastroenterology, immunology, inflammation, cardio-vascular, oncology, reproductive and growth factor research.

## Postdoctorate
**(Req Code: 02-0002494)**

A postdoctoral position is currently available in the Capillary Electrophoresis-Mass Spectrometry (CE-MS) group of the Bioanalytical Drug Metabolism Department.This position is funded to study the characterization of glycoproteins, including peptide mapping, carbohydrate analysis, deamidation, oxidation, aggregation, immunogenicity, etc.These studies are to be carried out by various techniques, including but not limited to bioanalytical, spectroscopic, and immunological techniques. Applicants should be highly motivated and have a Ph.D. in biochemistry, analytical chemistry, or immunology. Preference will be given to candidates with experience in capillary electrophoresis, mass spectrometry, and protein biochemistry. Please include a statement of research interests, curriculum vitae, and names of three references.

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MAYO CLINIC

**POSTDOCTORAL**
**Division of Experimental Pathology**
**Rochester, Minnesota, U.S.A**

Postdoctoral research positions supported by the National Institutes of Health are available for highly motivated individuals interested in: (1) structure-function studies of the BRCA2 breast cancer susceptibility gene; (2) characterization of novel oncogenes involved in breast cancer development and progression. *In vitro* molecular assays and animal models will be used for both studies. Applicants should be career minded and self-motivated and should have a Ph.D. with experience in molecular and cellular biology.

Salary will be determined by the successful candidate's experience. There is an attractive benefit package. Mayo Clinic is a not-for-profit organization. Mayo integrates research with clinical practice and education in a multi-campus environment. For further information please visit **http://www.mayo.edu/research/**.

Applications, including curriculum vitae and bibliography, summary of past accomplishments, and the names of three references, should be sent to:

**Fergus J. Couch, Ph.D.**
**Experimental Pathology**
**Guggenheim 1001 A**
**200 First Street SW**
**Rochester, MN 55905**
**Ph: 507-284-3626; Fax: 507-266-0824**
**couch.fergus@mayo.edu**

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## CALIFORNIA INSTITUTE OF TECHNOLOGY
Division of Engineering and Applied Science

The Division of Engineering and Applied Science at Caltech invites applications for a tenure-track positions at the Assistant Professor level.

We are seeking highly qualified candidates committed to a career in research and teaching with a research focus on fluid dynamics and a preference for experimental work. Interested candidates are asked to complete the on-line application summary at:

**FLUID MECHANICS**
http://www.galcit.caltech.edu/fluids-search

Candidates with a particular interest and research focus in environmental fluid dynamics are informed that a companion invitation for this area is available at:

**ENVIRONMENTAL FLUID MECHANICS**
http://www.eas.caltech.edu/env-fluids

Candidates with a research focus on large-scale atmosphere or ocean dynamics are encouraged to consult companion invitations at:

**ATMOSPHERIC SCIENCE**
http://www.gps.caltech.edu/positions/pos_asstprof_atmos.html

**OCEANOGRAPHY**
http://www.gps.caltech.edu/positions/pos_asstprof_ocean.html

Initial appointments at the Assistant Professor level are for four years and contingent on completion of the PhD degree. Exceptionally qualified applicants at the associate or full professor level are also encouraged to apply.

CALTECH DIVISION OF ENGINEERING & APPLIED SCIENCE

*Caltech is an Equal-Opportunity/Affirmative-Action Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.*

## SECTION HEAD
## ANTARCTIC SCIENCES
## NATIONAL SCIENCE FOUNDATION
## ARLINGTON, VA 22230

NSF's Office of Polar Programs (OPP) seeks qualified candidates for the position of Section Head, Antarctic Sciences. The incumbent coordinates and supervises the work of science Program Managers in the fields of atmospheric science, glaciology, aeronomy, astrophysics, ocean and climate systems, geology and geophysics, and biology and medicine, and also organizes multidisciplinary research programs. The incumbent reports to the Director, OPP, guides the Section in formulating and implementing its research objectives and manages its administrative, fiscal and personnel aspects.

Appointment to this Senior Executive Service position may be on a career or 2- to 3-year limited term basis, with a salary of $125,972 to $138,200. Alternatively, the incumbent may be assigned under the Intergovernmental Personnel Act provisions.

The announcements S20020138, which include position requirements and application procedures, are posted on NSF's Home Page at www.nsf.gov/jobs. Announcements may also be obtained by contacting **Executive Personnel on (703) 292-8755. Hearing impaired individuals may call TDD (703) 292-8044.** Applications must be received by September 30, 2002.

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## Director, UC Davis Genome Center

The University of California at Davis invites applications and nominations for the position of founding Director of the UC Davis Genome Center. The Genome Center has been established as part of a broad, campuswide initiative to develop an internationally recognized research program in genomics that builds on and extends existing strengths in the life sciences. The Center will have 17 new faculty positions and be housed in a 211,000-sq.-ft. research building, already under construction and due for completion in July 2004.

- The Center will provide resources for new and existing faculty scientists in the School of Medicine, School of Veterinary Medicine, College of Agricultural and Environmental Sciences, Division of Biological Sciences, Division of Mathematics and Physical Sciences, and College of Engineering.
- The Center will include a modern mouse vivarium, small-animal imaging facility, and core high-throughput genomics research facilities, and will be co-located in the new building with programs in molecular medicine, pharmacology, and biomedical engineering.
- The 17 new state-funded faculty positions will include ten in experimental genomics and seven in bioinformatics and computational biology. Additional recruitments in these areas are expected in departments throughout the campus.

The Director will provide campuswide leadership for the development of research and teaching programs in genomics, and will spearhead recruitment of faculty into the Center. The Director should be a prominent scientist with a vigorous research program, and sufficient breadth of experience and interests to provide intellectual leadership to genomics programs in medicine, veterinary medicine, agriculture, and fundamental life sciences. The Director's own research program can be in any area of experimental genomics. The Director will be appointed at the professorial level in an appropriate academic department in one of six schools, colleges, or divisions. This position will remain open until filled, but for full consideration applications should be completed by September 15, 2002. Applicants should provide a letter of application, a curriculum vitae and a statement of research interests and plans, and arrange for at least three references, all to be sent to: **Dr. Craig Benham, Chair, Center Director Search Committee, UC Davis Genome Center, 2251 Academic Surge, The University of California, One Shields Avenue, Davis, CA 95616.**

Further information about genomics at UC Davis is available at **http://genomics.ucdavis.edu**

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NIMH
National Institute of Mental Health

## Genetic Epidemiology
Tenure-Track Investigator
Mood and Anxiety Disorders Program
National Institute of Mental Health
Bethesda, MD, USA

The Section on Developmental Genetic Epidemiology, Experimental Therapeutics and Pathophysiology Branch in the Mood and Anxiety Disorders Program at the National Institute of Mental Health, Intramural Research Program, is recruiting a scientist for a tenure-track position to develop research in genetic epidemiology in a new cross-institute program in neurogenetics. The candidate will have the opportunity for collaboration with scientists in diverse research areas in genetics (i.e., genetic epidemiology, biostatistics, statistical genetics, molecular genetics), as well as neuroscience and relevant clinical disciplines. The candidate should have an M.D. or Ph.D. in (1) epidemiology; (2) genetic epidemiology; (3) human genetics; or (4) psychology. In addition, the applicant should demonstrate significant experience in the design, implementation and/or analysis of genetic epidemiologic studies of complex diseases. This position includes an attractive start-up package and operating budget in an exciting multidisciplinary research environment. Preference will be given to candidates with a background and interest in complex disorders, particularly neuropsychiatric disorders. Applicants should send a curriculum vitae, statement of research interests, and three letters of recommendation to Dr. Kathleen Merikangas (kathleen.merikangas@nih.gov), Search Committee, National Institute of Mental Health, 15 K North Drive, MSC#2670, Bethesda, MD 20892, by November 1, 2002.

**NIH is an equal opportunity employer**

NIMH
National Institute of Mental Health

## Statistical Genetics
Tenure-Track Investigator
Mood and Anxiety Disorders Program
National Institute of Mental Health
Bethesda, MD, USA

The Section on Developmental Genetic Epidemiology, Experimental Therapeutics and Pathophysiology Branch in the Mood and Anxiety Disorders Program at the National Institute of Mental Health, Intramural Research Program is recruiting a scientist for a tenure-track position to develop research in statistical genetics in a new cross-institute program in neurogenetics. The candidate will have the opportunity for collaboration with scientists in diverse research areas in genetics (i.e., genetic epidemiology, biostatistics, statistical genetics, molecular genetics), as well as neuroscience and relevant clinical disciplines. The candidate is expected to have an M.D. or a Ph.D.in (1) biostatistics; (2) population or human genetics; or (3) genetic epidemiology. The applicant should have experience and interest in statistical analysis of genetic studies, and in developing new methods or adapting traditional statistical methods to identify the role of genes in the etiology of complex disorders. This position includes an attractive start-up package and operating budget in an exciting multidisciplinary research environment. Preference will be given to candidates with a background and interest in complex disorders, particularly neuropsychiatric disorders. Applicants should send a curriculum vitae, statement of research interests, and three letters of recommendation to Dr. Kathleen Merikangas (kathleen.merikangas@nih.gov), Search Committee, National Institutes of Health, 15 K North Drive, MSC#2670, Bethesda, MD 20892, by November 1, 2002.

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### ASSOCIATE PROFESSOR/PROFESSOR PHYSIOLOGY

Outstanding Scientists employing modern cellular and molecular approaches to investigate physiological processes are invited to apply for a tenure-track position at the Associate Professor/Professor level. Candidates must possess a Ph.D., M.D., or equivalent degree. A demonstrated record of continuous research productivity and funding, including current support from national sources, is required. Individuals with outstanding credentials in all areas of physiological research will be considered. The appointee will be expected to continue a nationally recognized research program supported by extramural funding and participate in medical and graduate teaching. Excellent opportunities exist within the department, health sciences center, and state institutions for collaboration. Salary, startup resources, and laboratory space are competitive and commensurate with experience. Applicants should send curriculum vitae, a description of current and future research interests, three representative reprints, and the names, addresses, phone numbers, and e-mail addresses of three references to: **Dr. Ricardo Saban, Chair, Search Committee, Department of Physiology, College of Medicine, The University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, OK 73190. FAX: 405-271-3181. E-mail: ricardo-saban@ouhsc.edu.** Electronic applications are welcome. Review of applications will begin September 15, 2002. Anticipated starting date: July 2003. **Website: http://w3.ouhsc.edu/physiology.** *OUHSC is an Equal Opportunity Institution.*

### FACULTY POSITIONS

The Department of Physiology Louisiana State University Health Sciences Center, New Orleans seeks outstanding candidates for tenure-track positions at the **ASSISTANT, ASSOCIATE,** or **PROFESSOR** levels. The successful candidate must have a Ph.D. or equivalent and a strong record of research accomplishments. We are seeking individuals with expertise in vascular cell biology, electrophysiology, angiogenesis, or in a unique area that can complement present research strengths. The successful candidate will be expected to develop an active extramurally funded research program and to participate in the Department's graduate and professional teaching programs. Excellent start-up package, competitive salary, state-of-the-art instrumentation, and opportunity to affiliate with a growing Cardiovascular Center of Excellence are available. Candidates should submit, by September 1, 2002, curriculum vitae, brief statement of research interests and career goals, and provide names of at least three individuals who know the work of the candidate to: **Dr. W. M. Chilian, Professor and Head, Department of Physiology, LSU Health Sciences Center, 1901 Perdido Street, New Orleans, LA 70112. E-mail: chilian@lsuhsc.edu.** *LSUHSC is an Affirmative Action/Equal Opportunity Employer.*

### SENIOR ECOLOGIST AND PROFESSOR
**Colorado State University**

The Senior Ecologist is a highly visible scholarly leader for the campus-wide Graduate Degree Program in Ecology, which is nationally ranked. The successful candidate will have a joint appointment in the Biology Department.

Applicants should have a Ph.D. and internationally recognized excellence in ecological research. To receive full consideration, send statements of scholarly interest and your vision of ecology, curriculum vitae, names of three references, and representative publications, by 1 October 2002, to: **Senior Ecology Search Committee, Department of Biology, Colorado State University, Fort Collins CO 80523. Website: http://www.colostate.edu/Depts/Biology/seniorecologysearch.**

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POSITIONS OPEN

### PLANT BIOLOGY
### ASSISTANT PROFESSOR

The Institute of Biological Chemistry at Washington State University invites applications for a tenure-track Assistant Professor position to begin August 2003. Applicants must have a Ph.D. or equivalent, as well as a strong record of research and publications in plant biochemistry, molecular genetics, genomics, or another area of modern plant biology. The ability and commitment to build a dynamic, well-funded program of international stature is essential. The Institute, **website: http://ibc.wsu.edu,** is an excellent research environment with more than 120 Scientists, excellent equipment and facilities, and ready access to specialized techniques in biochemistry, cell biology, and genomics.

Candidates should submit curriculum vitae, statement of research interests, and a description of future plans. In addition, applicants should arrange for three letters of reference to be sent to: **Dr. John Browse, Search Committee Chair, Institute of Biological Chemistry, Washington State University, P.O. Box 646340, Pullman, WA 99164-6340. Telephone: 509-335-5496; FAX: 509-335-7643; e-mail: maertens@wsu.edu.** Review of applications will begin on September 17, 2002, and continue until the position is filled. *Equal Employment Opportunity/Affirmative Action/ADA.*

### DEPUTY DIRECTOR
### DIVISION OF VIRAL PRODUCTS

The Division of Viral Products of the Center for Biologics Evaluation and Research, Office of Vaccines Research and Review, FDA, has an opening for a Deputy Director. The Deputy Director assists the Division Director in all matters related to the planning, execution, and management of the regulatory and administrative activities of the Division. The Deputy advises the Director in matters concerning the management of a broad scientific research program in viral vaccines and related biological products. The Division consists of approximately 100 individuals; the laboratories are located on the NIH campus in Bethesda, Maryland. An advanced degree, e.g., Ph.D. or M.D., extensive postgraduate experience, and experience directing a successful research or regulatory program are highly desirable. Salary is negotiable depending on training and experience. Candidates must be U.S. citizens. Interested candidates should apply by sending curriculum vitae, bibliography, a statement of research interests, and the names and contact information for three references to: **Dr. Jerry P. Weir, Division of Viral Products HFM-457, Center for Biologics Evaluation and Research/FDA, 1401 Rockville Pike, Rockville, MD 20852.** Or by **e-mail: weirj@cber.fda.gov.** *FDA is an Equal Opportunity Employer.*

### ASSISTANT/ASSOCIATE PROFESSOR
**(Tenure track)**
**Comparative Biomedical Sciences**

Required qualifications: Ph.D. or equivalent degree in biological/biomedical sciences or related field, postdoctoral experience, research background in cell/molecular biology, ability to teach in a team-taught course in the professional curriculum, and have or will have extramural funding. Responsibilities: Establishes and maintains an extramurally funded research program and teaches in the professional curriculum and in a graduate course. Salary and rank will be commensurate with qualifications. Application deadline is August 1, 2002, or until candidate is selected. Submit letter of application and résumé to:

**Gary E. Wise, Ph.D.**
**Professor and Head**
**Comparative Biomedical Sciences**
**Reference Number 000638**
**Baton Rouge, LA 70803**
**Telephone: 225-578-9889**

*LSU is an Equal Opportunity/Equal Access Employer.*

POSITIONS OPEN

### ASSISTANT PROFESSOR POSITIONS
**Department of Biology**
**University of Utah**

The Department of Biology at the University of Utah (**website: http://www.biology.utah.edu**) invites applications for two tenure-track faculty positions at the Assistant Professor level. We seek creative and interactive individuals working on fundamental problems in the areas of genetics, cell-molecular-developmental biology, and biochemistry. Successful applicants will be expected to establish a vigorous independent research program and contribute to undergraduate and graduate teaching in his or her area of expertise. New faculty will have access to multiple graduate admissions programs (**websites: http://www.bioscience.utah.edu/mb/; http://www.bioscience.utah.edu/bc/;** and **http://www.neuroscience.med.utah.edu/**) and outstanding infrastructural support covering a wide variety of scientific disciplines. Please submit a curriculum vitae, representative publications, descriptions of research and teaching interests, and three letters of reference to: **Janet Shaw, Chair, Genetics/Cell-Molecular-Development/Biochemistry Search Committee, Department of Biology, University of Utah, 257 South 1400 East, Salt Lake City, UT 84112-0840.** The candidate must hold a Ph.D. and/or M.D. degree(s) or equivalent. Review of applications will begin September 1, 2002. *The University of Utah is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities and provides reasonable accommodation to the known disabilities of applicants and employees.*

### FACULTY POSITION
### IN MICROBIAL BIOLOGY
**University of Utah**

The Department of Biology at the University of Utah invites applications for a tenure-track faculty position at the level of **ASSISTANT** or **ASSOCIATE PROFESSOR** in the general area of microbial biology. We seek an individual who can contribute to both the research and teaching activities of a department with unusually broad interests, ranging from biochemistry to community ecology. We will consider candidates working in any area of microbial biochemistry, physiology, genetics, or ecology. In addition to developing a strong research program, the successful candidate will be expected to contribute to teaching at the undergraduate and graduate levels, including courses in microbial biology. Please submit curriculum vitae, a description of research and teaching interests, several representative publications, and three letters of reference to: **John S. Parkinson, Chair, Microbiology Search Committee, Department of Biology, University of Utah, 257 South 1400 East, Salt Lake City, UT 84112-0840.** Review of applications will begin October 1, 2002. *The University of Utah is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities and provides reasonable accommodation to the known disabilities of applicants and employees.*

### FRESHWATER MICROBIAL ECOLOGIST.

The Patrick Center for Environmental Research at the Academy of Natural Sciences invites applications for a career-track, endowment-supported research position in Freshwater Microbial Ecology, with emphasis on ecological processes in streams and rivers. We are seeking a broadly trained Microbial Ecologist with interdisciplinary research experience in one or more of the following areas: organic matter transformations; nutrient cycling; primary and secondary productivity of algae and bacteria; and interactions of microbiota with other trophic levels. For position details, visit **website: http://www.acnatsci.org/learn/employment.html#857.**

Send curriculum vitae, statement of research interests, representative publications, and names, addresses, phone numbers, and e-mail addresses of four references to: **Microbial Ecology Search #857, c/o Stacey LaPrairie, Office Manager, Patrick Center for Environmental Research, Academy of Natural Sciences, 1900 Ben Franklin Parkway, Philadelphia, PA 19103. E-mail: laprairie@acnatsci.org.** *An Equal Opportunity Employer.*

Wadsworth Center

New York State Department of Health

## Research Scientists in Microbial Ecology

The Environmental Microbiology Laboratory at the Wadsworth Center is announcing two openings for staff research scientists at levels corresponding to assistant to full professors. The laboratory is expanding its research programs to investigate the structure and function of aquatic microbial communities impacting public health. It is especially interested in aquatic microorganisms producing toxins and the detection of existing and emerging environmental pathogens or their indicators utilizing molecular techniques. We seek applicants with strong backgrounds in molecular biology and ecology of microorganisms.

Successful candidates are expected to develop independent research programs and seek external funding. They are eligible for faculty appointment in the School of Public Health, State University of New York at Albany. The Wadsworth Center is the home base of the Departments of Environmental Health and Toxicology and Biomedical Sciences.

The Center is very well equipped and provides an exceptional research environment, with common access to equipment and services in many cores.

Applicants should submit a CV with names of three references to **DEDP Administration, Rm E335, Wadsworth Center, PO Box 509, Albany, NY 12201-0509.**

MAYO CLINIC

## POSTDOCTORAL FELLOWSHIP
## LENTIVIRAL VECTORS; GENE THERAPY OF EYE DISEASES
### Molecular Medicine Program
### Mayo Clinic, Rochester, MN, USA

Opportunity for a virologist, vision scientist, or ophthalmologist to develop lentiviral vector-based gene therapy for glaucoma (Loewen et al., *Hum Gene Ther* **12:** 2109, 2001; Loewen et al., *IOVS*, In press 2002; Whitwam et al., *J Virol* **75:** 9407, 2001; Poeschla et al., *Nature Medicine* **4:** 354, 1998). Project has specific NIH (NEI) funding. Experience in retro/lentivirology, and/or eye experimentation desirable. Experience in molecular biology, tissue culture, animal experimentation essential. Other diseases are studied in basic and applied HIV/FIV virology and vectorology projects. The laboratory is located within the Molecular Medicine Program, a virology and gene therapy department with a dedicated viral vector production facility and strong collaborative opportunities.

Salary will be determined by the successful candidate's experience. There is an attractive benefit package. Mayo Clinic is a not-for-profit organization. Mayo integrates research with clinical practice and education in a multi-campus environment. Rochester is a charming, affordable small city consistently ranked as one of the best in the US for quality of life.

Please send curriculum vitae, bibliography, summary of past research accomplishments, and names of three references. If applying via email, entitle it "Lentiviral Vector Gene Therapy." Send to:

**Dr. Eric M. Poeschla**
**Molecular Medicine Program**
**Guggenheim 18**
**Mayo Clinic**
**200 First Street SW**
**Rochester, MN, 55905, USA**
**Tel: (507) 284-3178**
**Fax: (507) 266-2122**
**Email: emp@mayo.edu**

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## RESEARCH SCIENTIST, COMPARATIVE PATHOLOGY

**The Albert Einstein Cancer Care Center** is seeking a research scientist for a key position in the comparative pathology program in the Histotechnology and Comparative Pathology Facility. The Cancer Center resource provides pathology and histotechnology support for animal model studies conducted by Einstein faculty.

Position requires a strong background in anatomy, histology and preferably training in pathology, analytical computer imaging skills and molecular biology. Experience in animal model research and computer knowledge are required to provide leadership in development and implementation of programmatic scientific initiatives. Organizational and record-keeping skills, ability to coordinate multiple projects & attention to detail are essential. Applicants should have a MS or PhD, a strong interest in biomedical research and a publication record. Appointment will be non-tenure track position in the Department of Pathology.

Please send CV, names & addresses of 3 references to: **Dr. Robert G Russell, Albert Einstein College of Medicine, Jack & Pearl Resnick Campus, Belfer Building, Room 710, 1300 Morris Park Avenue, Bronx, NY 10461 or email: russell@aecom.yu.edu** EOE

**ALBERT EINSTEIN COLLEGE OF MEDICINE**
***Advancing science, building careers***

## DIRECTOR
*MASSACHUSETTS GENERAL HOSPITAL CANCER CENTER*

## PROFESSOR
*HARVARD MEDICAL SCHOOL*

The Massachusetts General Hospital (MGH) and Harvard Medical School (HMS) are seeking an outstanding physician/scientist to join the faculty as Full Professor and as Director of the MGH Cancer Center. The Director of the MGH Cancer Center provides academic and scientific leadership, in consultation with the Chairman of the appointing department, for a faculty comprised of 15 principal investigators, 60 research fellows and 20 graduate students. The Director oversees an annual operating budget of $15M and works with hospital and Cancer Center leadership to develop strategic initiatives in research, promote research for individual scientists and collaborative groups, evaluate the research enterprise, develop technology transfer opportunities, promote communication between clinical and research faculty in the MGH Cancer Center, and support educational programs for medical and graduate students and clinical and research fellows. We seek in the successful candidate a scientist with a national and international reputation for excellence and scientific accomplishment. This physician/scientist, whose knowledge and interests are sufficiently broad to embrace a wide range of research questions in cancer, will maintain a vigorous personal research laboratory and program. He/she will be an individual with academic leadership experience who can create, nurture and maintain collaborative research groups.

Applicants should send their curriculum vitae and a statement of research interests to:

**Dennis A. Ausiello, M.D., Physician-in-Chief**
**Jackson Professor of Medicine, Massachusetts General Hospital**
**Bigelow 740, 55 Fruit Street, Boston, MA 02114**

*The Massachusetts General Hospital and Harvard Medical School are Equal Opportunity/Affirmative Action Employers. Women and minorities are encouraged to apply.*

HARVARD MEDICAL SCHOOL

### ASSISTANT, ASSOCIATE OR FULL PROFESSOR
**Tenure-Track Faculty Position**
**Bacterial Pathogenesis; Prokaryotic Molecular Biology**
**Louisiana State University Health Sciences Center**
**Shreveport, LA**

The Department of Microbiology and Immunology at Louisiana State University Health Sciences Center at Shreveport invites applications for a tenure-track faculty position in the area of prokaryotic molecular biology/pathogenesis. Rank and salary are negotiable. Requirements include Ph.D., M.D., or M.D./Ph.D. and at least two years of postdoctoral research. The position involves teaching graduate and medical students, directing a nationally competitive research program, and interacting with the full-time Department faculty of 15 members. Incentives include a large seed-package, multi-year technical support, large laboratory space, and considerable Department support. Faculty members with extramural research funding participate in both a generous salary supplement plan and a research incentive plan that provides flexible funds. Both the Department and the Research Core Facilities offer state-of-the-art facilities and the latest biotechnologies for research (genomics, proteomics, etc.). All teaching is team-taught, and faculty members have modest teaching responsibilities.

Send curriculum vitae, statement of research goals and funding, and three letters of reference to: **Dr. Dennis J. O'Callaghan, Boyd Professor and Head, Department of Microbiology and Immunology, Louisiana State University of Health Sciences Center, 1501 Kings Highway, Shreveport, LA 71130-3932**. To learn more about the Department, visit our **website: http://www.sh.lsuhsc.edu/microbiology**.

*Louisiana State University Health Sciences Center is an Affirmative Action Employer.*

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### FACULTY POSITION IN MOLECULAR MICROBIOLOGY
**University of Central Florida**

The Department of Molecular Biology and Microbiology invites applications for a tenure-track faculty position; open rank. The successful candidate will be expected to establish an outstanding extramurally funded research program in any area of molecular or cellular host-pathogen interactions. He/she will teach undergraduate/graduate microbiology courses and will actively participate in the interdisciplinary Biomolecular Science Ph.D. program. Applicants must have a Doctoral degree and postdoctoral training. Salary and startup packages are highly competitive.

The University of Central Florida has made a major commitment to build a university-wide Biomolecular Science Center with at least twenty additional faculty members to be hired in the next five years. This department, with **Dr. P. E. Kolattukudy** as the new chair, is a major partner in this initiative. The selected candidate will be housed in the new Biomolecular Science Research Building and have access to state-of-the-art core facilities. UCF has almost 40,000 students and an outstanding technology-based infrastructure. It is located in Orlando, a dynamic and progressive metropolitan region, a major player in high-tech industry, and a great place to live and work. Review of candidates will begin on October 7, 2002. Submit curriculum vitae, a summary of teaching and research plans, and the names and contact information of three references to: **Dr. Roseann White, Department of Molecular Biology and Microbiology, University of Central Florida. Orlando, FL 32816. E-mail: rwhite@mail.ucf.edu. Website: http://www.ucf.edu**. *The University of Central Florida is an Affirmative Action/Equal Opportunity Employer.* As a member of the Florida State University System, all application materials and selection procedures are available for public review.

POSITIONS OPEN

### FACULTY POSITIONS IN IMAGING AND CELL BIOLOGY
**Department Of Anatomy and Structural Biology**

Innovative and creative Scientists at any level are invited to apply for a Faculty position in the new Biophotonics Institute to be created within the Center for Genetic and Translational Medicine, a new building on the campus of the Albert Einstein College of Medicine. Members will be tenured or tenure-track faculty in the department of Anatomy and Structural Biology.

Candidates are expected to have a background in any of the following: biophysics, physics, electrical engineering, biology, or chemistry, but with a research interest in microscopy and imaging as related to the cell biology of human disease. The facilities in the Center for Genetic and Translational Medicine will include chemical genomics, bioinformatics and computational biology, human genetics repository, microarray and sequencing, protein chemistry and proteomics, gene therapy, and transgenic mice.

The biophotonics facility will have a laser workshop, a multiphoton microscope, rapid live cell imaging microscope, single molecule detection, and optical and software engineering support. The Department also maintains an Analytical Imaging Facility for light, electron, and cyro-electron microscopy.

Applicants should send curriculum vitae and names of three references to: **Biophotonics Search, Department of Anatomy and Structural Biology, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461**. *Equal Opportunity Employer.*

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### ASSISTANT PROFESSOR ANIMAL NUTRITION
**Iowa State University**

The Department of Animal Science at Iowa State University seeks an Assistant Professor (nine month, tenure-track, 70 percent research, 30 percent teaching) to develop an innovative research program in poultry nutrition and contribute to undergraduate and graduate teaching. A Ph.D. in a nutrition or related biological discipline is required, as well as documented creativity and productivity in research by peer-reviewed publications and demonstrated potential for extramural funding at the federal level. Demonstrated expertise in molecular techniques is preferred. Additional details may be found at **website: http://www.iastate.edu/hrs_info/jobs/jobs.html, faculty vacancy #023303**. Please submit complete résumé of education and professional experience, transcripts, and three letters of recommendation to: **Dr. Susan J. Lamont, Department Head, 1221 Kildee Hall, Iowa State University, Ames, IA 50011-3150**. Application deadline is September 1, 2002, or until position is filled. *Iowa State University is an Equal Opportunity/Affirmative Action Employer.*

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**MOLECULAR IMMUNOLOGISTS POSITION**: The Receptor Cell Biology section of NIAID, NIH, is recruiting for postdoctoral fellows for studies on natural killer cell receptor expression and function. Emphasis is on the interplay of activating and inhibitory receptors, receptor trafficking, regulation of expression, and signal transduction. Salary based on relevant experience and education. Qualified and interested candidates should send curriculum vitae and three letters of reference. For more information regarding these positions, contact:

**John E. Coligan, Ph.D.,**
**Laboratory of Allergic Diseases**
**Receptor Cell Biology Section, NIAID/NIH**
**Twinbrook II, Room 205 MSC 8180**
**12441 Parklawn Drive, Rockville, MD 20852**
**Telephone: 301-496-8247; FAX: 301-480-2818**
**E-mail: jcoligan@niaid.nib.gov**

*NIH is an Equal Opportunity Employer.*

POSITIONS OPEN

### TENURE-TRACK FACULTY POSITIONS PHARMACOLOGY

The Department of Pharmacology and Experimental Therapeutics at the Louisiana State University Health Sciences Center in New Orleans (**website: http://www.medschool.lsuhsc.edu/phar**) invites applications for three tenure-track positions (open rank). Individuals with expertise or interest in integrating molecular and systems pharmacology to understand drug action and disease mechanisms are particularly encouraged to apply. The Department has strengths in a broad range of research areas including cardiovascular, neuroscience, cancer, drug metabolism, and behavioral pharmacology. There is significant growth in multiple areas of the Health Sciences Center and opportunities exist for interaction with the Program in Gene Therapy and Centers of Excellence in Cardiovascular Biology, Cancer, Neuroscience and Oral Biology. The successful candidate will have a demonstrated ability or potential to establish an externally funded research program, to train graduate students/Postdoctoral Fellows and participate in the teaching activities of the Department. Qualified individuals should send their curriculum vitae, reprints of three publications, a list of references, and a statement of current interests and future goals that emphasizes how their interests might complement the existing strengths of the Department. Please send to: **Stephen M. Lanier, Ph.D., Head of Pharmacology, 1901 Perdido Street, New Orleans, LA 70112-1393.** Send electronically to **e-mail: tevans@lsuhsc.edu**. *LSUHSC is an Equal Opportunity Employer/Affirmative Action.*

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Interdisciplinary **RESEARCH PLANT PATHOLOGIST/RESEARCH GENETICIST** (Plants). The U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Plant Science Research Unit in Raleigh, NC is seeking a Research Plant Pathologist/Research Geneticist (Plants); GS-12/13 ($54,275 to $83,902; salary is commensurate with experience). Three major objectives of this position are (1) the identification, mapping, and genetic characterization of inherited factors that affect disease resistance in corn; (2) "fine mapping" of quantitative trait loci where major genetic factors have been identified which could ultimately lead to identification of disease resistance genes; and (3) development and evaluation of molecular marker based breeding strategies for creating superior plant germplasm. Knowledge of traditional and molecular genetics and plant pathology are essential. *United States citizenship is required.* Comprehensive benefits package included. For information on the research program/position, contact: **David Marshall, Research Leader; Telephone: 919-515-6819** or **e-mail: david_marshall@ncsu.edu**. For the full text of the vacancy announcement, which includes application materials and forms, contact: **Susan Davis; Telephone: 919-515-2731** or **e-mail: susan_davis@ncsu.edu** or visit the ARS vacancy **website: http://www.afm.ars.usda.gov/divisions/hrd/index.html; Announcement number ARS-X2S-2322**. Applications must be postmarked by August 30, 2002. *USDA-ARS is an Equal Opportunity Provider and Employer.*

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A **POSTDOCTORAL POSITION** is available immediately to study the genes involved in signal transduction pathways in cancer cells. Recent Ph.D. with experience in molecular biology/biochemistry is desirable. Please send curriculum vitae and the names of three references to: **Prafulla Gokhale, Ph.D., Department of Radiation Medicine, Georgetown University Medical Center, Room E207, The Research Building, 3970 Reservoir Road, NW, Washington, DC 20007. E-mail: gokhalep@georgetown.edu**.

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**POSTDOCTORAL POSITION** is currently available at the University of Kentucky Medical Center, Lexington, KY, U.S.A. to study molecular and cellular mechanisms of cell injury. A strong background in molecular biology is required. Please submit curriculum vitae and the names and telephone numbers of three references to: **Dr. Michal Toborek, University of Kentucky Medical Center, Department of Surgery/Neurosurgery, Lexington, KY 40536, U.S.A. FAX: 859-323-1093; e-mail: mjtobo00@pop.uky.edu**.

## CARDIOVASCULAR SCIENTIST
## THE UNIVERSITY OF MONTANA AND
## THE INTERNATIONAL HEART INSTITUTE
## OF MONTANA FOUNDATION

The UM Department of Pharmaceutical Sciences, in a unique partnership with The International Heart Institute of Montana (IHI), is seeking applications for a cardiovascular scientist to build a strong program in one or more of the following areas: cardiovascular tissue engineering, vascular inflammation and wound healing, pathobiology of atherosclerosis and/or cardiovascular signal transduction. More established candidates, if selected, will play a major leadership role in the evolution of the cardiovascular tissue engineering program and in bridging this program between the IHI and The University. This is a tenure track position at the Associate/Full Professor level with a highly competitive salary and start-up package. Laboratory space will be available at the IHI in Saint Patrick Hospital and Health Sciences Center and additional lab space as well as nine state-of-the-art core facilities are available at The University. The President of the IHI, Carlos Duran, is recognized worldwide for pioneering work with heart valve surgery and repair. Research in the Tissue Engineering Laboratories centers around the bioengineering of the tissue matrix of vessels and heart valves. Biomedical research in the University's Department of Pharmaceutical Sciences (22 faculty) is heavily NIH-funded and includes emerging strengths in angiogenesis, vascular toxicology, and stroke. Translational research projects that foster clinical research and/or product development are encouraged.

Position requirements include a doctoral degree in cell or molecular biology, biochemistry, molecular genetics or a related field; a strong record of accomplishment in cardiovascular research, preferably NIH funded; and teaching interests/abilities in the cardiovascular area. Send letter of application, CV, and Statement of Research Goals to: **Chair, Cardiovascular Search Committee, Department of Pharmaceutical Sciences, School of Pharmacy and Allied Health Sciences, The University of Montana, 32 Campus Drive, Missoula, Montana 59812-1552.** For further information, contact **Vernon Grund (University)** at **grund@selway.umt.edu; 406/243-4770,** or **Carlos Duran (Heart Institute)** at **duran@saintpatrick.org; 406/329-5668** or visit **www.umt.edu/pharmsci** and **www.saintpatrick.org/ihi/**. Screening of applications will begin September 1, 2002, and continue until the position is filled. Enjoy the mountains and national parks of Western Montana.

*Equal Opportunity/Affirmative Action Employer*

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MAYO CLINIC

## Research Scientist: Cardiac and Vascular Biology
## Rochester, Minnesota

The Department of Biochemistry and Molecular Biology, and the Division of Cardiovascular disease at Mayo Clinic Rochester have joint positions open for a junior or senior scientist with research interests in vascular or cardiac biology. The individual should have an MD or PhD and research interest in the broad field of cardiac or vascular biology as it pertains to heart failure or arteriosclerosis and thrombosis. Particular interests in cardiac development, bio-molecules that alter-regulate cardiac function, endothelial cell biology, and smooth or cardiac muscle biology are useful. Requirements include evidence of an ability to obtain extramural funding and to work in a collaborative environment with scientists, clinician-investigators and clinicians. Opportunities at Mayo include interaction with talented basic and clinical scientists with an outstanding track record in obtaining extramural federal funding, a longstanding cardiovascular training grant, and access to a wide array of clinical material and a research community. Women and minorities are encouraged to apply.

Applicants should send a curriculum vitae and a statement of research interests by e-mail or mail to:

**Ms. Kristi Simmons**
**(CV Search)**
**Mayo Clinic**
**Guggenheim 1701**
**200 First St. S.W.**
**Rochester, MN 55905**
**simmons.kristi@mayo.edu**

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

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## Antisense mediated High-throughput Functional Genomics

Recently, scientists from Canada and Sweden have joined efforts to initiate a new international initiative for functional genomics (see *Science* **296:** 24, 2002). We are now offering exciting opportunities in this unique, cross-disciplinary and trans-Atlantic collaborative Project. The role of mRNA splice variants in mammalian cells and gene requirements in pathogenic microorganisms will be studied using new generation antisense technologies together with high-throughput cell phenotype analyses. At present, we are seeking:

**Facility Manager:** Senior Post-Doc with interests in Molecular Biology or Microbiology.
**Bio-Informaticians (2 positions):** Scientists with interests in functional genomics.
**Research Associates (2 positions):** Post-Docs with experience in yeast, mammalian cells, splicing, RNA, or development of antimicrobial agents.
**Chemist:** Post-Doc with experience in the synthesis of modified nucleic acids.

The project involves several laboratories located in both Canada and Sweden in the areas of RNA biology, nucleic acids chemistry, peptide chemistry and antisense technology. Terms of the collaboration will enable personnel and projects to move between the different laboratories. In addition to the possibility to work in both locations, we can offer above average salary and travel packages. At this time we seek to fill primarily the more senior positions, however, all interested candidates are welcome to inquire. For senior positions, at least three years of post-doctoral training in a field relevant to the studies will be required. More details are available on the net: **http://www.mona.med.usherb.ca/**. For applications, send your complete CV including addresses of 3 referees to the following address: **Dr. Sherif Abou Elela, RNA Group/Groupe ARN, Département de microbiologie et d'infectiologie, Faculté de médecine, 3001, 12e Avenue Nord, Sherbrooke, Québec, Canada J1H 5N4. E. Mail: Sherif.Abou.Elela@USherbrooke.ca**

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MAYO CLINIC

## CLINICAL PSYCHIATRIC INVESTIGATOR
## Rochester, Minnesota

The MAYO CLINIC is pursuing a national search for an outstanding psychiatric investigator to join a research team that is developing an integrated program of clinical research focusing on mood disorders but involving a broad spectrum of additional psychiatric disorders. Expertise in psychiatric genetics and interest in genomic investigations is important given the development of the programmatic priorities of the Department and Clinic. Demonstrated competence in the initiation and conduct of clinical research and evidence of successful extramural funding support is essential.

New research facilities within the Department at the Mayo Clinic have been developed and support for research staff and operations is available. The compensation package at the Mayo Clinic is highly competitive and includes exceptional professional benefits. The successful candidate will also receive an academic appointment at the Mayo Medical School.

For further information, please send a detailed letter describing your research interests and a complete curriculum vitae by e-mail or traditional mail to:

**David A. Mrazek, M.D., F.R.C. Psych.**
**Professor and Chair**
**Department of Psychiatry and Psychology**
**Mayo Clinic**
**200 First Street SW**
**Rochester, MN 55905**
**E-mail: mrazek.david@mayo.edu**

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

### UNIVERSITY OF KENTUCKY
**Director of the Tracy Farmer Center for the Environment**

Applications are invited for the position of Director of the new University of Kentucky Tracy Farmer Center for the Environment, which was recently created with a $4 million initial endowment. The Tracy Farmer Center for the Environment has been designated as the University of Kentucky's focal interdisciplinary center for the comprehensive integration of environmental research, education, and public service. More information about the center can be found at **website: www.uky.edu/Centers/TFCE**.

The Director will report directly to the University of Kentucky Vice President for Research and will be expected to work closely with the deans of the colleges in order to foster multidisciplinary and interdisciplinary programs of research, education, and service. The Director will be expected to have a tenured faculty appointment in an appropriate department. The successful candidate should have exceptional communication and interpersonal skills and be able to lead the Center in developing and implementing a compelling vision for its research, education, and service programs. This includes strategic planning and program development, leadership of a comprehensive program of research, coordination of interdisciplinary activities, funding enhancement, and representing the Center to the University administration and associated academic units as well as state and local governmental agencies, industry, and the private sector.

Candidates must have a Ph.D. in an environmentally related discipline as well as demonstrate evidence of a well-established, internationally recognized research program and strong administrative experience.

Applicants should send a letter of application, current résumé, list of four references, and statement of general administrative philosophy and vision for the Center to: **Chair, TFCE Director Search Committee, Office of the Vice President for Research, 201 Gillis Building, University of Kentucky, Lexington, Kentucky 40506.**

Applications are currently under review and will continue until the position is filled.

### PHARMACOLOGIST

The Division of Clinical Pharmacology and Therapeutics in the Department of Pediatrics, University of Pennsylvania School of Medicine, invites applications for a research-track faculty position at the Assistant or Associate Professor level. Applicants must have an M.D., Ph.D., or a Pharm.D. with advanced education and training. Experience in laboratory and/or clinical pharmacokinetics including population modeling is sought. Competitive salary and start-up packages are available. Rank will be determined by experience and qualifications. Send curriculum vitae, a brief description of research accomplishments, future research and career goals, and the names of three references to: **Peter C. Adamson, M.D., Division of Clinical Pharmacology, ARC 907B, Children's Hospital of Philadelphia, 3615 Civic Center Boulevard, Philadelphia, PA 19104-4318.** *The University of Pennsylvania is an equal opportunity, affirmative action employer. Women and minorities are encouraged to apply.*

### RESEARCH ASSISTANT

Positions are available on an ongoing basis within different research groups in the Institute of Molecular Biology and the Institute of Neuroscience at the University of Oregon. The purpose of this notice is to establish and maintain a pool of qualified applicants. A minimum of a B.A. or B.S. in biology, chemistry, neuroscience, or related field is required. Please see our **websites: http://www.molbio.uoregon.edu** and **http://www.neuro.uoregon.edu** for information about the type of research being done. Salary dependent upon experience. For application materials, please call **Telephone: 541-346-5151**; or **e-mail: rita@prospero.uoregon.edu**. *The University of Oregon is an Equal Opportunity/Affirmative Action Institution committed to cultural diversity and compliance with the Americans with Disabilities Act. Women and minorities are encouraged to apply.*

POSITIONS OPEN

Carnegie Mellon seeks an **EXECUTIVE DIRECTOR** for the Electricity Industry Center. Requires technical, economic, and regulatory knowledge of the industry as well as research and management skills. Résumé, sample papers, and references to: **Granger Morgan, EPP, 129 Baker Hall, Carnegie Mellon, Pittsburgh, PA 15213.**

### SCIENTIST

GenApps Inc., an agricultural research and biotechnology company located near Lexington, KY, has a Scientist position available immediately. The individual would be part of a team using novel approaches to improve plant growth and development. The qualified candidate should be a motivated individual with a Ph.D. in biochemistry, molecular biology, or a related discipline. Demonstrated ability to initiate and perform independent research in biochemistry and/or molecular biology areas. Strong knowledge and outstanding skills in biochemical and metabolic pathways, analytical biochemistry, protein purification/characterization, and enzyme kinetics are necessary. Demonstrated experience in core molecular biology skills including gene cloning, plasmid construction, protein expression/profiling, or cDNA/genomic library construction/screening would be useful. Qualified applicant must be able to provide technical expertise and intellectual support to develop innovative research projects and meet challenging research objectives. Candidate must possess effective communication skills and ability to work under a collaborative environment. We offer a competitive salary, an excellent benefits package, and the opportunity for personal and professional growth in an outstanding work environment. *Must have proof of eligibility for working visa.* To become part of a dynamic organization, please forward or FAX your résumé, salary history and requirements, and references to:

**GenApps Inc.**
**Attn: Human Resources Coordinator**
**P.O Box 237**
**Winchester, KY 40391**
**FAX: 859-744-4195**

*Equal Employment Opportunity/Minorities/Females/Veterans/Disabled.*

### CELL BIOLOGIST

Science Research Laboratory (SRL), Somerville, MA has an opening for a Cell Biologist to work on a collaborative project with **Dr. David Scadden** at Massachusetts General Hospital, Harvard Medical School, on several biomedical applications of pulsed electric field (PEF) cell selection technologies. These applications include tumor purging, stem cell enrichment, and platelet leukoreduction. The individual will preferably have a Ph.D. in cell biology or a related field, with experience in electroporation, stem cell research, hematology/oncology, and/or molecular biology, and two to five years of postdoctoral academic or industrial research experience. The individual will have excellent communication and writing skills and a proven research record.

Science Research Laboratory (SRL) is a technological research and development corporation founded in 1983 by **Drs. Jonah Jacob** and **Joseph Mangano**, experts in laser technology and related fields. The company's primary objective is to develop commercial products based upon research programs conducted for the United States government. SRL occupies a 23,000 square foot research laboratory and is expanding its biomedical research capacity.

Generous health care and 401K packages are offered. Salary will be commensurate with skills. Please e-mail a cover letter and attached résumé or curriculum vitae to: **Dr. Abie Craiu; e-mail: acraiu@srl.com** or call **Telephone: 617-547-1122 extension 108**.

POSITIONS OPEN

### DIRECTOR OF CHEMICAL LIBRARIES SCREENING FACILITY
**UMASS Medical School**

We are seeking a dynamic leader for the position of Director of Chemical Libraries Screening Facility. The screening facility includes state-of-the-art screening robotics and diverse sets of chemical libraries. We are seeking innovative individuals with strong research accomplishments in biology, chemistry, and/or high-throughput screening. Responsibilities of the director will include assisting various groups to develop high-throughput screening assays, organizing and supervising screening experiments, analyzing and interpreting data, and communicating experimental plans and results with various multidisciplinary groups. The University of Massachusetts (UMASS) Medical School offers a unique and exciting research environment and opportunities for creative collaboration with groups in chemical biology, biophysics, molecular biology, immunology, pharmacology, genetics, cell biology, cellular biochemistry, and structural biology. UMASS Medical School is well equipped with modern instrumentation. The facility is located in the Department of Biochemistry and Molecular Pharmacology in a newly completed 350,000 square foot research building. A Scientist with a Ph.D. degree, a postdoctoral fellowship, and experience in biological assay development or high-throughput screening is required. A highly competitive salary and benefit package will be commensurate with the high level of accomplishment expected for successful applicants. Applicants are invited to submit a letter of interest, curriculum vitae, and names of three references to: **Christine Fanion, Department of Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School, LRB RM-827, 364 Plantation Street, Worcester, MA 01605-2324. E-mail: christine.fanion@umassmed.edu.**

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

Interdisciplinary: **RESEARCH PLANT PATHOLOGIST/RESEARCH GENETICIST** (Plants) The U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Plant Science Research Unit in Raleigh, NC is seeking a Research Plant Pathologist/Research Geneticist; GS-12/13 ($54,275 to $83,902; salary is commensurate with experience). Two major objectives of this position are (1) surveillance and characterization of the population and virulence dynamics of fungal pathogens of small grain crops (wheat, oat, barley) in the southeastern U.S.; and (2) integration of molecular with traditional epidemiological techniques that will lead to improved strategies for disease management. Knowledge of plant pathology, molecular biology/genetics, and plant disease epidemiology are essential. *United States citizenship is required.* Comprehensive benefits package included. For information on the research program/position, contact: **David Marshall, Research Leader; Telephone: 919-515-6819** or **e-mail: david_marshall@ncsu.edu**. For the full text of the vacancy announcement, which includes application materials and forms, contact: **Susan Davis; Telephone: 919-515-2731** or **e-mail: susan_davis@ncsu.edu** or visit the ARS vacancy **website: http://www.afm.ars.usda.gov/divisions/hrd/index.html; Announcement number ARS-X2S-2321.** Applications must be postmarked by August 30, 2002. *USDA-ARS is an Equal Opportunity Provider and Employer.*

Postdoctoral position available immediately for **NMR SPECTROSCOPISTS/BIOCHEMISTS/PHYSIOLOGISTS/MOLECULAR BIOLOGISTS**. Projects involve molecular and functional imaging of cancer. Knowledge of MR spectroscopy/imaging is desirable but not essential. Instruments include 11.7T, 9.4T, 4.7T experimental spectrometers and 2T clinical systems. To apply, send résumé and three letters of recommendation to: **Z. M. Bhujwalla, Deptartment of Radiology, The Johns Hopkins University School of Medicine, Traylor 208C, 720, Rutland Avenue, Baltimore, MD 21205. E-mail: zaver@mri.jhu.edu**. *Equal Opportunity/Affirmative Action Employer.*

**PIONEER.**

A DUPONT COMPANY

**Pioneer Hi-Bred International, Inc.** is the world leader in the discovery, development and delivery of elite crop genetics. The following opportunities are available at our Johnston, Iowa campus. Please visit **www.pioneer.com** for complete job descriptions.

**RESEARCH ASSOCIATE** - This position is part of a team that applies structural and functional genomics along with proteomics tools directed toward development of superior commercial products. The successful person will have good knowledge of DNA markers, genetic mapping, marker-assisted selection and extensive hands-on experience in RFLP, AFLP and SSR techniques, PCR primer design and optimization of PCR conditions, and in using sequence analysis tools. A B.S. or M.S. in molecular genetics or biology or related field along with more than 3 years lab experience required. **Job Code RES/PP117/PSC.**

**RESEARCH ASSOCIATE II** - The primary responsibility of this position is to design experimental strategies to develop new assays for the analysis of proteins and analytes. This person will have experience in assay development/validation, ELISA, western blots and conjugation chemistries, as well as the ability to troubleshoot existing assays. In addition, they will be involved in assessing new technologies for protein analysis and immunoassay development. Ability to train and support personnel on new assay methodologies is expected. Experience with protein extraction will be considered a plus. Minimum requirements are a M.S. or B.S. in biological sciences or equivalent plus 4-6 years related experience. **Job Code RES/PP185/PSC.**

**RESEARCH SCIENTIST** - We have an immediate need for a biochemist to lead a group focused on improving corn for use as animal feed. The overall goal of the program is to increase the available energy of corn seed. The individual should have a strong background in energy and nutrient utilization by animals. Experience in plant biology is desirable. Strong interpersonal and communication skills and the ability to work cross-functionally with individuals of diverse scientific backgrounds are essential. This person will establish a research program to complement and collaborate with existing state-of-the-art efforts in biochemical, molecular, genetic research and animal nutrition. A Ph.D. degree and at least 3 years of post-graduate experience in biochemistry or a related discipline preferred. **Job Code RES/PP192/PSC.**

**SENIOR RESEARCH ASSOCIATE** - This person will conduct interdisciplinary research directed toward the development of corn seed with altered secondary metabolism using transgenic approaches. The researcher should have strong knowledge and bench experience in biochemical, molecular and genomic technologies. Experience in metabolic engineering is desired. Good communication skills are essential, as the candidate is expected to present scientific findings and interact with a wide-variety of scientists. In addition, the candidate should have the ability to lead, innovate and succeed in a team environment. Experiences in lipid metabolism transgenic plant analysis and product development are a plus. This position requires at least an MS degree in molecular biology/biochemistry or a related field. **Job Code RES/PP195/PSC.**

You MUST reference the Job Code(s) above in order to be considered. Please send a resume/cover letter and three references to: **Resume Processing Center, Pioneer, A DuPont Company, PO Box 14454, Des Moines, IA 50306-3454, or Email: apply@pioneerjobs.com.** *EOE*

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WAYNE STATE UNIVERSITY

EUGENE APPLEBAUM COLLEGE OF PHARMACY AND HEALTH SCIENCES

## Chair of Occupational and Environmental Health Sciences

The Department of Occupational and Environmental Health Sciences at Wayne State University is seeking a dynamic individual to serve as department chair. Wayne State is a doctoral extensive research university dedicated to urban teaching and service located in Detroit's Cultural Center. The OEHS Department is housed in the recently completed Eugene Applebaum College of Pharmacy and Health Sciences, a building with research and teaching technology poised for the future. The department has active graduate and professional programs for industrial hygiene, toxicology, and occupational medicine. The successful candidate is expected to join the department in the summer of 2003. Applicants should have a M.D. or a Ph.D. in Industrial Hygiene, Toxicology, Medicine or a related discipline. Applicants are expected to have a distinguished record of scholarly activity, a proven record of leadership with administrative capabilities, and an established record of extramural funding for basic and/or applied research appropriate to an appointment at the full professor level with tenure.

An application letter and a curriculum vitae should be sent to: **Dr. Patricia A. Brogan, CIH, Chair, Selection Advisory Committee, Department of Occupational and Environmental Health Sciences, Wayne State University, Eugene Applebaum College of Pharmacy and Health Sciences, 259 Mack, Detroit, MI 48201.**

Information on the department may be found at:
**http://wizard.pharm.wayne.edu/oeh.html**

*Wayne State University is an Equal Opportunity/ Affirmative Action Employer*

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NATIONAL CANCER INSTITUTE

## TENURE TRACK POSITION LABORATORY OF EXPERIMENTAL CARCINOGENESIS

The Laboratory of Experimental Carcinogenesis (LEC), Center for Cancer Research, National Cancer Institute, National Institutes of Health, pursues research in several sharply focused and integrated areas including: (1) Generation and exploitation of transgenic mouse models relevant for human tumor development, (2) Elucidation of basic hepatic stem cell biology by using molecular biology, genomic, biochemical and transplantation approaches, and (3) Characterization of recurrent genomic rearrangements in human and experimental cancers using an integrated array of molecular cytogenetics techniques.

The LEC is now expanding the research activity in stem cell biology and invites applicants for a tenure-track investigator. The applicants should be able to show that they have the scientific ability and expertise to establish an independent basic research program in the various aspects of stem cell research involving stem cell isolation, self-renewal, cell fate including plasticity, mechanisms of lineage restrictions and transplantation.

This position is available for a Ph.D., M.D., or M.D.-Ph.D. with salary commensurate with education and experience. A one or two-page statement of research interests and goals and accomplishments should be submitted in addition to three letters of recommendation and a curriculum vitae to: **Ms. Frances M. Williams, Administrative Laboratory Manager, LEC, CCR, NCI – Building 37, Room 3C28, 37 Convent Drive MSC-4258, Bethesda, MD 20892-4258; Telephone: (301) 496-5688, ext. 208; Fax: (301) 496-0734; e-mail: fran_m_williams@nih.gov.** Applications must be postmarked by: **August 31, 2002.**

*The National Cancer Institute is an Equal Employment Opportunity and Affirmative Action employer that values and fosters diversity throughout the entire organization.*

## ANNOUNCEMENTS

Department of Defense

# NATIONAL PRION RESEARCH PROGRAM

**Research funding available as a result of a $42.5 M U.S. Defense Appropriations Act**

## *Program Announcement*

*Proposals are due late October 2002 for the following awards:*

❖ Idea ❖ Investigator-Initiated Research
❖ Career Transition ❖ Prion Techniques Fellowship
❖ Resource Development Contracts

The Fiscal Year 2002 U.S. Defense Appropriations Act provides $42.5 million to the Department of Defense for "Prion Research." Therefore, the U.S. Army Medical Research and Materiel Command through the Office of the Congressionally Directed Medical Research Programs (CDMRP) is establishing the National Prion Research Program (NPRP). The priority goal of the NPRP is to develop a rapid, sensitive, and reproducible test for the detection of prions suitable for use as an ante-mortem diagnostic test as well as a screening assay. In support of this goal, additional topics of interest include the prevention, transmission, and pathogenesis of transmissible spongiform encephalopathies including chronic wasting disease. Proposals with military relevance are specifically sought. The Program Announcement may be downloaded from the CDMRP website.

**JOIN THE NATIONAL PRION RESEARCH PROGRAM.**
**See our website at http://cdmrp.army.mil**
**or call 301-619-7783 for more information.**

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**McMaster University**
**DEPARTMENT OF CHEMISTRY**

**NSERC University Faculty Award**

The Department of Chemistry at McMaster University invites applications for a tenure-track faculty position at the Assistant Professor level, funded for the first five years jointly by the Natural Sciences and Engineering Research Council of Canada (NSERC) and McMaster University, commencing July 1, 2003. Candidates must have a Ph.D. degree, an outstanding research record in any area of chemistry, and an ability to teach effectively at the undergraduate and graduate levels. This competition is restricted to women and aboriginal peoples of either sex, who are Canadian citizens or permanent residents of Canada at the time of application, and who have not previously held a tenure track position at a Canadian university.

Applicants should send a curriculum vitae, a proposal for independent research (preferably in NSERC format), and arrange for three letters of reference to be sent by August 31, 2002 to **Dr. W.J. Leigh, Chair, Department of Chemistry, McMaster University, Hamilton, ON, Canada L8S 4M1. Tel: +1 (905) 525-9140 ext. 24504; Fax: +1 (905) 522-2509.**

*McMaster is committed to Employment Equity and encourages applications from all qualified candidates, including persons with disabilities and members of visible minorities.*

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# HOT CAREERS

Issue date ..... 23 August 2002
Reserve space by ..... 6 August 2002
Material closing deadline ..... 13 August 2002

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1 *Science*, December 2001, BPA Publisher's Statement.

**Bonus Distributions** Additional copies of this issue will be distributed to eight trade shows throughout the fall — **ICAAC, ASHG, NIH, Chips to Hits, HET Instrument, Neuroscience, AAPS, and ASCB.** Check your editorial calendar for dates and locations.

**Contact:**
**U.S.** Daryl Anderson ..... 202-326-6543
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**Australia** Keith Sandell ..... +61 29922-2977
**Japan** Mashy Yoshikawa ..... +81 3 3235-5961

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# Associate Scientist

The ideal candidate will have the following:

- advanced molecular biology experience and skills,
- experience in designing and performing experiments,
- testing several variables in order to identify and correct root cause problems associated with manufacturing or quality control complaints/concerns/improvements,
- independently troubleshoots experiments/procedures,
- rapidly identifies problems and takes corrective action,
- ability to read scientific papers and then poses improvements to protocols.

*Other duties include*: assists in preparing manufacturing and quality controls documents, attends tradeshows as a company representative, involvement in the optimization and scalability during transfer for new products from R&D into manufacturing.

***Minimum Education/Experience Requirements:***
BS or Masters degree, minimum of 4 years paid lab experience with a Bachelor's degree, minimum of 2 years paid lab experience with a Master's degree.

Ambion, Inc. offers paid medical, dental, vision, life insurance, 401(k) plan, tuition reimbursement, and profit sharing. Qualified candidates interested in this position (job #381) should fax resumes to 512-651-0201 or online at **www.ambion.com.**

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## Boyce Thompson Institute for Plant Research
Ithaca, New York

### Postdoctoral Associates / Research Technicians

Boyce Thompson Institute (BTI), a premier plant research institute affiliated with Cornell University and located on the Cornell campus, has immediate openings for Postdoctoral Associates and Research Technicians in the areas of plant development, signal transduction, microbial secondary metabolism, microbe-insect interactions, molecular ecology, and molecular plant-microbe and plant-insect interactions.

Postdoctoral candidates will have a PhD in molecular biology, biochemistry, genetics, cell biology, chemical ecology or a related field. Experience in molecular techniques required.

Research technician candidates will have a BS or MS in biology, genetics, biochemistry or related field. Previous lab experience helpful.

Ithaca is nestled in the beautiful Finger Lakes region of upstate New York and is a diverse, sophisticated and multicultural community. Theatre, arts, outdoor recreation and sports abound in the region.

BTI offers an excellent compensation and benefits package including: health, life and long term disability insurance, long term care insurance, flexible spending accounts, pension plan and 403(b) plan.

For additional information and specific job openings please see our web site: **http://bti.cornell.edu**.

Resumes may be sent directly to the **hiring PI** or to **Human Resources, Boyce Thompson Institute, Tower Road, Ithaca, NY 14853, HR e-mail: lbp8@cornell.edu**.

*BTI is an Equal Opportunity Employer. Women and Minorities Encouraged to Apply.*

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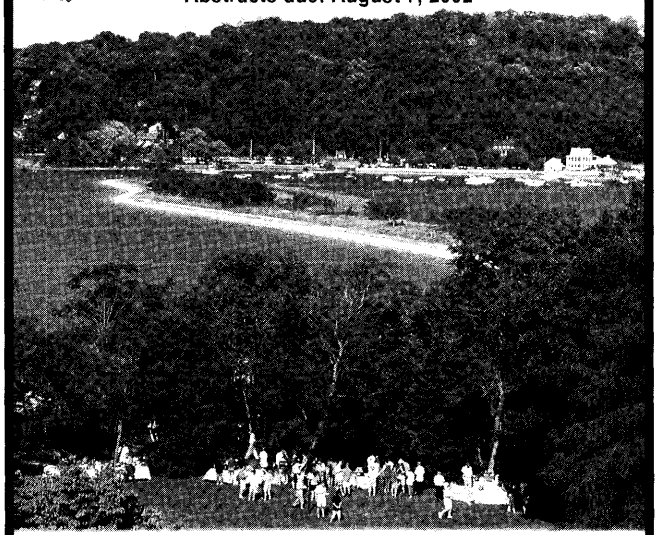
## MEETINGS

# Human Origins & Disease

**October 30 - November 3, 2002**
**Abstracts due: August 7, 2002**



*Harborside picnic at the CSHL Cardiovascular Symposium, May 2002*

***Organizers***

**Douglas Wallace,** *Emory University School of Medicine*
**Christopher Stringer,** *Natural History Museum, London*
**Mary-Claire King,** *University of Washington, Seattle*

***Topics include***

- **Overview of Human Origins**
- **Human Origins: Global Perspective**
- **Human Origins: Africa, Asia, Europe, the Americas**
- **Genes & Environment: Common Diseases**
- **Analysis of Chromosomal Variation**
- **Quantitative Trait Analysis**
- **Evolutionary Genetics of Common Diseases**
- **SNPs and New Technologies**

***Speakers include***

**Ofer Bar-Yosef, Alison Brooks, Peter Brown, David Bulbeck, Luigi Cavalli-Sforza, Steven Churchill, Joseph Felsenstein, David Goldstein, Mike Hammer, Chris Henshilwood, Jean-Jacques Hublin, Richard Klein, Marta Lahr, Sally McBrearty, Svante Pääbo, Mark Stoneking, Antonio Torroni, Nick Yankovsky**

## Summer & Fall 2002 CSHL Meetings

- **Cancer Genetics and Tumor Suppressor Genes** *Aug 14 - 18*
- **Molecular Genetics of Bacteria & Phages** *August 20 - 25*
- **Mouse Molecular Genetics** *August 28 - September 1*
- * **Translational Control** *September 10 - 15*
- **Dynamic Organization of Nuclear Function** *Sept 18 - 22*
- **Axon Guidance and Neural Plasticity** *September 25 - 29*
- **Molecular Genetics of Aging** *October 2 - 6*
- **Germ Cells** *October 9 - 13*
- **Tissue Engineering** *November 21 - 24, 2002*
- **Therapeutic Opportunities in Neurodegenerative Diseases** *December 5 - 8 , 2002*
- **Comparative Plant Genomics** *December 12 - 15, 2002*

* *Oversubscribed. Please call for availability*

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**www.cshl.edu/meetings Tel: (516) 367-8346**
**Fax: (516) 367-8845 email: meetings@cshl.edu**

### POSTDOCTORAL RESEARCHER

Louisiana State University, Department of Biological Sciences is seeking a postdoctoral Researcher beginning August 15, 2002, to participate in DARPA/NRL-funded research into the mechanisms of desiccation tolerance in prokaryotes using standard genetic and biochemical techniques. Applicants must have a Ph.D. or equivalent degree in microbiology, biochemistry, or related field. Knowledge of microbial genetics and prokaryotic molecular biology is desirable. Application deadline is August 15, 2002, or until a candidate is selected. Send applications including a curriculum vitae and the names, addresses, telephone numbers, and e-mail addresses of three references to: **Dr. John R. Battista, Department of Biological Sciences, Louisiana State University, Baton Rouge, LA 70803. Reference log # 0005**. OR e-mail for inquiry at **e-mail: jbattis@lsu.edu**.

*LSU is an Equal Opportunity/Equal Access Employer.*

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**POSTDOCTORAL POSITIONS** available immediately to study molecular structure and structure-function correlations of ion channels and receptors and their physiological role. Techniques include multimodal atomic force/light fluorescence/confocal microscopy, ion-channel electrophysiology, and nanodevices. Experience in high resolution imaging with atomic force microscopy, designing integrated imaging systems, or membrane biochemistry and biophysics of channels (especially gap junctions and amyloid beta protein) and receptors is required. Highly motivated and independent researchers able to work in interdisciplinary teams will be preferred. Send curriculum vitae and names of references to: **Dr. R. Lal, Neuroscience Research Institute, University of California, Santa Barbara, CA 93106. FAX: 805-893-2005. E-mail: lal@lifesci.ucsb.edu**. *An Equal Opportunity/Affirmative Action Employer.*

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Two **POSTDOCTORAL POSITIONS** are available to: (1) simultaneously identify genes essential for bacterial viability and inhibitors of their function, and (2) discover peptide modulators of bacterial cell differentiation. Both projects will exploit a novel genetic system that allows the biosynthesis of complex cyclic peptide libraries (*Proc. Natl. Acad. Sci., USA* **96:** 13638-13643, 1999, and *Chemistry & Biology* **117:** 1-15, 2001). Candidates should have strong background in biochemistry, microbiology, or related fields. Experience in HTS, protein engineering, or enzymology is highly desirable. Send curriculum vitae and two letters of recommendation to: **Dr. Ernesto Abel-Santos, Deptartment of Biochemistry, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461. E-mail: eabelsan@aecom.yu.edu**. *Equal Opportunity Employer.*

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**POSTDOCTORAL RESEARCH ASSOCIATES** in Pulmonary Biology (Ph.D. or M.D.) are required for two or more years to study the regulation of airway smooth muscle cell contractility, ciliary activity, and intercellular communication with NIH funding. Training in cell and pulmonary physiology with experience in fluorescence and confocal microscopy, tissue culture, and electrophysiology preferred. For details see **website: http://users.umassmed.edu/michael.sanderson/mjslab**. Contact: **Dr. Michael J. Sanderson, Department of Physiology, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, MA, 01655. E-mail: michael.sanderson@umassmed.edu**.

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**POSTDOCTORAL POSITION** available now or in the fall in genetics/lipid metabolism for (1) apoB and apoA-I kinetics in humans with mutations using stable isotopes, and (2) gene mapping in Amish pedigrees for lipid disorders, diabetes, and high and low blood pressure. Send curriculum vitae and names of three references to: **Francine Welty, M.D., Ph.D., Beth Israel Deaconess Medical Center, One Autumn Street 5th Floor, Boston, MA 02215. E-mail: fwelty@caregroup.harvard.edu**.

POSITIONS OPEN

MEDICAL COLLEGE OF WISCONSIN

### POSTDOCTORAL POSITION

A Postdoctoral position is available for NIH-funded research in the field of experimental bone marrow transplantation. Projects available for study include suicide gene therapy to modulate GVH/GVL reactivity, role of gamma delta T cells in BMT, and immunological reconstitution post BMT. Applicants must have a strong foundation in cellular immunology. Experience working with animals is preferred. Please send curriculum vitae and information for three references to: **William R. Drobyski, M.D., Bone Marrow Transplant Program, 9200 West Wisconsin Avenue, Milwaukee, WI 53226. E-mail: bill@bmt.mcw.edu**.

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### POSTDOCTORAL RESEARCH TRAINING POSITIONS
**Department of Pediatrics and Pathology**
**Case Western Reserve University**

Two Postdoctoral Research Training positions are available immediately in the Department of Pediatrics and the Department of Pathology focused on pediatric infectious diseases research and immunology. NIH-supported research training opportunities, available in the areas of pediatric host defense against encapsulated bacterial pathogens, antigen processing of vaccines, mucosal immunology, acquired and innate immunity, and parasitic infections including malaria, filariasis and onchocerciasis. These positions require a Ph.D. and/or M.D. *and U.S. citizenship or permanent residence.* Curriculum vitae and three references should be sent to: **Dr. John Shreiber, Professor of Pediatrics and Pathology, Case Western Reserve University, Division of Pediatric Infectious Diseases, Rainbow Babies and Children's Hospital, 11100 Euclid Avenue, Cleveland, OH 44106. E-mail: jrs3@po.cwru.edu**. *CWRU is an Equal Opportunity/Affirmative Action Employer.*

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### POSTDOCTORAL POSITIONS
**In Stress-Induced**
**Cellular and Molecular Signaling**

Candidates with molecular biology expertise are sought to study heat shock transcription factors/stress-induced gene expression and their protective functions against human diseases and environmental stresses. Please send your curriculum vitae and names of three references to: **Dr. Kevin Sarge, Department of Biochemistry, University of Kentucky Medical Center, 800 Rose Street, Lexington, KY 40536. E-mail: kdsarge@uky.edu; website: http://www.mc.uky.edu/biochemistry/Department/faculty/sarge.html**.

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**POSTDOCTORAL POSITIONS** are available in the Lin laboratory, Ben May Institute for Cancer Research, The University of Chicago, for highly motivated individuals (Ph.D.) with a strong background in molecular biology and cell biology to study mechanisms of signal transduction and integration involved in cell growth and programmed death, using JNK and IKK pathways as model systems (*Nature* **414:**313-317, 2001; *Molecular Cell* **8:**1005-1016, 2001; *Nature Immunology* **3:**221-227, 2002). To apply, e-mail curriculum vitae and three reference letters to: **Dr. Anning Lin; e-mail: alin@huggins.bsd.uchicago.edu**.

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**POSTDOCTORAL POSITIONS** available to pursue genetic and biochemical studies of conserved molecular mechanisms in yeast at the University of Calgary. Candidates must have obtained a Ph.D. degree within the past three years, and have a strong background in cell and molecular biology. Send curriculum vitae to: **Dr. Dallan Young, 3330 Hospital Drive NW, Calgary, Alberta, T2N 4N1 Canada. E-mail: young@ucalgary.ca**. More details at **website: www.ucalgary.ca/young/lab.html**.

POSITIONS OPEN

### POSTDOCTORAL POSITION

Opening for a **PROTEIN CHEMIST/BIOCHEMIST** with experience in micro-analytical protein separation techniques (HPLC and CE). Applicant must have skills and experience in the field of protein isolation and characterization. The project comprises structure and function studies of proteins specifically interacting with mineralized substrates. The characterization of such protein structures at the molecular level is important for the understanding of both de- and re-mineralization mechanisms and gaining knowledge on the early events in the generation of biofilms. Interested candidates with a recent Ph.D. degree (or equivalent) are invited to send their curriculum vitae to: **Ms. Leslie Baker, Boston University Medical Campus, Room G-217, Boston, MA 02118. E-mail: lesbaker@bu.edu**.

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**POSTDOCTORAL POSITIONS**: Available for studies in various aspects of cancer research and toxicology in the Center in Molecular Toxicology through the Departments of Biochemistry, Cell Biology, Chemistry, Medicine, and Pathology. Areas of investigation relating to toxicology and carcinogenesis are: (1) enzymatic oxidation and conjugation; (2) oxidative damage; (3) DNA damage and mutagenesis; (4) genomics and proteomics; and (5) structural biology. Center faculty include: **Drs. Richard N. Armstrong, Raymond F. Burk, Richard M. Caprioli, Walter J. Chazin, F. Peter Guengerich, Diane S. Keeney, Lawrence J. Marnett, Jennifer A. Pietenpol, Ned A. Porter, Carmelo J. Rizzo, Michael P. Stone, William M. Valentine,** and **Michael R. Waterman**. Salaries are negotiable. Applicants should submit curriculum vitae and three letters of recommendation to: **Dr. F. Peter Guengerich, Director, Center in Molecular Toxicology, Vanderbilt University, School of Medicine, Nashville, TN 37232-0146**. *An Affirmative Action/Equal Opportunity Employer.*

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**POSTDOCTORAL POSITIONS** are available to study the roles of complement and its regulation by membrane regulatory proteins in animal models of vascular and autoimmune diseases. Research projects will utilize several knockout mouse lines created in the laboratory to dissect the roles of key membrane complement regulators (e.g., CD55 and CD59) in the regulation of innate and adaptive immune responses during the induction and effector phases of systemic autoimmunity, tissue transplantation rejection, and other inflammatory and immunological disorders. Candidates with a Ph.D. or M.D. degree and research experience in one or more of the following areas are encouraged to apply: immunology, autoimmune and transplantation immunobiology, vascular biology, inflammation, molecular biology, and animal models of human diseases. Please send curriculum vitae to: **Wenchao Song, Ph.D., Center for Experimental Therapeutics, University of Pennsylvania, 1351 BRBII/III, 421 Curie Boulevard Philadelphia, PA 19104. E-mail: song@spirit.gcrc.upenn.edu**.

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**POSTDOCTORAL FELLOW**: Insect Ecology and IPM. $32,000 per year plus benefits (4-year appointment). Ecological studies in agricultural crops, develop simulation models and IPM decision systems. Qualifications: Ph.D. in Entomology or related field. Experience in field ecology and simulation modeling; publish in scientific journals. Start Date: October 1, 2002.

Apply to: **Dr. Kris Giles, Department of Entomology and Plant Pathology, 127 NRC, Oklahoma State University, Stillwater, OK 74078**. *OSU is an Affirmative Action/Equal Employment Opportunity Employer committed to multicultural diversity.*

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Two positions for **POSTDOCTORAL FELLOWS** are available immediately at University of Western Ontario, Canada. Experience in transplant/cellular immunology and gene transfection/silencing would be desirable. Qualified candidates should send a letter of introduction, a résumé, and three references to: **Dr. Weiping Min, M.D., Ph.D., 339 Windermere Road, LHSC–UC, 9L9, London, Ontario N6A 5A5 Canada. E-mail: mweiping@uwo.ca; Telephone: 519-663-2985; FAX: 519-663-3924**.

## RAPID ACCESS TO PREVENTIVE INTERVENTION DEVELOPMENT - "RAPID" PROGRAM
### National Cancer Institute

The National Cancer Institute announces the ongoing initiative: Rapid Access to Preventive Intervention Development (RAPID). RAPID will make available to academic investigators the preclinical and early clinical drug development contract resources of NCI's Division of Cancer Prevention. The goal of RAPID is the rapid movement of novel molecules and concepts from the laboratory to the clinic for clinical trials of efficacy. RAPID will assist investigators who submit successful requests by providing any (or all) of the pre-clinical and phase 1 clinical developmental requirements for phase 2 clinical efficacy trials. These include, for example, preclinical pharmacology, toxicology, and efficacy studies; bulk supply, GMP manufacturing, and formulation; and regulatory and IND support and phase 1 clinical studies. Suitable types of agents for RAPID may range from single chemical or biological entities to defined complex mixtures with the potential to prevent, reverse, or delay carcinogenesis. For more detailed information, visit the web site, **http://www3.cancer.gov/prevention/cadrg/**

Requests for RAPID resources are to be submitted as described in the web site. Written requests will be evaluated by a specially constituted RAPID panel, consisting of selected NCI staff and outside experts from academia and industry. Requests must be received on or before October 1, 2002. Applications should be submitted directly to the office listed below. Inquiries are encouraged, and the opportunity to clarify issues or questions is welcome. Please contact:

**RAPID Program Official**
**Executive Plaza North, Room 2117**
**6130 Executive Blvd.**
**Bethesda, MD 20892**
**Rockville, MD 20852 (for express/courier service)**
**Telephone (301) 435-5011 Email: ikllj@nih.gov**
**or**
**Telephone (301) 594-0459: Email: jc94h@nih.gov; fax (301) 402-0553**

## GRANTS


# Creating the future of biotech—Together

**Invitrogen's Research Tools Development Grants Program** provides funding for investigators developing innovative tools for use in life science research. Total funding is US$5 million per year, with annual individual awards of up to US$100,000. Grants are provided quarterly.

Third quarter 2002 funding is for novel approaches in the **separation and purification** of biomolecules. Proposals to develop enrichment, fractionation and labeling technologies are also of interest. Deadline for full Grant Proposals is September 1. A preproposal is required. For more information, visit www.invitrogen.com, e-mail grants@invitrogen.com, or call 800 955 6288, ext. 66140.

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## LSRO

The Life Sciences Research Office announces an ongoing project to evaluate the relative risk of non-tobacco ingredients added to cigarettes and solicits input from the scientific community to help guide the process.

### Open Meeting on the Relative Risk of Non-Tobacco Ingredients Added to Cigarettes

**August 26, 2002**
**Hyatt Regency Hotel**
**Bethesda, MD**

This study is evaluating the relative health risks of ingredients (other than tobacco) in cigarettes. The study is based on the known health risks of smoking cigarettes and on the assumption that, short of avoidance or cessation, there is no effective way of eliminating those risks. In conjunction with an Expert Panel, the LSRO is reviewing the scientific evidence to address the following issues:

- Whether it is feasible to pursue the development of review criteria.
- Whether a meaningful estimate of relative health risk can be ascertained for ingredients (other than tobacco) used in the production of cigarettes.
- What are the appropriate criteria for such a review?

Submission instructions: You may submit comments addressing the issues listed above either by oral presentation at the open meeting and/or by sending written comments to the LSRO. Detailed instructions for submission of comments may be obtained from our web site or by contacting LSRO (see below). Comments received after September 15, 2002, not addressing the specific subject, or not complying with the instructions will not receive consideration by the Expert Panel.

Registration information: For more information about submission of comments and to obtain registration information for the meeting visit our web site: **www.lsro.org** or contact us at **301-530-7030** or via Email at **AIRC@lsro.org**. Space is limited, registering before August 5, 2002 is highly recommended.

This study is sponsored by Philip Morris, USA. www.lsro.org

## PRIZES

### MARCH OF DIMES PRIZE IN DEVELOPMENTAL BIOLOGY

Nominations of candidates are solicited for the eighth annual prize to be awarded in 2003. Please make your recommendations on or before September 16, 2002.

The prize, consisting of a medal and $250,000, is awarded to investigators whose research has profoundly advanced the science that underlies our understanding of birth defects.

Nomination forms are available upon request from:

**Michael Katz, M.D.**
**Vice President for Research**
**March of Dimes Birth Defects Foundation**
**1275 Mamaroneck Avenue**
**White Plains, NY 10605**
**Telephone: (914) 997-4555**
**Facsimile: (914) 997-4560**
**e-mail: mkatz@modimes.org**

The previous recipients were:

**2002 - Sydney Brenner and Seymour Benzer**
**2001 - Thomas M. Jessell and Corey S. Goodman**
**2000 - H. Robert Horvitz**
**1999 - Richard L. Gardner and Martin J. Evans**
**1998 - Davor Solter**
**1997 - David Hogness and Walter Gehring**
**1996 - Beatrice Mintz and Ralph L. Brinster**

### POSTDOCTORAL FELLOWSHIPS
**Molecular Cardiovascular Biology**

The training program in Developmental Cardiology at the Cardiovascular Research Institute, University of California, San Francisco is seeking highly qualified Postdoctoral Researchers with a Ph.D. and/or M.D. and a strong background in molecular/cellular biology or biochemistry for the following areas: (1) signaling/gene transcription governing cardiomyocyte proliferation; (2) cell cycle regulation and myocardial regeneration; (3) functional genomic studies of cardiac development and pathology; and (4) genetic studies of coronary vascular development.

Systems include primary cell culture, zebrafish, and mouse models. Techniques include microarray analysis and transgenic modeling. *U.S. citizen/permanent resident status required.*

E-mail curriculum vitae, research summary, and names of three references to: **H. S. Bernstein (e-mail: hsbernstein@pedcard.ucsf.edu; website: http://bernstein.ucsf.edu)** or **J. Bristow (e-mail: jbristow@pedcard.ucsf.edu; website: http://itsa.ucsf.edu/~pedendo/faculty.html#James%20Bristow)**.

*UCSF is an Equal Opportunity Employer.*

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Two **POSTDOCTORAL POSITIONS** available in the Department of Dermatology at the University of Pennsylvania. Position 1: Investigate the structure and function of proteases and their physiological inhibitors. Work focuses on serine proteases from mast cells and their inhibition by proteins belonging to the serpin family (*FEBS Letts* **512:**133, 2002, *J. Mol. Biol* **286: 163**, 1999, and *J. Biol. Chem.* **272: 24499**, 1997). Position 2: Investigate the role of tyrosine kinases in regulating epithelial and T cell development. Work uses mouse knock-outs/knock-ins for studying signal transduction pathways. For example see: *J.Exp.Med.* **190:**1189, 1999, or *J.Biol.Chem.* **277:**2812, 2002. Candidates must have an M.D. or Ph.D. degree. Please submit curriculum vitae and three references to: **Dr. N. Schechter (Position 1)** or **Dr. P. Stein (Position 2), University of Pennsylvania, 211 CRB, 415 Curie Boulevard, Philadelphia, PA 19104/6142. FAX: 215-573-2143; e-mail: schechte@mail.med.upenn.edu** or **steinp@mail.med.upenn.edu**. *Affirmative Action/Equal Opportunity Employer.*

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**POSTDOCTORAL POSITION** in HIV/AIDS neuropathogenesis to study virus/neuronal cell interactions, neuronal apoptosis, and neuronal gene expression. Requires background in molecular biology. Experience in virology and neurobiology desirable. Submit letter, curriculum vitae, and three references to: **Dennis L. Kolson, M.D., Ph.D. c/o Ms. Margo Aragon, Department of Neurology, 280C Clinical Research Building, University of Pennsylvania, Philadelphia, PA 19104-6140. FAX: 215-573-2029; e-mail: kolsond@mail.med.upenn.edu**.

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A **POSTDOCTORAL POSITION** is available immediately to work on lipid metabolism with transgenic/knockout mouse models and cultured cells. Experience with lipid (cholesterol and triglyceride) metabolism techniques is essential. Please send application to: **Dr. ZhongMao Guo, Department of Physiology, Meharry Medical College, 1005 D. B. Todd Boulevard, Nashville, TN 37208. E-mail: zguo@mmc.edu**.

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**POSTDOCTORAL POSITIONS**. Research into molecular mechanism of the ATP synthase molecular motor in bacterial membranes or into the mechanism of multidrug-resistance in cancer conferred by P-glycoprotein. NIH-funded positions. **Website: http://dbb.urmc.rochester.edu/bcbp/members/faculty/senior_alan.html**. Contact: **Alan Senior, Biochemistry and Biophysics, Box 712, University of Rochester Medical Center, Rochester, NY, 14642. E-mail: alan_senior@urmc.rochester.edu**

POSITIONS OPEN

**NIH 2002 = [OPPORTUNITY]$^N$**

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**POSTDOCTORAL ASSOCIATE**. I'm relocating my laboratory to The Cleveland Clinic Foundation. Two Postdoctoral Associate positions are available for motivated Ph.D.s with English language publications to work on projects related to cholesterol efflux from mammalian cells. Strong background in recombinant DNA methods, cell biology, and/or signal transduction is required. Experience in confocal microscopy, FACS, and transgenic/knockout mice would be helpful, but is not absolutely required. (See reference: **JD Smith et al.** *J. Biol. Chem.* **277:** 17797, 2002.) Interested applicants should send curriculum vitae, brief description of research interests and career goals, and contact information for three references to: **Dr. Jonathan D. Smith, Cell Biology Department, Lerner Research Institute, Cleveland Clinic Foundation, 9500 Euclid Avenue, #NC-10, Cleveland, OH 44195**. Or via **e-mail: smithj@mail.rockefeller.edu**. Consider Cleveland; inexpensive housing and high-quality living.

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Two **POSTDOCTORAL POSITIONS** in plant molecular biology and proteomics and two **GRADUATE RESEARCH ASSISTANT** (Ph.D. student) positions are available immediately. Successful candidates will join a collaborative research project, funded by the NSF 2010 Program, to determine the function of the *Arabidopsis* β-glucosidase and β-galactosidase gene families. Experience in molecular biology, protein overexpression in heterologous hosts (*Saccharomyces, Pichia*, or insect cells), enzyme purification and characterization, and *Arabidopsis* and plant systems is desirable. Ph.D. student candidates must have research experience. Salary commensurate with qualifications. Send description of research experience and interests, curriculum vitae with publication list, and three reference letters to: **Dr. Asim Esen, Department of Biology, Virginia Tech, Blacksburg, VA 24061-0406. Or e-mail: aevatan@vt.edu**. *Equal Opportunity/Affirmative Action Employer.*

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### POSTDOCTORAL POSITION
### CORNELL UNIVERSITY
**Ithaca, New York, USA**
**Signaling Pathways Regulating Cell Growth And Transformation**

A Postdoctoral position is available to investigate the mechanism by which specific oncogene products regulate mammalian cell growth and contribute to malignant transformation. Candidates should have a Ph.D. degree with a strong foundation in molecular and cell biology. Please send curriculum vitae and names and contact information of three references to: **D. Manor, Division of Nutritional Sciences, 228 Savage Hall, Cornell University, Ithaca, NY 14853. E-mail: dm43@cornell.edu**. *Affirmative Action/Equal Opportunity Employer.*

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A Postdoctoral position, **RESEARCH ASSOCIATE**, is available to work on the molecular mechanisms of HIV-1 pathogenesis. A Ph.D., M.D., or equivalent degree is required. Experience in virology, molecular biology, and immunology is desirable. Review of applications begins on August 12, 2002. Submit letter of interest, curriculum vitae, and three names of references to: **Nafees Ahmad, Ph.D., Professor, Microbiology and Immunology, College of Medicine, University of Arizona, Tucson, AZ 85724. Human Resources website: http://www.hr.arizona.edu**. *The University of Arizona is an Equal Employment Opportunity/Affirmative Action Employer-Minorities/Women/Disabled/Veterans.*

POSITIONS OPEN

MEDICAL COLLEGE OF WISCONSIN

### POSTDOCTORAL FELLOWSHIP
### IN NITRIC OXIDE RESEARCH

A full-time position is available at the Medical College of Wisconsin to investigate the cellular biology of nitric oxide and S-nitrosothiols. Applicants with chemical, biochemical, or cell-biology/molecular biology backgrounds will be considered. Experience in nitric oxide-related research is preferred. Training will be given to cover any areas of deficiency. Please send a cover letter describing research interests, curriculum vitae, and the names of two references to: **Dr. Neil Hogg, Medical College of Wisconsin, Biophysics Research Institute, 8701 Watertown Plank Road, Milwaukee, WI 53226 U.S.A. Website: http://www.biophysics.mcw.edu**.

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### POSTDOCTORAL POSITION
**Department of Physiology, University of Tennessee Health Science Center**

NIH-funded position immediately available to study the regulation and physiological functions of local and global calcium signaling and ion channels in arterial smooth muscle cells. Required qualifications include a Ph.D. or M.D. in physiology or a related field. Experience with patch clamp electrophysiology, confocal microscopy, and/or calcium imaging preferred. Send curriculum vitae and names and addresses of three references to: **Jonathan H. Jaggar Ph.D., Department of Physiology, University of Tennessee Health Science Center, 894 Union Avenue, Memphis, TN 38163 U.S.A.**

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**POSTDOCTORAL POSITION** available to help in the development of implanted sensors/indwelling laser spectroscopy for the early detection and real-time monitoring of organ transplant viability and rejection. The ideal candidate will have small animal surgery and optical or laser instrumentation expertise. This work represents a collaborative interaction between the transplant research program at University of California, Davis Medical Center and the Medical Technology Program and the Institute for Laser Science and Applications at Lawrence Livermore National Laboratory. Please send curriculum vitae and names of three references to: **Dr. Mark Zern, Director Transplant Research Program, University of California, Davis Medical Center, 4635 2nd Avenue, Room 1001, Sacramento, CA 95817. E-mail: mazern@ucdavis.edu**.

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**POSTDOCTORAL POSITION** available immediately to study craniofacial development. Research projects include the characterization of a matrix metalloproteinase-20 (MMP-20) knockout mouse and characterization of MMP-20 domain structure by introduction of transgenes into the null background. Those with molecular biology experience are encouraged to apply. For more information contact: **Dr. John D. Bartlett, Harvard-Forsyth Department of Oral Biology, The Forsyth Institute, 140 Fenway, Boston, MA 02115. E-mail: jbartlett@forsyth.org. FAX: 617-456-7732**. Visit our **website: http://www.forsyth.org** to learn more about our institution and its people.

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NIH-funded **POSTDOCTORAL POSITIONS** to explore generation of embryonic polarity during development of the mouse spinal cord, hindbrain, eye, limb bud, and lung with a focus on knockout mice lacking retinoic acid synthesis (*Development* **129:** 2271-2282, 2002). Expertise in developmental biology or neurobiology needed. Salary negotiable. Contact: **Gregg Duester, OncoDevelopmental Biology Program, Burnham Institute, 10901 North Torrey Pines Road, La Jolla, CA 92037. E-mail: duester@burnham.org**.

## POSITIONS OPEN

Positions at the level of **POSTDOCTORAL RESEARCH ASSOCIATE** are available in the Center for Toxicology in the College of Pharmacy at the University of Arizona for postdoctoral training in toxicogenomics and toxicoproteomics. Program faculty have diverse interests in mechanisms by which environmental factors affect human health and disease. Focus areas include (1) proteomics approaches to understanding chemical toxicity, (2) perturbation of cellular signaling cascades by environmental agents, (3) DNA damage and stress responses, (4) epigenetic control of gene expression, and (5) characterization of gene regulation changes associated with toxicity and carcinogenicity. Facilities available include state-of-the-art mass spectrometry, DNA microarray, imaging, and related analytical instrumentation. For further information about the program and training opportunities, see **website: http://www.pharmacy.arizona.edu/toxtraining/index.shtml**. To apply, submit a cover letter, résumé, and the names and contact information for three references to: **AHSC Human Resources, Job #992765, 1501 North Campbell Avenue, #2233, P.O. Box 245010, Tucson, AZ 85724-5010**. Review of materials will begin on August 12, 2002, and continue until filled. We offer excellent benefits and competitive salaries. *The University of Arizona is an Equal Employment Opportunity/Affirmative Action Employer; Minorities/Women/Disabled/Veterans.*

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### POSTDOCTORAL POSITION MOLECULAR NEUROSCEINCE

A position is available immediately for a Molecular Biologist/Biochemist in the Department of Neurobiology and Anatomy, Wake Forest University School of Medicine, Winston-Salem, NC, 27157 U.S.A., to study molecular mechanisms underlying normal and abnormal gene function neurons. This is an exciting opportunity to use molecular biology expertise to answer cutting-edge questions in neuroscience (*Cell* **89:** 115) and for career development. Ph.D. in molecular biology/biochemistry, molecular neuroscience, or related disciplines is acceptable. Prior experience in neuroscience is not necessary. Expertise in molecular cloning, analytical DNA/RNA techniques, and protein chemistry required. Send curriculum vitae, names, addresses, and e-mail for three references by FAX or e-mail to: **Ashok N. Hegde, Ph.D. FAX: 336-716-4534; E-mail: ahegde@wfubmc.edu.** *Equal Opportunity Employer/Affirmative Action.*

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### POSTDOCTORAL FELLOWSHIP

Available immediately. Research Goals: Participate in a study of the mechanisms of pulmonary emphysema in animal models. Qualifications: Ph.D. or M.D./Ph.D. Should have experience in mechanisms of lung injury with demonstrated biochemical, molecular biology, and cell biology expertise. Experience with ultrastructure analysis is desirable but not mandatory.

Please send your résumé to: **Dr. Rajiv Dhand, M.D., Director, Division of Pulmonary, Critical Care and Environmental Medicine, MA419 Medical Science Building, Columbia, MO 65212.**

*UMC is an Equal Opportunity/Affirmative Action Employer and complies with the ADA act of 1990: Women and minorities are encouraged to apply. Questions and ADA accommodation needs may be addressed to: Sean Siebert, Human Resources Services Coordinator, Department of Internal Medicine, UMC, MA438 Medical Science Building, Columbia, MO 65212.*

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**POSTDOCTORAL POSITION** immediately available to study the mechanisms of immunoglobulin switch recombination/somatic hypermutation, pursuing the hypothesis that alternative DNA structures are targets for recombination and mutagenic repair. This is an exciting project for an independent, motivated Scientist with a strong molecular background. Please send curriculum vitae, statement of research accomplishments and interests, and names of three references to: **Professor Nancy Maizels, Departments of Immunology and Biochemistry, University of Washington, Seattle, Washington 98195-7650. E-mail: maizels@u.washington.edu.**

## POSITIONS OPEN

Pennington Biomedical Research Center, a Louisiana State University facility, is accepting applications for **RESEARCH ASSOCIATE** and **POSTDOCTORAL RESEARCHER** positions. For information on employment options, see our **website: http://www.pbrc.edu.**

*Pennington Biomedical Research Center is an Equal Opportunity Employer.*

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### POSTDOCTORAL POSITION RESEARCH ASSOCIATE Developmental Neuroscience

Positions available for research in mammalian developmental neuroscience. We are interested in the role of cell polarity and epithelial organization in the regulation of cell proliferation and cell fate decisions in the developing mammalian central nervous system (see this issue of *Science* 2002 July 19, and *Cell* **82(4):** 631-41, 1995 August 25). Expertise with molecular biology and/or histology desirable. Send curriculum vitae, description of research interests, and names of three references to:

**Anjen Chenn, M.D., Ph.D.**
**Department of Pathology, W127**
**Ward 6-204**
**The Feinberg School of Medicine**
**Northwestern University**
**303 East Chicago Avenue**
**Chicago, IL 60611-3008**
**E-mail: achenn@northwestern.edu**
**Website:**
**http://pubweb.northwestern.edu/ach617**

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### POSTDOCTORAL POSITION IN EXPERIMENTAL HEMATOLOGY

A Postdoctoral position is available in the Cell Manipulation Center of the Blood and Marrow Transplant Program at the MD Anderson Cancer Center. Projects include translational research in cellular immunotherapy, purification and *ex vivo* expansion of cord blood and other stem cells, and phenotype analysis of cultured cells by flow cytometry. A Ph.D. in cell biology or related field is essential. A background in dendritic cell biology and experience in flow cytometry analysis is desirable. Starting salary commensurate with experience.

Please submit a letter of interest and curriculum vitae to: **Corliss Denman, UT MD Anderson Cancer Center, Box 423, 1515 Holcolmbe Boulevard Houston, Texas 77030. FAX: 713-745-1278; e-mail: cdenman@mail.mdanderson.org.** *MD Anderson is an Equal Opportunity and Affirmative Action Employer. We encourage minorities and women to apply for this position.*

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### POSTDOCTORAL RESEARCH ASSOCIATE

Positions are available on an ongoing basis within different research groups in the Institute of Molecular Biology and the Institute of Neuroscience at the University of Oregon. The purpose of this notice is to establish and maintain a pool of qualified applicants. Ph.D. in molecular biology, neuroscience, or related field is required. Please see our **websites: http://www.molbio.uoregon.edu** and **http://www.neuro.uoregon.edu** for information about the type of research being done. Salary dependent upon experience. For application materials, please call **Telephone: 541-346-5151**; or **e-mail: rita@prospero.uoregon.edu.** *The University of Oregon is an Equal Opportunity/Affirmative Action Institution committed to cultural diversity and compliance with the Americans with Disabilities Act. Women and minorities are encouraged to apply.*

## POSITIONS OPEN

### POSTDOCTORAL POSITIONS IN GENETICS Dartmouth Medical School

**Sergei Tevosian's** laboratory focuses on transcriptional mechanisms of mammalian organogenesis (**website: http://www.dartmouth.edu/genetics/sergei/**). Interests include mouse genetics, cardiac and gonadal development, and disease (*PNAS* **96:** 950, 1999; *Cell* **101:**729, 2000,). Expertise in molecular or developmental biology/embryology is required. Please send curriculum vitae and the names of three references to **e-mail: sergei.g.tevosian@dartmouth.edu.**

**Jay Dunlap's** laboratory (**website: http://www.dartmouth.edu/jdunlap/**) focuses on molecular bases of circadian rhythmicity; fungal genomics. Interests include analyses of rhythmicity in mammalian cell culture, animals, and a fungal model system. Preference for candidates who can be interviewed. Send curriculum vitae and the names of three references to:

**Department of Genetics**
**Dartmouth Medical School**
**7400 Remsen**
**Hanover, NH 03755**
**E-mail: jay.c.dunlap@dartmouth.edu.**
**Website:**
**http://www.dartmouth.edu/dms/genetics/**

*Dartmouth College is An Affirmative Action/Equal Opportunity Employer and encourages applications from women and members of minority groups.*

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A **POSTDOCTORAL POSITION** is available immediately to characterize the creatine transporter that regulates myocellular creatine and energy metabolism in skeletal muscle. The applicant should possess strong background in biochemistry and molecular biology; experiences with cell culture, cell transfection and site-directed mutagenesis techniques are desirable. Please send curriculum vitae and three references (include contact information) to: **Danny O. Jacobs, M.D., Department of Surgery, Creighton University 601 North 30th, Ste. 3520, Omaha, NE 68131. Telephone: 402-280-5292; Fax: 402-280-5979; e-mail: djacobs@creighton.edu.**

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### POSTDOCTORAL POSITION IN STROKE

To study IGF uptake across the blood-brain-barrier and its effects on stroke. Experience with rat middle cerebral artery occlusion or molecular biology background preferred. Go to **website: http://www.cvmbs.colostate.edu/physio/ishiipdad.html** for further details. Send requested information to: **Dr. Douglas N. Ishii.** *Colorado State University is an Equal Opportunity/Affirmative Action Employer.*

## GLOBAL OPPORTUNITIES

### FACULTY POSITIONS DEPARTMENT OF BIOCHEMISTRY YONSEI UNIVERSITY, KOREA

The Department of Biochemistry at Yonsei University seeks highly qualified applicants for tenure-track **ASSISTANT/ASSOCIATE PROFESSOR** positions. Applicants with research interests in the broad discipline of biochemistry including cellular immunology and signal transduction will be considered. Quality of research, not a specific research area, will be the primary criterion.

Yonsei University, established in 1883, is the most prestigious private university in Korea. The Department consists of 12 faculties with expertise in molecular and cellular biology as well as biochemistry (**website: http://biochem.yonsei.ac.kr**). The Department maintains modern facilities for molecular biology and biochemistry. Candidates should submit curriculum vitae and statement of research interests to: **Dr. Wang-Shick Ryu, Chairman, Department of Biochemistry, Yonsei University, 134 Shinchondong, Seodaemunku, Seoul, Korea 120-749. E-mail: wsryu@yonsei.ac.kr.** Application deadline is October 30, 2002, or until the position is filled.

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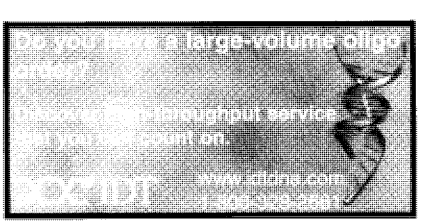


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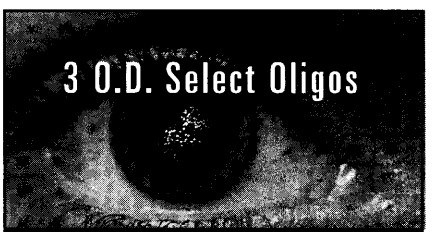

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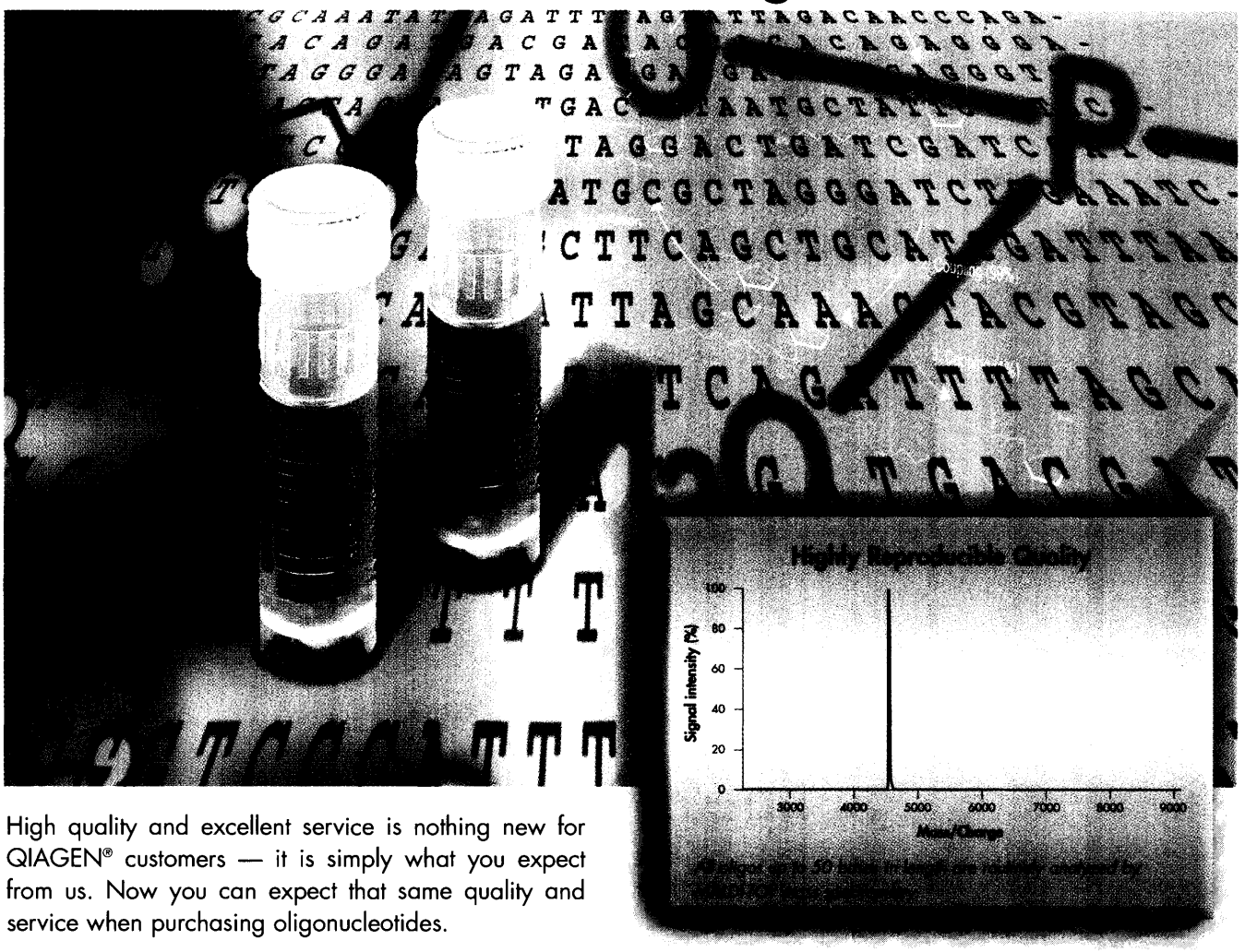


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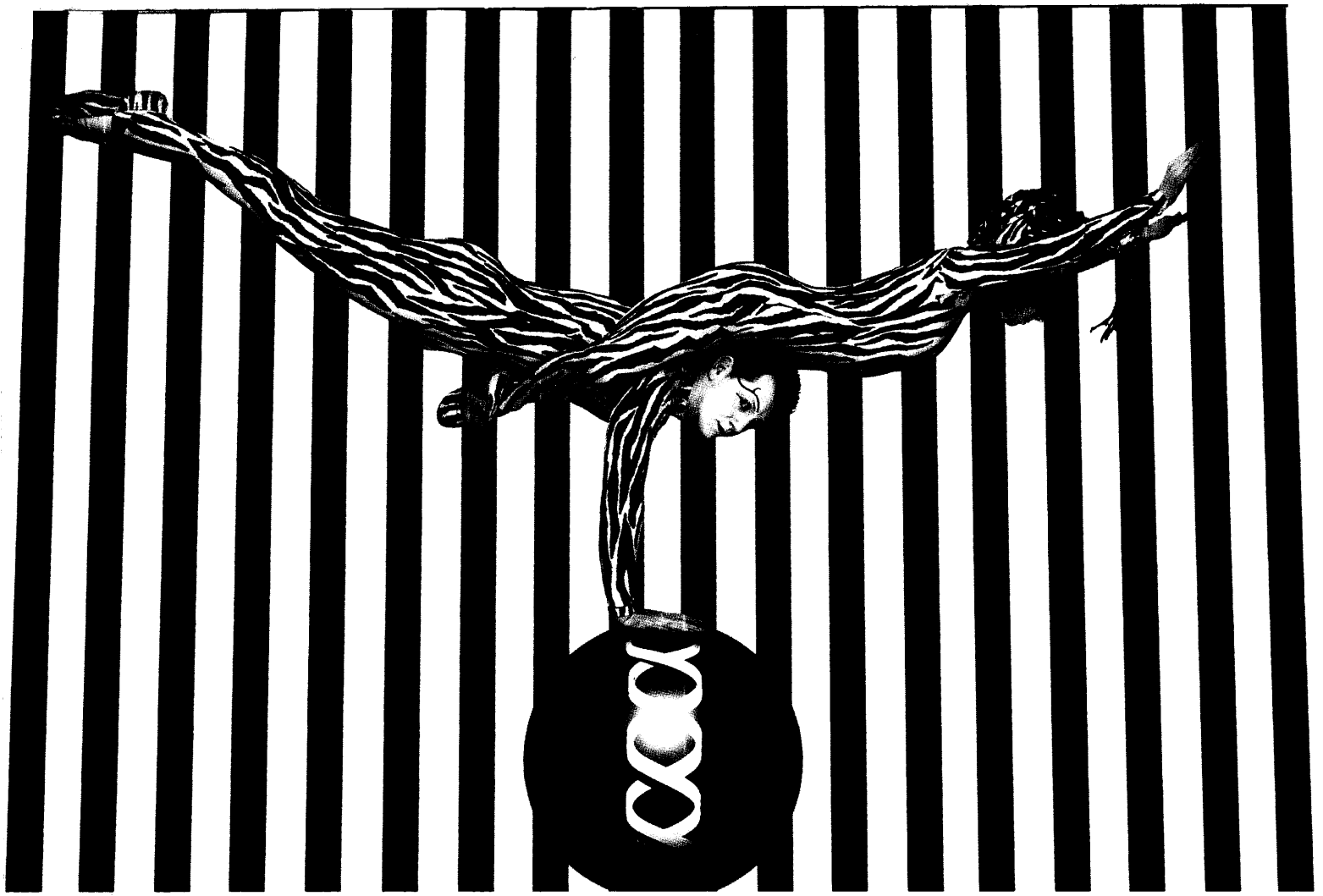

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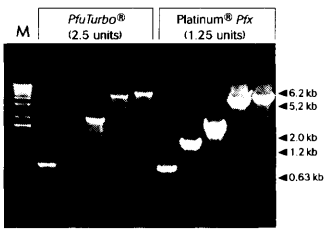


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