Gordon Research Conferences

1999 Summer and Fall Meetings

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New Hampshire*	$625	$570	$495	$455	$400	$325
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Oxford, UK	$780	N/A	$710	$610	N/A	$540
Singapore	$800	$680	N/A	$630	$510	N/A

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*Please check our web site for the **Waterville Valley Resort** Conference Site fees. This is for the *Cyclic Nucleotide Phosphodiesterases* Conference **only**.

The 1999 Summer and Fall Gordon Research Conferences will be held in New England, Japan, Singapore and Oxford, UK.

Attendance is limited - it is recommended that applicants apply immediately for early consideration by the Chair.

NOTE: Be sure to check the actual start and end times of each meeting, which may vary by Conference.

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Gordon Research Conferences
University of Rhode Island
P.O. Box 984
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E-mail: grc@grcmail.grc.uri.edu
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Phone: 401-783-4011, ext. 100

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ANALYTICAL CHEMISTRY
NEW ENGLAND COLLEGE
HENNIKER, NH
AUG. 1-6, 1999
J. Michael Ramsey, Chair
Paul Bohn, Vice-Chair

- Chemical Measurement Problems in the Biological Sciences: Grand Challenges
- Genomics: Sequencing Technologies
- Genomics: Analysis of Genetic Variations
- Proteomics: Chemical Separations
- Proteomics: Structural Analysis
- Physiomics: Single Cell *in vivo* Probes
- Physiomics: Single Cell Lysate Analysis
- Microfabricated Measurement Tools
- Late Breaking Research

ANGIOGENESIS & MICROCIRCULATION
SALVE REGINA UNIVERSITY
NEWPORT, RI
AUG. 15-20, 1999
Patricia A. D'Amore, Chair
Werner Risau, Vice-Chair

- Vasculogenesis and Angiogenesis
- Development and Remodeling
- Pericytes: Differentiation and Function
- Cell-Cell Interactions
- Signaling Mechanisms
- Novel Genes in the Control of Angiogenesis
- Angiogenesis in Reproduction
- Tumor Angiogenesis
- Therapeutics: Pro- and Anti-Angiogenesis

ANGIOTENSIN
QUEEN'S COLLEGE
OXFORD, UK
AUG. 8-13, 1999
Thomas Unger, Chair
Bradford C. Berk, Vice-Chair

- Receptor Binding and Signalling
- Myocardial AT Receptors
- Angiotensin, the Adrenal Gland and the Kidney
- Transgenic Animal Models
- CNS Actions of Angiotensin
- Therapeutic Aspects: NEP, ACE and AT1
- Vascular Cell and Extracellular Matrix
- Receptor Signaling and Function
- Reactive Oxygen Species and Atherosclerosis

APPLIED & ENVIRONMENTAL MICROBIOLOGY
CONNECTICUT COLLEGE
NEW LONDON, CT
JULY 3-8, 1999
Lily Young, Chair
Harold Drake, Vice-Chair

- Microorganisms' Interest in the Fine Arts
- Biological Weapons, Fact or Fiction
- Antimicrobials in Food Safety and Human Health
- Microbes, Metals and Metabolism
- Biotransformation/Biodegradation Breakthroughs
- Functional Genomics of Environmental Strains
- Global Processes, Microorganisms and Molecular Ecology
- Microbial Applications of DNA Chips
- Deadly Microbes in Everyday Life

ARCHAEA: ECOLOGY, METABOLISM & MOLECULAR BIOLOGY
PROCTOR ACADEMY
ANDOVER, NH
AUG. 1-6, 1999
Felicitas Pfeifer &
Steve Zinder, Co-Chairs

- Ecology and Genetic Elements
- Transcription/Regulation I, II
- Genomics and Evolution
- Cell Cycle/RNA Modification
- Proteins, Respiration
- Signal Transduction, Genetics
- Metabolism/Physiology
- Methanogenesis: Overview

ATHEROSCLEROSIS
KIMBALL UNION ACADEMY
MERIDEN, NH
JUNE 20-25, 1999
Jay W. Heinecke &
Goran K. Hansson, Co-Chairs
Alan R. Tall, Vice-Chair

- Insights Into Receptors and Cholesterol Trafficking
- Atherogenic and Modified Lipoproteins
- Genetics of Atherosclerosis
- Experimental Models of Atherosclerosis

- Microorganisms and Immunity in Atherogenesis
- Oxidation and Inflammation in Vascular Disease
- Gene Regulation in Hypoxia and Ischemia
- Plaque Rupture

ATMOSPHERIC CHEMISTRY
SALVE REGINA UNIVERSITY
NEWPORT, RI
JUNE 13-18, 1999
William E. Brune &
Joyce E. Penner, Co-Chairs
Stanley P. Sander, Vice-Chair

- Evolution of the Atmosphere
- Chemistry's Role in Climate
- Nucleation Processes
- Chemistry and Aerosol Formation
- Heterogeneous Chemistry
- Stratospheric Chemistry and Transport
- The Global Atmosphere: Observations From Satellites
- Regional Air Quality
- Convection and Global Atmospheric Oxidation

ATOMIC PHYSICS
PLYMOUTH STATE COLLEGE
PLYMOUTH, NH
JULY 4-9, 1999
John Delos, Chair
Steven Rolston, Vice-Chair

- Bose Einstein Condensation
- Atoms in Fields; Order and Chaos
- Strong Laser Interactions; High Harmonic Generation
- Quantum Information and Quantum Computation
- Applications of Atomic Physics
- Energetic Collisions
- Ultracold Collisions
- Trapping Molecules

BARRIERS OF THE CENTRAL NERVOUS SYSTEM (NEW)
TILTON SCHOOL
TILTON, NH
AUG. 15-20, 1999
Adam Chodobski & Joanna Szmydynger-Chodobska, Co-Chairs
Malcolm B. Segal, Vice-Chair

- Current Concepts of the Brain Barriers
- Is the Choroid Plexus or Blood-CSF Barrier Important for the Brain Microenvironment?
- Development of the BBB and Blood-CSF Barrier
- Cellular and Molecular Aspects of the Physiology and Pathophysiology of the BBB
- Drug Delivery to the Brain. New Strategies for the Treatment of Brain Diseases I, II
- Diseases which Impact on the BBB I, II
- Immune Barriers of the Brain

BIOENERGETICS
PROCTOR ACADEMY
ANDOVER, NH
JUNE 27 - JULY 2, 1999
William S. Allison, Chair
William A. Cramer, Vice-Chair

- Mechanisms in Generation and Consumption of Mitchell Protons
- Structure and Mechanism of F_1-ATPases
- Mechanism and Regulation of V-ATPases
- Structure and Function of the F_0 Component of ATP Synthase
- Structure-Function Relationships in Cytotochrome Oxidase
- Structure-Function Relationships in Complexes I and III
- Molecular Mechanisms of Work-Performing ATPases
- Panel Discussion on Stalks of ATP Synthase
- Panel Discussions on Rate Determining Step of Complex III and on Mechanism of Proton Translocation in Cytochrome Oxidase

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BIOLOGICAL STRUCTURE & GENE EXPRESSION
KIMBALL UNION ACADEMY
MERIDEN, NH
AUG. 15-20, 1999
Stephen Farmer, Chair
Avri Ben Ze'ev, Vice-Chair

- Structural Control of Gene Expression
- Integrins and Signaling
- Rho GTPases, Cytoskeleton and Signal Transduction
- Cytoskeleton and mRNA Localization/Metabolism
- Chromatin Organization and Function
- Nuclear Matrix: Structural Considerations in the Regulation of Gene Expression
- Cell Structure and the Response to Stress
- Adhesion-Mediated Signaling and Cancer
- Intercellular Contact in Cell Growth and Embryonic Development

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BIOMATERIALS: BIOCOMPATIBILITY/ TISSUE ENGINEERING
HOLDERNESS SCHOOL
PLYMOUTH, NH
JULY 18-23, 1999
Peter Johnson, Chair
David Grainger, Vice-Chair

http://www.pittsburgh-tissue.net/brochure/Outreach/Gordon.html

- Clinical Needs and Endpoints
- Biomaterial Design I, II
- Imaging for Biomaterial Design
- Biomaterial Analysis
- Biomaterial Fabrication
- Biomaterials as Tissue Control Systems
- Interface Technologies
- The Replacement of the Human Ear

BIOORGANIC CHEMISTRY
PROCTOR ACADEMY
ANDOVER, NH
JUNE 13-18, 1999
Steven Rokita &
Thomas Von Geldern, Co-Chairs
Carolyn Bertozzi &
Stephen Frye, Co-Vice-Chairs

- Biomaterials
- Protein Design, Structure and Function
- What's Nu in Nucleic Acids?
- Examining Complex Systems
- Novel Enzymes and Inhibitors
- Catalysis
- From Gene to Drug: Sequence, Structure, Function and Ligands of Biomolecules
- Life and Death at the Cellular Level
- Decoding the Mechanisms of Biosynthetic Proteins

BONES & TEETH
KIMBALL UNION ACADEMY
MERIDEN, NH
JULY 4-9, 1999
Gordon J. Strewler, Chair
Gerard Karsenty, Vice-Chair

- The PTH Receptor: Structural Motifs for Hormone Recognition and Signal Transduction
- Differentiation of the Osteoclast
- Signaling in the Osteoclast
- Transcriptional Control of Osteoblast and Chondrocyte Differentiation and Function
- Proteinases in Cartilage and Bone
- Mechanisms of Bone Loss
- Craniofacial Hard Tissue Morphogenesis
- Development of Bone and Cartilage

CALCIUM SIGNALING
NEW ENGLAND COLLEGE
HENNIKER, NH
AUG. 8-13, 1999
Andrew P. Thomas, Chair
Tullio Pozzan, Vice-Chair

- Calcium Sensors and Targets
- Inositol Lipid-Derived Second Messengers
- Structure-Function of Intracellular Calcium Release Channels
- Subcellular Organization of Calcium Signaling
- Calcium Entry Mechanisms
- Intercellular Calcium Signaling
- Calcium in Learning and Memory
- Mitochondria in Calcium Signaling

CANCER: THE CENTRAL PATHWAYS OF TUMORIGENESIS: RB & p53
SALVE REGINA UNIVERSITY
NEWPORT, RI
AUG. 1-6, 1999
Tyler Jacks, Chair
Daniel Haber, Vice-Chair

- Regulation of the G1-S Transition
- Transcriptional Regulation by pRB
- pRB, p107, p130
- p53 Functions
- p53 Regulation
- The Extended p53 Family
- p19ARF and Pathway Interactions
- *in vivo* Models

CARBOHYDRATES
TILTON SCHOOL
TILTON, NH
JUNE 20-25, 1999
Jacques H. van Boom, Chair
Eric J. Toone, Vice-Chair

- New Concepts in the Solution Phase Synthesis of Complex Oligosaccharides
- Recent Advances in the Synthesis of Oligosaccharides on Solid Phase
- Molecular Recognition of Oligosaccharides
- Conformational and Structural Analysis of Complex Oligosaccharides
- Synthesis and Biological Application of Carbohydrate Mimics
- Carbopeptoids and Peptide Mimics
- Sugars as Chiral Synthons

CATALYSIS
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JUNE 20-25, 1999
W. Curtis Conner, Chair
Robert S. Weber, Vice-Chair

- Novel Perspectives in Catalysis
- Polymerization
- Combinatorial Catalysis
- Novel Catalytic Materials
- Catalytic Practice

CATECHOLAMINES
QUEEN'S COLLEGE
OXFORD, UK
JULY 25-30, 1999
Marie-Françoise Chesselet, Chair
Randy Blakely, Vice-Chair

- Addiction and Sensitization: New Perspectives
- Catecholamines and Neurotoxicity: Implications for Parkinson's Disease
- Transporters: New Faces, New Functions
- New Adrenergic Therapeutics
- Molecular Mechanisms of Catecholamine Receptor Regulation
- Roles of Catecholamines in Cognition and Attention: Relevance to Schizophrenia and Other Mental Illness
- Molecular Mechanisms of Catecholaminergic Neurons Differentiation and Survival

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CELL CONTACT & ADHESION
PROCTOR ACADEMY
ANDOVER, NH
JUNE 6-11, 1999
Barry M. Gumbiner, Chair
David Colman, Vice-Chair

- Neuronal Contact and Guidance
- Adhesive Interactions and Synapse Formation

- Mechanisms and Regulation of Adhesion Receptors
- Assembly and Regulation of Cell Junctions
- Signaling by Adhesion Receptors
- Adhesion, Extracellular Matrix and Cancer
- Roles of Cell Interactions in Cell and Tissue Morphogenesis
- Talks Chosen from Abstracts and/or Late Breaking Topics

CELL DEATH
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JUNE 27 - JULY 2, 1999
Douglas R. Green, Chair
David Vaux, Vice-Chair

- Initiating Apoptosis at the Cell Surface
- Initiating Apoptosis via Gene Expression and Cytoplasmic Events
- Control of Apoptosis by Bcl-2 Family Members
- Roles of Mitochondria and Cytochrome C in Cell Death
- Caspases and the Apoptotic Executioner
- Execution: Key Substrate Activation and Function
- Cell Death Mechanisms in Physiological Context
- The Cellular Response to Stress

CELL PROLIFERATION, MOLECULAR & GENETIC BASIS OF
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JULY 4-9, 1999
Helen Piwnica-Worms, Chair
Benjamin G. Neel, Vice-Chair

- Signal Transduction I, II
- Transcription
- Cell Cycle Regulation
- Checkpoints & Cancer
- Extracellular Matrix in Signaling
- Cell Signaling in Development
- Cell Signaling in Apoptosis

CELLULASES & CELLULOSOMES (NEW)
PROCTOR ACADEMY
ANDOVER, NH
JULY 25-30, 1999
Edward A. Bayer &
David B. Wilson, Co-Chairs

- Cellulose: The Substrate
- Free Cellulases Versus Cellulosomes
- The Modular Structure of Cellulases and Cellulosomes
- Structure of Catalytic Domains
- Mechanisms and Modeling
- Structures and Functions of Accessory Domains
- Multi-Enzyme Systems
- Applications of Cellulases, Cellulosomes and Their Components
- Microbial Cellulase Systems: Free Cellulases and/or Cellulosomes?
- After-Banquet Speeches

CERAMICS, SOLID STATE STUDIES IN
KIMBALL UNION ACADEMY
MERIDEN, NH
AUG. 1-6, 1999
Dawn Bonnell, &
W. Craig Carter, Co-Chairs
Gregory Rohrer, Vice-Chair

- Panel Discussion: "Future Directions of Research and Technological Applications: Realism vs. Idealism"
- Ceramics at the Biological Interface
- Nanometer Scale Perturbations at Interfaces
- Debate: "Rigor versus Practicality: Theoretical Progress, Materials Design, Computation and Real Ceramics"
- Local Chemisty and its Consequences at Interfaces
- Integrating Ceramic Structures in Electronic Devices
- Exploiting Near-Field Effects and Ceramics in Optical Devices

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CHEMICAL OCEANOGRAPHY
KIMBALL UNION ACADEMY
MERIDEN, NH
AUG. 8-13, 1999
Bjorn Sundby, Chair
Steve Emerson, Vice-Chair

- How Can We Improve Constraints on Air-Sea CO_2 Fluxes?
- Early Diagenetic Processes I,II
- Diagenetic Modeling: An Evolving Endeavor
- Diagenesis and Evolution
- Biogenic Carbonate Chemistry and Ocean Records
- Imaging Surface Reactions and Properties
- Tracers in Paleoceanography
- The Present is the Key to the Future: Directions in Chemical Oceanographic Research

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CHEMISTRY OF ELECTRONIC MATERIALS
NEW ENGLAND COLLEGE
HENNIKER, NH
JULY 4-9, 1999
Horia Metiu &
William S. Rees, Jr., Co-Chairs
Wayne Gladfelter &
Joe Jasinski, Co-Vice-Chairs

- Over the Horizon with Blue Optoelectronics
- Chemistry of Organic Optoelectronic Materials
- Nanoelectronics + Nanomagnetics =?= Quantum Computing
- Chemistry of Low-K Dielectric Materials
- Bioelectronic Materials: Lessons From Nature
- Insight into the Chemistry and Physics of Etching
- Organic Reactions on Silicon Surfaces
- Structural Modeling of Chemical Processes for Electronic Materials
- Synthetic Frontiers: Combinatorial, or Not?

CHEMOTHERAPY OF EXPERIMENTAL & CLINICAL CANCER
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JULY 11-16, 1999
Neil W. Gibson, Chair
Annette K. Larsen, Vice-Chair

- Oncogene Signalling and Inhibitors
- Tumor Targeting
- Inhibitors of Angiogenesis
- Cell Cycle
- Lipid Regulated Signaling
- Chemoprevention
- Novel Cancer Targets
- DNA Damage Response Pathways

CLUSTERS, NANOCRYSTALS & NANOSTRUCTURES
CONNECTICUT COLLEGE
NEW LONDON, CT
JULY 24-29, 1999
Jim Heath, Chair
Paul Alivisatos, Vice-Chair

- Single-Nanocrystal Electronics
- Group IV Nanomaterials
- Chemical Preparation of Nano-Scale Materials
- Spectroscopy of Nanostructures
- Growth and Spectroscopy of Nanostructures on Surfaces
- Magnetic Nanostructures, and Others

CO_2 FIXATION & METABOLISM IN GREEN PLANTS
QUEEN'S COLLEGE
OXFORD, UK
SEPT. 12-17, 1999
Hans J. Bohnert, Chair
Raymond Chollet &
Christine Foyer, Co-Vice-Chairs

- CO_2-Assimilating Enzymes
- Regulation of CO_2-Assimilating Enzymes
- Whole Plant Photosynthesis, Partitioning & Feedback
- CAM - Rhythms, Pools, Metabolism and Genes
- Signal Transduction & Consequences
- CO_2-Concentrating Mechanisms
- Oxidative Metabolism
- Transporters Galore

COASTAL OCEAN MODELING (NEW)
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JUNE 20-25, 1999
Christopher N. K. Mooers, Chair
Daniel R. Lynch, Vice-Chair

- Gulf of Maine
- East Coasts
- Coastal Ecosystems
- West Coasts
- Polar/Ice Shelves
- Gulf of Mexico
- Coastal Wind-Wave-Current Coupling
- Coastal Data Assimilation
- Southern California Bight

COATINGS & FILMS
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JULY 11-16, 1999
Robert F. Brady Jr., Chair
Rose Ryntz, Vice-Chair

- Physical Properties
- New Chemistry of Polyurethane Resins
- Powder Coatings
- Coatings to Resist Adhesion
- Innovative Analytical Methods
- Water-Borne and High Solids Coatings
- Unconventional Coatings
- Coatings to Prevent Corrosion
- Coatings for the Future

COLLAGEN
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JULY 25-30, 1999
Gerard Karsenty, Chair
Kari Kivirikko, Vice-Chair

- Collagen and Other Extracellular Matrix Proteins and Regulation During Development
- Cell-Matrix Interaction
- Signal Transduction in Extracellular Matrix
- Regulation of Expression of Collagen and Other Extracellular Matrix Genes
- Other Extracellular Matrix Proteins
- Molecular Assembly of Collagens
- Genetic Studies of the Function of the Collagen and Extracellular Matrix Proteins I, II

COMBINATORIAL CHEMISTRY (NEW)
TILTON SCHOOL
TILTON, NH
JULY 4-9, 1999
Anthony W. Czarnik &
Hervé Bouchard, Co-Chairs

- Combinatorial Organic Synthesis I, II, III
- Combinatorial Biology
- Materials Discovery
- Catalyst Discovery
- Solid-Phase Sciences
- New Combinatorial Applications

COMPARATIVE HEMATOPOIESIS (NEW)
TILTON SCHOOL
TILTON, NH
AUG. 8-13, 1999
Milton J. Becker &
Jerry J. Kaneko, Co-Chairs

- Introduction
- Stem Cells I, II
- Erythropoiesis (EPO) I, II
- Leukopoiesis I, II

- Thrombopoiesis (TPO) I, II

CONDENSED MATTER PHYSICS
CONNECTICUT COLLEGE
NEW LONDON, CT
JUNE 12-17, 1999
David G. Grier, Chair
Terence Hwa, Vice-Chair

- Quantum Phase Transitions
- Electrons in Confining Systems
- Nanowires and Self-Assembled Structures
- Classical Phase Transitions
- Vortex Matter
- Jamming Systems
- Multicomponent Complex Fluid Systems
- Polyelectrolytes and Biopolymers
- Self-Assembled Biomechanical Systems

CORROSION - DRY
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JULY 18-23, 1999
Michael Schütze, Chair
Peggy Hou, Vice-Chair

- High Temperature Corrosion Under Highly Aggressive Conditions
- The Role of Stresses in Oxidation
- The Role of Subsurface Zone Depletion
- Thermal Barrier Coatings
- Corrosion of Carbon/Carbon Composites
- Surprising Effects in Oxidation
- The Water Vapor Effect
- Oxidation as a Production Tool
- The Past and the Future of High Temperature Corrosion Research

CYCLIC NUCLEOTIDE PHOSPHODIESTERASES (NEW)
WATERVILLE VALLEY RESORT *
WATERVILLE VALLEY, NH
JUNE 12-17, 1999
Vincent C. Manganiello, Chair
Marco Conti &
Miles D. Houslay, Co-Vice-Chairs

- Novel PDE Genes/PDEs in "Lower" Organisms
- Structure-Function Studies/ Regulation of Gene Expression
- The Role of Anchoring Proteins and Molecular Scaffolds in Regulation of Intracellular Signaling and Phosphorylation Cascades
- Mechanisms Involved in Intracellular Localization of PDEs and Compartmentalization of Cyclic Nucleotide Signals
- Signaling Pathways that Regulate PDE Activity and Function
- From Bench to Bedside: PDE Inhibitors as Therapeutic Agents in Human Subjects and Animal Models
- Physiological Processes Regulated by Distinct PDEs
- Integration of Different Second Messengers and PDEs in Cellular Regulation

DEVELOPMENTAL BIOLOGY
PROCTOR ACADEMY
ANDOVER, NH
JUNE 20-25, 1999
Barbara Meyer &
Liz Robertson, Co-Chairs
Ruth Lehmann & Eric Olson, Co-Vice-Chairs

- Early Patterning
- Signalling
- Guidance and Migration
- Cell Specification and Communication
- Germline
- Behavior and Aging
- Chromosome-wide Gene Expression During Development
- Evolution and Development
- Organogenesis

DRUG METABOLISM
HOLDERNESS SCHOOL
PLYMOUTH, NH
JULY 4-9, 1999
Steve Wrighton, Chair
Brian Burchell, Vice-Chair

- Complexities of the Intestinal First-Pass Effect
- Regulation of Cytochromes P450 2B and 3A
- Genetic Variation of Drug Conjugation
- Novel Aspects of Pharmacogenetics
- New Technologies and Approaches for Drug Metabolism in Drug Discovery
- Gender and Pediatric Differences in Drug Metabolism
- Activities and Regulation of the CYP4A Subfamily
- Advances in Bioanalytical Techniques

DYNAMICS AT SURFACES
PROCTOR ACADEMY
ANDOVER, NH
AUG. 8-13, 1999
Aart W. Kleyn, Chair
Bruce Kay, Vice-Chair

- Adsorption-Desorption
- Adsorbate Vibrations
- Atmospheric Surface Science
- Charge Transfer
- Diffusion and Growth
- Gas-Surface Scattering
- Liquid Surfaces
- Nano-Scale Studies and Manipulation
- Nano-Tribology
- Photo-Dynamics and Chemistry
- Surface Reactions and Catalysis

DYNAMICS OF SIMPLE SYSTEMS IN CHEMISTRY & PHYSICS
SALVE REGINA UNIVERSITY
NEWPORT, RI
JULY 11-16, 1999
Colston Chandler, Chair
Paul Julienne, Vice-Chair

- Experimental Frontiers of Few-Body Physics
- Ultracold Phenomena
- Three-Body Problem I, II
- Foundations of Quantum Mechanics
- Few-Body Approaches to Hadron Structure
- Few-Body Relativistic Theories
- Beyond the Standard Three-Body Problem
- Next Frontiers

ELASTIN & ELASTIC FIBERS
KIMBALL UNION ACADEMY
MERIDEN, NH
JULY 18-23, 1999
Francesco Ramirez, Chair
Lynn Sakai, Vice-Chair

- Elastogenesis, Morphogenesis and Growth
- Proteases and Proteolytic Processes
- Growth Factors and Elastic Tissues
- Molecular Interactions
- Structure and New Microfibrillar Components
- Cellular Interactions
- Gene Expression
- Human and Mouse Models of Elastic Fiber Diseases
- Emerging Topics in Elastin and Elastic Fibers Research

ELASTOMERS
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JULY 18-23, 1999
C. Michael Roland, Chair
Georg Böhm, Vice-Chair

http://chemdiv-www.nrl.navy.mil/6120/grc/index.html

- Gels and Nanostructures
- Blends, Block Copolymers and Thermoplastic Elastomers
- Synthesis and Vulcanization
- Adhesion and Friction
- Strength, Fatigue Mechanics and Life Prediction
- Modeling

ENERGETIC MATERIALS
QUEEN'S COLLEGE
OXFORD, UK
JULY 18-23, 1999
Peter J. Haskins, Chair
Richard Behrens, Vice-Chair

- Overviews and Suggested Future Directions for Energetic Materials Research
- Experimental Detonics
- Detonation Theory and Modelling I, II
- Molecular Modelling of Energetic Materials
- Spectroscopy of Decomposition Processes
- Synthesis of New Energetic Materials
- Combustion Modelling
- Microstructural Effects and Initiation

ENZYMES, COENZYMES, & METABOLIC PATHWAYS
KIMBALL UNION ACADEMY
MERIDEN, NH
JULY 11-16, 1999
Dan Herschlag &
Charles B. Grissom, Co-Chairs
Hung-Wen Liu &
Chris P. Whitman, Co-Vice-Chairs

- Metabolic Pathways in the Post-Genome Era
- Enzyme Inhibition and Disease Processes I, II
- Nucleic Acid Enzymology
- Metals, Models & Mechanisms
- Mechanisms of Complex Enzymatic Systems
- Enzyme Mechanisms
- Frontiers of Enzymology

EPIGENETICS
HOLDERNESS SCHOOL
PLYMOUTH, NH
AUG. 8-13, 1999
Jean Finnegan &
Amar Klar, Co-Chairs
Denise Barlow &
Eric U. Selker, Co-Vice-Chairs

- Epigenetic Effects/Inheritance I, II
- Epigenetics in Fungi
- Imprinting
- DNA Methylation and Epigenetics
- Chromatin and Epigenetics
- Mechanisms I, II, II

EPITHILIAL DIFFERENTIATION & KERATINIZATION
TILTON SCHOOL
TILTON, NH
JULY 18-23, 1999
Fiona M. Watt, Chair
Elaine Fuchs, Vice-Chair

- Transcriptional Regulators in Epithelia
- Lessons from Drosophila
- Issues Rising I: Experimental Models of Skin Disease
- Internal Epithelia
- Issues Rising II: Gene Therapy
- The Cornified Envelope
- Hair, Nails and Teeth
- Control of Epithelial Growth and Differentiation
- Issues Rising III: Pre-Millennial Tension: Where Do We Go from Here?

EXCITATORY AMINO ACIDS & BRAIN FUNCTION
PLYMOUTH STATE COLLEGE
PLYMOUTH, NH
JUNE 27 - JULY 2, 1999
Darrell W. Brann, Chair
Peter Seeburg, Vice-Chair

- Ultrastructure & Organization of EAA Receptors
- Synaptic Targeting/Organization of EAA Receptors
- Genetic Approaches to EAA Functions
- Physiology of EAAs and EAA Receptors
- EAAs and Synaptic Plasticity
- Transporters/Excitotoxicity
- EAAs and Excitotoxicity/ Pathophysiology

FERTILIZATION & ACTIVATION OF DEVELOPMENT
HOLDERNESS SCHOOL
PLYMOUTH, NH
JULY 25-30, 1999
Diana G. Myles, Chair
Harvey M. Florman, Vice-Chair

- Sperm-Zona Pellucida Interactions
- Sperm Capacitation and the Acrosome Reaction
- Genetic Approaches to Fertilization
- Sperm-Egg Plasma Membrane Binding and Fusion
- Sperm-Derived Components of Egg Activation and Embryo Development
- Early Events of Egg Activation
- Cell Cycle Events During Egg Maturation and after Fertilization

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FIBER SCIENCE
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JULY 4-9, 1999
Peter Schwartz, Chair
John W. Hearle, Vice-Chair

- Protective Fabrics
- Structure-Property Relationships
- Chaotic Mixing
- Surface Chemistry I, II
- Modeling and Characterization I, II
- Mechanics
- Archeological Restoration
- Archeological Textiles

FLORAL SCENT, BIOLOGY & CHEMISTRY OF (NEW)
QUEEN'S COLLEGE
OXFORD, UK
SEPT. 5-10, 1999
L. Gunnar Bergström &
Robert Raguso, Co-Chairs
Heidi Dobson &
Jette Knudsen, Co-Vice-Chairs

- Floral Scent Research: a New Synthesis of Approaches
- Chemical Analysis: Novel Methods
- Genetics and Biosynthesis of Floral Scent
- Physiology and Anatomy of Floral Scent Emission
- Alternative Functions for Floral Scent
- Floral Scent, Pollination Ecology and Systematics
- Animal Olfactory Physiology and Sensory Integration
- Animal Behavioral Responses to Floral Scent
- Evolution of Mimicry, Deception and Scent-Driven Mutualisms

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FORESTED CATCHMENTS, HYDROLOGICAL/GEOLOGICAL/ BIOLOGICAL PROCESSES OF
PROCTOR ACADEMY
ANDOVER, NH
JULY 18-23, 1999
Sherry Schiff &
Nico Van Breemen, Co-Chairs
Gary Lovett, Vice-Chair

- 10 years of Catchment Science: What Progress in Predictive Ability?
- Stumbling Blocks and Opportunities in Predictive Power
- How to Improve our Predictive Ability?
- Advances in Field and Modelling Techniques
- What Can We Learn from Very Different Environments?

FREE RADICAL REACTIONS
HOLDERNESS SCHOOL
PLYMOUTH, NH
JULY 11-16, 1999
Dennis P. Curran, Chair
Marc Greenburg, Vice-Chair

- Biology I, II
- Synthesis I, II
- Kinetics and Mechanisms I, II
- Biradicals and Radical Ions
- Radical Reactions I, II

FUEL CELLS (NEW)
PLYMOUTH STATE COLLEGE
PLYMOUTH, NH
JUNE 27 - JULY 2, 1999
Shimshon Gottesfeld &
Mordecai Shelef, Co-Chairs

- Fuel Generation from Renewable Resources
- Electrocatalysis
- Electrocatalysis & Direct Methanol Fuel Cells
- The Ionomeric Membrane
- Membrane/Electrode Assemblies & Cells
- Solid Oxide Fuel Cells
- Fuel Processing: Liquid Fuels to Hydrogen
- The Fuel Cell Stack and Power System

GENETIC TOXICOLOGY
QUEEN'S COLLEGE
OXFORD, UK
AUG. 1-6, 1999
Leona D. Samson, Chair
Thomas A. Kunkel, Vice-Chair

- Historical and Current Perspectives
- Protein: DNA Interactions Influencing Genotoxicity
- Interaction of MMR with DNA Base Lesions
- Transcription Coupled BER and NER
- DNA Recombination and Genomic Stability
- Meiosis: Crossover Between Basic Biology and Risk Evaluation
- Inducible Responses and Signal Transduction
- Genome Alterations: Adducts and Mutations
- Genetic Susceptibility and Molecular Epidemiology

GRAVITATIONAL EFFECTS IN PHYSICO-CHEMICAL SYSTEMS
NEW ENGLAND COLLEGE
HENNIKER, NH
JUNE 27 - JULY 2, 1999
Robert F. Sekerka, Chair
Paul H. Steen, Vice-Chair

- Phase Separation and Casting in Low Gravity
- Dendritic Growth: Theory, Experiment and Computation
- Emerging Products of a Low Gravity Environment; Atomic Clocks and Protein Crystals
- Convection in the Presence of Magnetic Fields
- Diffusity Measurements in Liquids
- Drops, Bubbles and Interfacial Phenomena
- Dynamics and Behavior of Complex Fluids
- Dynamics of Granular Materials

GREEN CHEMISTRY
QUEEN'S COLLEGE
OXFORD, UK
JULY 11-16, 1999
James Clark &
Roger A. Sheldon, Co-Chairs

- Catalysis (Homogeneous, Heterogeneous and Biological)
- New Reaction Media
- Cleaner Synthesis and Processing
- Novel Reactor Technology and Screening Methods
- Environmentally Friendly Materials

HETEROCYCLIC COMPOUNDS
SALVE REGINA UNIVERSITY
NEWPORT, RI
JUNE 27 - JULY 2, 1999
Joe Konopelski, Chair
Paul Feldman, Vice-Chair

http://www.chemistry.ucsc.edu/conference/heterocyclic/index.html

- Discovery and Synthesis of Heterocycle-Based Drugs
- Methodology for the Synthesis of Heterocyclic Compounds
- Heterocyclic Natural Product Synthesis
- Biologically Interesting Heterocycles
- Fundamental Processes in Heterocyclic Chemistry

HORMONAL CARCINOGENESIS
TILTON SCHOOL
TILTON, NH
AUGUST 1-6, 1999
Shuk-Mei Ho, Chair
Michael Gallo, Vice-Chair

- Estrogen Receptor-b: Structure and Function
- Promise and Reality of Chemoprevention
- Molecular Basis of Cancer Risks and Susceptibility
- Hormone Induced Genetic and Epigenetic Alterations
- Molecular Mediators of Steroid Hormone Actions
- Environmental Impacts on Carcinogenesis and Cancer Susceptibility
- Hormonal Regulation of Cell Cycle Checkpoints and Death Signaling
- Hormonal Regulation of Tumor Angiogenesis
- Modeling Systems for Hormone-Dependent Cancers
- Role of Estrogen Catechol Metabolites in Estrogen Carcinogenesis

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HORMONE ACTION
KIMBALL UNION ACADEMY
MERIDEN, NH
JULY 25-30, 1999
Holly Ingraham, Chair
Gary Firestone, Vice-Chair

- Hormone and Growth Factor Signaling in Development
- Specificity in Hormone Signaling Pathways
- Technical Advances in the Discovery of Peptides and Receptors
- Models Systems Linking Hormones and Behavior
- Transcriptional Control by Nuclear Receptors
- *in vivo* Models for Probing Steroid Actions
- New Insights into Orphan Nuclear Receptor Function
- Novel Ligands and Cofactors in Nuclear Receptor Function

HUMAN MOLECULAR GENETICS
SALVE REGINA UNIVERSITY
NEWPORT, RI
AUGUST 8-13, 1999
Uta Francke, Chair
Edward Rubin, Vice-Chair

- Molecular Cytogenetics
- Genomics and Disease
- Cardiovascular Genetics
- Developmental Pathways, Malformations and Cancer
- Neurogenetics

HYDROGEN-METAL SYSTEMS
NEW ENGLAND COLLEGE
HENNIKER, NH
JULY 18-23, 1999
Michele Gupta &
Arnulf J. Maeland, Co-Chairs
Mei-Yin Chou &
Peter Vajda, Co-Vice-Chairs

- Neutron Scattering Studies I, II
- Hydride Formation Kinetics
- Battery Related Studies
- Hydrogen in Multilayers
- Vacancies Formation Under High Hydrogen Pressure
- Phenomena Related to Metal - Insulator Transition in Rare-Earth Hydrides
- Hydrogen Site Occupancy and Dynamics
- Hydrogen in Complex Hydrides and Novel Materials

ILLICIT SUBSTANCE DETECTION - ILLEGAL DRUGS
SALVE REGINA UNIVERSITY
NEWPORT, RI
AUG. 8-13, 1999
Ray Mintz & John Pennella, Co-Chairs
Lyle Malotky, Vice-Chair

- Policy, Funding and Deployment Issues
- Trace Detection Technologies I, II
- Canine Detection Research
- X-Ray Technology Improvements
- Nuclear Technologies
- Other Emerging Technologies I, II

INNOVATIONS IN COLLEGE CHEMISTRY TEACHING
CONNECTICUT COLLEGE
NEW LONDON, CT
JUNE 19-24, 1999
Barbara A. Sawrey, Chair
Robert L. Lichter, Vice-Chair

- What Have We Learned About Learning?
- Assessment of Teaching and Learning
- Chemical Education Research
- Learning From Our Neighbors: Physics and Mathematics Education Research
- A View From the Lab
- Preparing the Next Generation of Chemistry Teachers and Professors
- Distance Learning and Multimedia: Is This Our Future?

INORGANIC CHEMISTRY
SALVE REGINA UNIVERSITY
NEWPORT, RI
JULY 18-23, 1999
Kim R. Dunbar, Chair
Nadine De Vries, Vice-Chair

- Bioinorganic Chemistry
- Catalysis and Small Molecule Activation
- Clusters and Materials
- Coordination Chemistry
- Magnetochemistry
- Organometallic and Main-Group Chemistry
- Photochemistry and Electronic Properties
- Solid-State Chemistry

ION-CONTAINING POLYMERS
SALVE REGINA UNIVERSITY
NEWPORT, RI
JUNE 20-25, 1999
Robert Prud'homme &
William Risen, Co-Chairs
Ray Farinato &
Michel Pineri, Co-Vice-Chairs

- Ionomers; Synthesis, Morphology, Membranes
- Polyelectrolytes and Charged Proteins
- Ion-Containing Polymeric Gels and Absorbent Materials
- Ion-Containing Polymers; Bio-Medical Applications
- Ion-Containing Polymers; Films, Interfaces, Novel Assemblies
- Tutorial on Polyelectrolytes

LIQUID CRYSTALS
TILTON SCHOOL
TILTON, NH
JUNE 6-11, 1999
David Walba, Chair
Tom Lubensky, Vice-Chair

- Achiral Polar Smectics I, II
- Interfaces and Alignment
- LCs and Photochemistry
- LC Polymers
- Novel LC Design and Applications
- Freely-Suspended Systems
- Chiral Ferro/Antiferroelectrics
- LCs in Biosciences

LIQUIDS, CHEMISTRY & PHYSICS OF
HOLDERNESS SCHOOL
PLYMOUTH, NH
AUG. 1-6, 1999
Michael L. Klein, Chair
Norbert Scherer, Vice-Chair

- Fluids Under Extreme Conditions
- Quenched Systems
- Complex Fluids/Colloids
- Molecular Liquids/ Dynamical Effects
- Hydrophobic Effect/Wetting-Dewetting
- Liquid Surfaces/ Theory vs. Experiment
- First Principles/Studies on Liquids
- Non-Uniform Fluids
- Reaction Dynamics and Spectroscopy

MAGNETIC RESONANCE
NEW ENGLAND COLLEGE
HENNIKER, NH
JUNE 27 - JULY 2, 1999
Regitze R. Vold, Chair
Robert Tycko, Vice-Chair

- New Techniques: Solids & Liquids
- Nuclear Spins in Quantum Computing
- New Techniques in Solid State NMR I, II
- New Developments in MRI
- EPR in Biology
- High-Field EPR
- High-Resolution NMR for Biopolymers
- Spin Calisthenics
- New Applications of Pumping Techniques

MAMMARY GLAND BIOLOGY
NEW ENGLAND COLLEGE
HENNIKER, NH
JUNE 6-11, 1999
Margaret Neville, Chair
Charles Daniel, Vice-Chair

- Overviews: Setting the Stage
- Estrogen and Mammary Development
- Receptor Mechanisms in Steroid Hormone Action
- Sex Steroids in Mammary Development and Tumorigenesis
- Milk Synthesis and Secretion
- Specific Role of the Stroma in Mammary Development and Tumorigenesis
- The Comparative Biology of Lactation
- Growth Factors

MATERIALS PROCESSES FAR FROM EQUILIBRIUM
PLYMOUTH STATE COLLEGE
PLYMOUTH, NH
JULY 11-16, 1999
Tomas Diaz de la Rubia, Chair
Harry Atwater, Vice-Chair

- Fracture and Deformation in Crystalline and Amorphous Materials
- Beam-Induced Plastic Deformation, Instabilities, and Flow Localization
- Shock-Induced Plasticity and Deformation
- Silicon Implantation and Dopant Diffusion: Theory, Simulation and Experiments
- Hyperthermal Beam Effects on Film Growth: Theory, Simulation and Experiments
- Ion Beam Induced Nanocrytals/ Fracture/Smart Cut
- Laser-Surface Interaction/Ablation

MATRIX ISOLATED SPECIES, PHYSICS & CHEMISTRY OF
PLYMOUTH STATE COLLEGE
PLYMOUTH, NH
JULY 11-16, 1999
Bruce Ault, Chair
Martin Vala, Vice-Chair

http://knut.rvs.uc.edu/ault/meeting.html

- Studies of Reactive Intermediates
- Dynamical Processes in Matrices
- Theoretical Calculations
- Quantum (H_2 and He) Matrices
- Matrix Structure Studies
- Organic Intermediate Species
- Studies in Novel Matrices
- Complementary Studies
- Perspectives on Matrix Isolation

MATRIX METALLOPROTEINASES
COLBY-SAWYER COLLEGE
NEW LONDON, NH
AUG. 8-13, 1999
Gillian Murphy, Chair
Henning Birkedal-Hansen, Vice-Chair

- Metalloproteinase and TIMP Structure and Function
- Cellular Regulation
- Gene Regulation
- Cellular Function
- Astacins
- ADAMs
- Matrix Metalloproteinases in Development
- Matrix Metalloproteinases in Disease

MECHANISMS OF CELL SIGNALING: G-PROTEINS (NEW)
YWCA FORT CANNING LODGE
SINGAPORE
SEPT. 5-10, 1999
Louis Lim, Chair
Edward Manser, Vice-Chair

- Signaling via Heterotrimeric G-Proteins
- Regulators of Heterotrimeric G-Proteins
- Ras & Ran
- Rho, Rac & Cdc42
- GTP-Binding Proteins in Protein Trafficking

MECHANISMS OF MEMBRANE TRANSPORT
HOLDERNESS SCHOOL
PLYMOUTH, NH
JUNE 20-25, 1999
Jack H. Kaplan, Chair
Donald Hilgemann, Vice-Chair

- Approaches to Membrane Protein Structure
- Transmembrane Helix Stability and Movements
- Channel Structure and Function
- Novel Methods for Transport Protein Characterization
- ATPases
- Regulation of Membrane Transporters
- Properties of Transport Proteins

MEDICINAL CHEMISTRY
COLBY-SAWYER COLLEGE
NEW LONDON, NH
AUG. 1-6, 1999
William Michne, Chair
Graham Johnson, Vice-Chair

- Chemokine Receptor Antagonists
- New Opportunities in the Modulation of Lipids and the Treatment of Atherosclerosis
- Intervention of Cell Cycle Regulation
- Caspase Inhibitors
- Leukocyte Cell Adhesion
- Alpha-1 Adrenergic Antagonists
- Oral Bioavailability
- Special Topics

METAMORPHOSIS (NEW)
CONNECTICUT COLLEGE
NEW LONDON, CT
JULY 10-15, 1999
Lynn M. Riddiford &
Peter T. Cherbas, Co-Chairs

- Hormonal Regulation of Metamorphosis
- Gene Activation and Repression
- Hormonal Receptors and Gene Regulation
- Transcription Factor Cascades
- Evolution of Metamorphosis
- Cellular Specification and Differentiation During Metamorphosis: Invertebrates
- Cellular Alterations During Metamorphosis: Amphibians
- Cell Death During Metamorphosis

MICROBIAL POPULATION BIOLOGY
PLYMOUTH STATE COLLEGE
PLYMOUTH, NH
JULY 18-23, 1999
Howard Ochman, Chair
Richard Moxon, Vice-Chair

- Bacteria as Multicellular Organisms
- Host-Microbe Interactions
- Environmental Microbiology
- Long-Term and Experimental Evolution
- Viral Evolution
- Adaptation and Selection
- Comparative and Functional Genomics
- Genome Dynamics and Organelle Evolution
- Plenary Lecture - Microbial Diversity

MOLECULAR & CELLULAR BIOLOGY OF LIPIDS
KIMBALL UNION ACADEMY
MERIDEN, NH
JUNE 27 - JULY 2, 1999
William Dowhan, Chair
Charles Rock, Vice-Chair

- Biochemistry and Genetics of Lipid A Formation
- Vesicle Trafficking and Lipid Transfer Proteins
- Lipids as Signaling Molecules
- Lipid Movement and Translocation
- Genetics and Biochemistry of Sterol Metabolism
- Genetics and Biochemistry of Lipid Metabolism in Somatic Cells
- Genetics and Biochemistry of Lipid Metabolism in Microorganisms
- Protein-Lipid Interactions
- Fatty Acid and Triacylglycerol Metabolism

MOLECULAR CELL BIOLOGY
TILTON SCHOOL
TILTON, NH
JUNE 13-18, 1999
Elaine Fuchs, Chair
Peter Walter, Vice-Chair

- Cell Cycle
- Cell Polarity
- Cell Movement and Migration
- Integrins and Extracellular Matrix
- Cell Biology and Disease
- Cell Death and Life
- Intracellular Transport
- Cell Biology of the Immune System
- Chemistry and Cell Biology

MOLECULAR EVOLUTION
HAYAMA, JAPAN
OCT. 24-29, 1999
Andrew G. Clark &
Naoyuki Takahata, Co-Chairs
Margaret Riley, Vice-Chair

- Molecular Evolution of Infectious Disease
- Adaptive Evolution and Its Molecular Basis
- Theory of Molecular Population Genetics
- Development and Evolution
- Experimental Evolution
- Genomic Evolution in Higher Organisms
- Plant Molecular Evolution
- Human Molecular Variation
- Immunity and Defense Systems

MOLECULAR MECHANISMS OF MICROBIAL ADHESION
SALVE REGINA UNIVERSITY
NEWPORT, RI
AUG. 1-6, 1999
Guy Cornelis &
Scott Hultgren, Co-Chairs
J. Allan Downie &
Brett Finlay, Co-Vice-Chairs

- Bacterial Secretion of Virulence Factors
- Translocation of Virulence Factors Into Eukaryotic Cells
- Intracellular Action of Translocated Virulence Factors
- Pathogen-Induced Apoptosis
- Structural Basis of Organelle Biogenesis in Microbes
- Molecular Cross Talk and Environmental Sensing
- Pathogen Attachment and Infection I, II

MOLECULAR MEMBRANE BIOLOGY
PROCTOR ACADEMY
ANDOVER, NH
JULY 4-9, 1999
Tom Rapoport, Chair
Peter Novick, Vice-Chair

- Protein Transport Into Organelles
- Structure of Membrane Proteins
- Signalling From the Endoplasmic Reticulum (ER)
- ER to Golgi Transport
- Budding and Fusion of Vesicles
- Assembly of the Golgi
- Endosomes and Vacuoles
- Autophagy
- Endo- and Exo-cytosis

MOLTEN SALTS & LIQUID METALS
NEW ENGLAND COLLEGE
HENNIKER, NH
JULY 25-30, 1999
David L. Price, Chair
Murray H. Brooker, Vice-Chair

- Room-Temperature Salts
- Deposition From Molten Salts
- Molten Fluorides
- Molten Oxides and Carbonates
- Binary Molten Salts
- Salt-in-Polymer Solutions
- Liquid Semiconductors
- Interactions in Liquid Metals
- Clustering in Liquid Metals
- Levitated High-Temperature Liquids

MOLYBDENUM & TUNGSTEN ENZYMES (NEW)
PLYMOUTH STATE COLLEGE
PLYMOUTH, NH
JULY 4-9, 1999
Edward I. Stiefel & Russ Hille, Co-Chairs

- Overview Session: Chemistry, Enzyme Structure and Microbiology/Molecular Biology
- X-Ray Crystallography and EXAFS
- Pterin Cofactor Biosynthesis and Properties
- Biochemistry and Molecular Biology
- Spectroscopy and Theory
- Model Systems
- New Tungsten and Molybdenum Enzymes
- Enzymology
- Late-Breaking Areas and Future Directions

MUSCLE: CONTRACTILE PROTEINS
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JUNE 6-11, 1999
Sarah Hitchcock-DeGregori, Chair
David Warshaw, Vice-Chair

- Myosin and Kinesin: High Resolution Structures and Mechanism
- Single Molecule Studies of Myosin and Other Motors
- Myosin, Kinesin and Other Motors: What Can We Learn From Each Other?
- Thin Filament Regulation: Structure
- Thin Filament Activation: From Molecules to Fibers
- Actin Filament Dynamics
- Muscle Fiber Studies: The Intact Actomyosin System
- Analysis of Engineered Proteins in Living Fibers and Cells
- Muscle at the New Millenium

MYCOTOXINS & PHYCOTOXINS
PLYMOUTH STATE COLLEGE
PLYMOUTH, NH
JUNE 20-25, 1999
John Ramsdell & Mark Poli, Co-Chairs
Marian Beremand, Vice-Chair

- Re-Emerging Toxicoses and Unusual Mortality Events
- Large Scale Epidemiology and Regional Studies
- Biological and Genetic Control Measures
- Physical Control Measures
- Genetics and Molecular Biology of Toxin Production
- New Developments in Detection of Organisms and Toxins
- Toxin Chemistry and Analysis
- *in vivo* and *in situ* Toxicology

NATURAL PRODUCTS
NEW ENGLAND COLLEGE
HENNIKER, NH
JULY 25 - 30, 1999
George F. Majetich, Chair
Robert Webb, Vice-Chair

- Bioorganic / Medicinal Chemistry
- Natural Products Chemistry: A Historical Perspective
- Natural Products Isolation, Structure Elucidation and Mode of Action
- Natural Product Synthesis
- Synthetic Methods and Strategies

NEURAL PLASTICITY
SALVE REGINA UNIVERSITY
NEWPORT, RI
JULY 18-23, 1999
Lawrence C. Katz, Chair
Erin Schuman, Vice-Chair

- Dendritic Protein Synthesis and Synaptic Assembly
- Dendritic Computation
- Structural Dendritic Plasticity
- Neuronal Assemblies and Coding I, II
- Formation and Plasticity of Functional Maps in the CNS I, II
- Neurobiology of Emotions and Learning
- Functional Plasticity in the Human Brain

NEUROETHOLOGY: BEHAVIOR, EVOLUTION & NEUROBIOLOGY (NEW)
QUEEN'S COLLEGE
OXFORD, UK
AUG. 29 - SEPT. 3, 1999
John Hildebrand, Chair
Harvey J. Karten &
Harold Zakon, Co-Vice-Chairs

- Evolution: Historical and Contemporary Views
- Evolution of Neural Systems and Behavior
- Animal Communication
- Audition and Auditory Communication
- Spatial Learning and Orientation
- Vision and Motion Detection
- Sensory and Motor Control: From Animals to Robots
- Behavioral States, Arousal, & Disposition to Behavior

NEUROTROPHINS
SALVE REGINA UNIVERSITY
NEWPORT, RI
JUNE 6-11, 1999
Louis F. Reichardt, Chair
Michael Greenberg, Vice-Chair

- Signaling by Trophic Factors
- Trophic Interactions in Development
- Development and Function
- Neurotrophic Factor Roles in Neuronal Function
- Survival and Apoptotic Mechanisms
- Recent Advances/Hot Topics
- Disease, Degeneration and Therapy
- Cytokines and Other Molecules of Interest

NEUROVIROLOGY (NEW)
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JUNE 6-10, 1999
Kamel Khalili, Chair
Eugene O. Major, Vice-Chair

- Neurovirology: An Overview
- HIV-1 Neuropathogenesis
- Latency/Viral Persistency
- Demyelinating Disease and Multiple Sclerosis
- Transmissible Encephalopathies
- Signal Transduction in CNS
- Neurotropic Virus; New Links to CNS Disease
- Molecular and Cellular Therapeutic Strategies for CNS Diseases

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NON-ANTIBIOTIC PROPERTIES OF TETRACYCLINES & OTHER ANTIBIOTICS (NEW)
PROCTOR ACADEMY
ANDOVER, NH
JULY 11-16, 1999
Robert Greenwald, Chair
Mary J. C. Hendrix, Vice-Chair

- Structure-Function
- TC Chemistry
- Effects of TCs on Connective Tissues/Experimental Pathology I, II
- TC Effects on Gene Expression I, II
- Non-Antibiotic Properties of Non-TC Antibiotics
- Effects of TCs on Neoplastic Systems
- Unusual TC-Related Phenomena

NONLINEAR OPTICS & LASERS
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JULY 25-30, 1999
Andrew M. Weiner, Chair
Margaret M. Murname, Vice-Chair

- Ultrafast Optics and Photonics
- Terahertz Radiation and Applications
- Extreme Nonlinear Optics: X-Ray Generation
- Nonlinear Photon and Matter-Wave Optics with Bose-Einstein Condensates
- Microstructured Optical Materials and Devices
- Fiber Lasers and Applications
- Nonlinear Optics in Communications
- Future Applications

NUCLEAR CHEMISTRY
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JUNE 13-18, 1999
I-Yang Lee, Chair
William G. Lynch, Vice-Chair

- Exotic Nuclear Shapes
- Properties of Nuclei with Large Neutron Excess
- Neutron-Proton Pairing Interaction
- Multi-Phonon Vibrational Excitations
- Novel Aspects of Proton Decay
- Properties of Heavy Actinide
- Physics Addressed with Radioactive Beams
- Nuclear Structure Aspects of Astrophysics
- Next Generation of Experimental Facilities

NUCLEAR PHYSICS
SALVE REGINA UNIVERSITY
NEWPORT, RI
JULY 25-30, 1999
Xiangdong Ji, Chair
Wit Busza, Vice-Chair

http://www.wam.umd.edu/~dmcgregg/conference/index.htm

- Strangeness and Form Factors
- Lattice QCD
- Perturbative QCD
- Effective Nuclear Theory and Chiral Dynamics
- Compton Scattering
- Neutrino physics
- Hot QCD and Heavy-Ion
- Heavy-Ion
- Science in the 21st Century

NUCLEIC ACIDS
SALVE REGINA UNIVERSITY
NEWPORT, RI
JULY 4-9, 1999
Jim Maher &
James Williamson, Co-Chairs
Marlene Belfort &
Alan Sachs, Co-Vice-Chairs

- DNA and RNA as Disease-Related Targets
- The Ribosome and Translation
- DNA Synthesis and Repair
- Spectroscopic Applications and Physical Methods
- RNA Transport
- Late-Breaking Developments
- Transcription
- Diversity and Combinatorial Approaches
- RNA and RNA Processing

ORGANIC PHOTOCHEMISTRY
CONNECTICUT COLLEGE
NEW LONDON, CT
JULY 17-22, 1999
Ian R. Gould, Chair
Richard Givens, Vice-Chair

- Mechanistic Photochemistry I, II
- Photochemistry in the Solid State
- Photochemistry in Biochemical Systems
- Photochemistry in Organized Systems
- Photochemistry in Polymeric Systems
- Photochemical Applications of Electron Transfer
- Solar Energy Conversion
- Spectroscopy in Photochemistry

ORGANIC REACTIONS & PROCESSES
NEW ENGLAND COLLEGE
HENNIKER, NH
JULY 11-16, 1999
Terry Rathman, Chair
Michael Harmata, Vice-Chair

- Organometallics to the Rescue as Reagents or Catalysts I, II
- The Challenge of Asymmetric Syntheses I, II
- From the Bench to the Pilot Plant I, II
- Emerging Synthetic Methodologies
- Monitoring Reaction Processes

ORGANIC THIN FILMS
SALVE REGINA UNIVERSITY
NEWPORT, RI
JULY 11-16, 1999
Mary Galvin, Chair
Matthew Tirrell, Vice-Chair

- Biological Surfaces
- Biological Sensors
- Polymeric MEMS
- Organic Thin Film Transistors
- Polymeric Light Emitting Diodes
- Ordered Structures via Polyelectrolyte Self-Assembly
- Characterization Techniques for Thin Films
- Wetting/De-wetting of Polymeric Surfaces
- Polymer Physics of Thin Films

ORGANOMETALLIC CHEMISTRY
SALVE REGINA UNIVERSITY
NEWPORT, RI
JULY 25-30, 1999
Richard Fisher &
Gary Silverman, Co-Chairs
William Jones, Vice-Chair

- Catalysis
- Mechanistic Elucidation
- Polymers and Materials
- Synthesis

ORIGINS OF SOLAR SYSTEMS
NEW ENGLAND COLLEGE
HENNIKER, NH
JUNE 13-18, 1999
Alan P. Boss, Chair
David J. Stevenson, Vice-Chair

- Extrasolar Planet Detection
- Solar System Constraints
- Debris Disks and The Kuiper Belt
- Planet Formation by Collisional Accumulation
- Brown Dwarfs
- Giant Planets
- Orbital Migration
- Protoplanetary Disks and Gaseous Protoplanets
- Future Detections

PARASITISM
SALVE REGINA UNIVERSITY
NEWPORT, RI
JUNE 20-25, 1999
John Boothroyd, Chair
Norma Andrews, Vice-Chair

- Genetics of Susceptibility to Parasites in the Mammalian Host and Insect Vector
- Genetics and Biochemistry of Drug Action and Resistance
- First Contact: Host/Vector/Parasite Interactions and Mechanisms of Innate Immunity
- Parasite-Induced Changes in Host Cells
- Novel Organelles
- Mechanisms of Acquired Immunity and Parasite Clearance
- Attachment, Invasion and Intracellular Life
- Evasion of Host Immune Response

PHAGOCYTES
CONNECTICUT COLLEGE
NEW LONDON, CT
JUNE 6-11, 1999
R. Alan B. Ezekowitz, Chair
William M. Nauseef, Vice-Chair

- Hematopoiesis and Lineage Determination
- Phagocytosis and Host Defense
- Macrophages and Development
- Innate Immunity
- Regulation of Inflammation I, II
- Bacterial Host Interactions
- Phagocyte Endothelial Cell Interaction
- NADPH Oxidase Updates
- Phagocyte Signal Cell Transduction

PHOTOACOUSTIC & PHOTOTHERMAL PHENOMENA
COLBY-SAWYER COLLEGE
NEW LONDON, NH
JUNE 27 - JULY 2, 1999
Joan Power, Chair
Peter Hess &
James B. Spicer, Co-Vice-Chairs

- Emerging Issues and Methodologies
- Inverse Problem Theory for Depth Profilometry

- Electronic Materials, Devices and Semiconductor NDE
- Interferometry and Coherent Optical Detection Schemes
- FT-IR Photoacoustic and Photothermal Spectroscopy
- Ultrafast Phenomena and Short Timescale Laser Induced Ultrasonics
- Developments in Materials Characterization
- Biomedical Applications
- Industrial Applications on the Horizon

PHOTOIONS, PHOTOIONIZATION & PHOTODETACHMENT (NEW)
PLYMOUTH STATE COLLEGE
PLYMOUTH, NH
JULY 18-23, 1999
Erwin Poliàkoff, Chair

- Molecule-Fixed Strategies
- Threshold Phenomena
- Nuclear Dynamics
- Electron Dynamics: Site-Specific Spectroscopies
- Clusters and Other Complex Systems
- Independent Particle Dynamics

PHOTOSYNTHESIS
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CHROMATOGRAPHY Expands Its Influence

By Peter Gwynne and Guy Page

Responding to the demands of life scientists in academe and industry, manufacturers are expanding the range of commercially available chromatographic techniques. As a result, chromatography has become faster, more sensitive, more diverse, and more user-friendly.

Over the decades, life scientists have often regarded chromatography as an arcane art. True, their research has benefited from its ability to separate and analyze biomolecules in an efficient manner. But the family of chromatographic techniques has suffered from the perception — and often the reality — that they are slow, restricted to smaller biomolecules, and belong to the domain of chromatographic specialists rather than bench scientists.

No more. Reacting to the changing needs of customers in academic research laboratories and the pharmaceutical and biotechnology industries, manufacturers have released a series of upgraded chromatography systems and components. The results have significantly expanded both the applicability of chromatography and the number of scientists who can use it. "Precise, accurate liquid chromatography/mass spectrometry has really advanced in the past couple of years with the commercial availability of benchtop devices," explains Steve Wise, group leader for organic analytical methods in the National Institute of Standards and Technology's (NIST's) analytical chemistry division in Gaithersburg, Maryland. "Prior to that, it was primarily a research instrument that was not user-friendly."

The growth of interest in chromatography stems from several factors. The pharmaceutical industry has emerged as a major driver of new, improved forms of the technology. "Chromatography is very suitable for the kinds of chemicals that the pharmaceutical industry uses," explains Linda Ng, chair of the analytical methodologies committee at the Food and Drug Administration's Center for Drug Evaluation in Rockville, Maryland.

Further, the high-pressure nature of pharmaceutical development and genetic research demands increased throughput and productivity of separation and analytical systems. "In pharmacology and biopharmacology, there's a relentless drive to get drugs to market faster," explains Bill Buffington, R&D manager of the chemical analysis group at HP in Palo Alto, California. That translates into growing pressure to characterize the protein products of the genes that emerge from genomics and proteomics research programs at an ever-faster rate. "As opposed to the laboratory that purifies 10 proteins a year, our customers purify 10 proteins per hour," explains Gus Salem, director of porous media sales and marketing for PerSeptive Biosystems of Framingham, Massachusetts.

Similarly, the widespread adoption of combinatorial methods in chemical synthesis has increased by multiples of tens and hundreds the number of organic compounds to be characterized. Several manufacturers of chromatographic systems, including Gilson, HP, Isco, and Waters, have set their sights on finding ways to increase the throughput analysis of such compounds. Here again, says Wise, "the trend is to more speed — separations within seconds."

Advances in technology not directly related to chromatography have also started to drive advances in the field. In particular, the Internet and corporate intranets have started to exert an impact on the structure and operation of analytical laboratories. Any analytical device can now be connected to a local area network. That permits integration of data systems throughout the world. "Users of chromatography devices do not necessarily have to be present in the building. They can be at home or anywhere else in the world on a phone line, getting the network to view the status of their chromatograph," says Soheil Saadat, president of Pleasanton, California-based Scientific Software.

Another technical advance — improving the usability of mass spectrometry — promises to increase chromatography's precision by a significant factor. Mass spectrometry offers more precision than light absorbers, light scatterers, and other detectors traditionally linked to chromatographic columns. "The intersection of liquid chromatography and mass spectrometry," says Bob Pfeifer, vice president of market development at Waters Chromatography in Milford, Massachusetts,. "is particularly relevant to biotechnology, drug discovery, and clinical studies."

Regulatory requirements also play a role in chromatography's development. "What seems to drive the agencies is the technology that's available," asserts Curtis Campbell, HPLC product manager of Shimadzu Scientific Instruments in Columbia, Maryland. "If somebody can reliably and reproducibly show a certain limit of resolution, regulatory agencies will require it." The FDA's Ng agrees to a certain extent. "We always encourage industry to use the latest technology," she says. "For the pharmaceutical industry, a very large percentage of drug product applications submitted to the FDA is based on chromatography." However, she adds, "we do not have requirements for the selection of any specific drug testing technology. As long as the data support the identity, strength, purity, quality, and potency of the drug product, it satisfies our requirements."

Chromatographic customers have stimulated improved technology in a different arena. "Most users don't want to be chromatographic experts. They want to use chromatography as a tool," says Lisa Spangler, North American marketing manager of Amersham Pharmacia Biotech in Piscataway, New Jersey. "We're now seeing a lot of molecular biologists who need a way to purify proteins to study them further. They're not interested in learning chromatography." Instead, those new customers want user-friendly systems that they can operate with a minimum of fuss, in the lab or remotely. So the chromatography industry has worked hard to develop software packages that replace manual operation with automation.

A Cluster Of Techniques

Chromatography involves the separation of molecules from one another. Life scientists generally use it to make analytical measurements. A standard system for analytical chromatography consists of five components. A sample input device, such as an injector or an autosampler, loads the material to be separated. A pump moves the sample through a column of material, often called the media or the resin, that carries out the separation. If the column has been selected and optimized properly, the mixture will emerge from the column's eluent end as a series of separated components. Those components pass into a detector that quantifies and identifies them. And a software package controls the entire operation.

Until recently, scientists used two principal modes of chromatography. Gas chromatography (GC) sends a stream of gas over a column consisting of a fused silica capillary tube. Scientists use the method primarily to detect atoms and small molecules. Liquid chromatography (LC), used for larger molecules up to the size of proteins, uses resin packed in a tube to perform the separation.

Liquid chromatography, the most common technology used in life science research laboratories, has two forms. Their column materials differentiate the two. In low/medium pressure liquid chromatography (given the simple acronym LC), the resin consists of relatively large particles. The smaller particles in high-pressure liquid chromatography (HPLC) columns give the technology the capacity to separate molecules more cleanly. But they also retard the passage of liquids through the column. To overcome that problem, HPLC systems incorporate pumps that can exert pressures high enough to force the liquids through the columns at sufficient speed.

Another technology, supercritical fluid chromatography (SFC), has gained prominence in recent years. Here, the eluent is a pressurized fluid that has both liquid-like and gas-like properties. Because supercritical fluids have low viscosity, they move faster through the columns. That, says Karen Phinney, an NIST research chemist, "creates high efficiency and much more rapid analysis."

A somewhat different approach increasingly complements traditional chromatography in analytical laboratories. Capillary electrophoresis (CE) uses high voltage to separate molecules according to their size and charge. The column consists simply of a long capillary tube. A voltage gradient between the ends drives molecules of different sizes and charges through the tube at different rates. Like SFC, capillary electrophoresis has particular value in separating chiral compounds, whose molecules come in both left- and right-handed forms. A recently developed technique permits scientists to carry out open-channel CE on chips. Caliper Technologies of Mountain View, California, plans to introduce research products of this type in collaboration with HP.

Researchers have also shown interest in capillary electrochromatography (CEC), which combines CE and HPLC. This uses electrical power to drive the mobile phase and samples through a packed capillary column. "It has become the hottest topic in major analytical conferences and symposia," says Chao Yan, president of Unimicro Technologies of Pleasanton, California, which just introduced the first dedicated CEC system.

Routes Through Resins

New types of column material take care of several users' demands. PerSeptive (which became part of Perkin Elmer in 1997) and several other manufacturers, are creating media for affinity chromatography. Generalized media rely on molecular properties such as electric charge, size, or hydrophobicity to cause the separation. Affinity media, by contrast, are designed to interact with precise molecular structures in the passing target. PerSeptive's ImmunoDetection (ID) technology, which involves attaching an antibody to the resin and flowing the product over it, can yield analytical results in 30 seconds, Salem says.

Dyax, based in Cambridge, Massachusetts, is taking affinity chromatography a step further by developing new affinity media for custom applications. "We're doing client-sponsored programs to solve specific problems important to the clients, which include large pharmaceutical companies and vaccine manufacturers," explains Tom Ransohoff, Dyax's vice president for bioseparations.

Another resinous innovation has come from Bio-Rad. "Traditionally, you make porous beads that are sized to a certain range, derivatized, and packed in columns," explains Peter Tunon, manager of the chromatography program for chemistries at Bio-Rad Laboratories. "Bio-Rad's UNO is a continuous bed. Instead of making the beads, you cast the whole gel inside a column, where it sets up a sort of network. You have big pores and ionic groups that bind molecules." The result, he says, is a greater binding capacity and greater cost efficiency with equal performance.

Introduced in 1997, UNO has found several applications. "It's used by biochemists and

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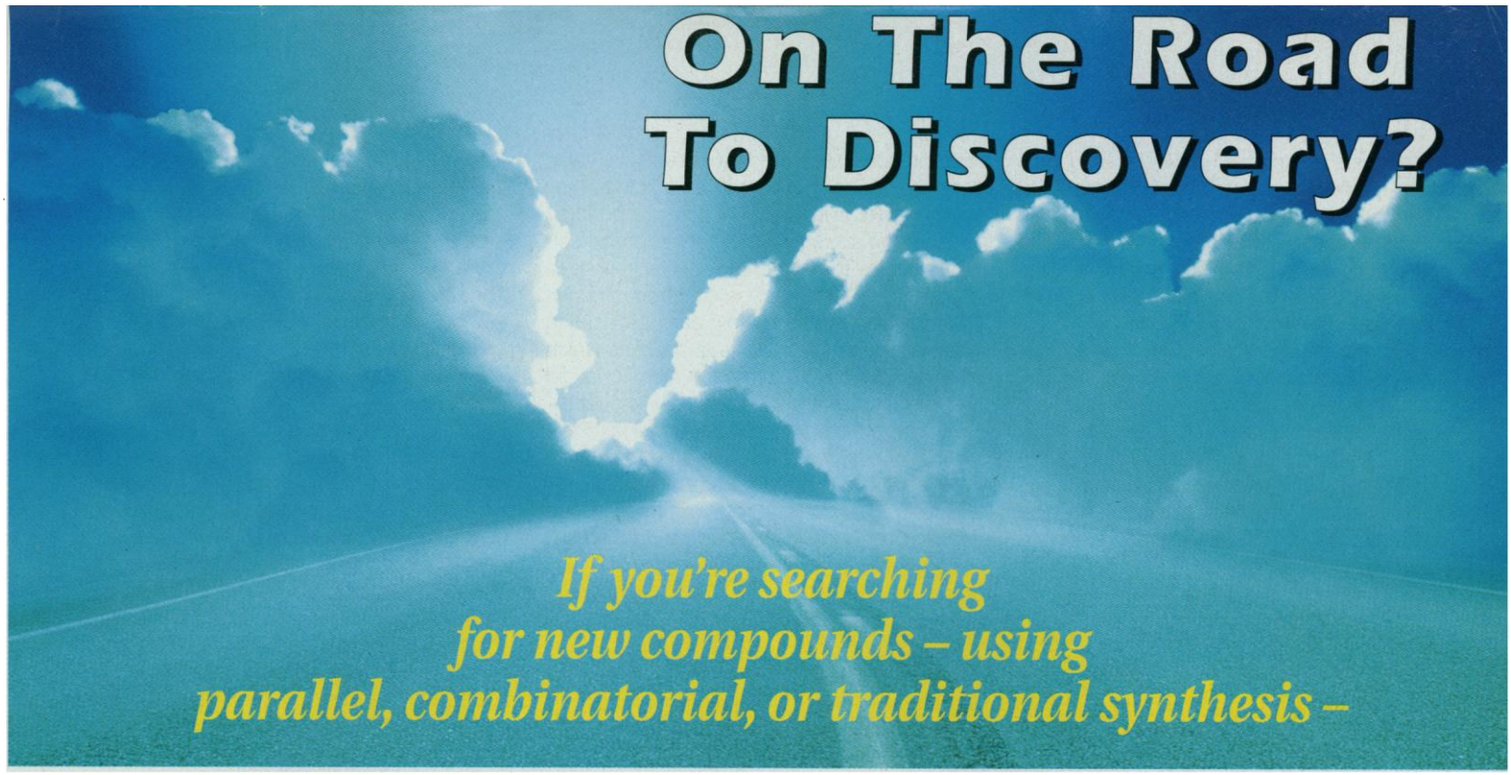

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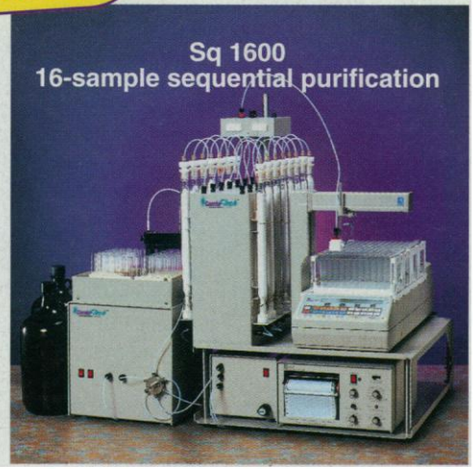

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bioscientists in general," says Tunon. "They apply medium-pressure chromatography to sub-milligram and several milligram quantities of protein required in high purity. We also see some work with large molecules such as adenovirus, with possible implications for purification in gene therapy."

Isco, based in Lincoln, Nebraska, has developed automated systems for parallel, combinatorial or standard organic purification. Called CombiFlash, these systems allow fast separation at low pressure, improve resolution and reproducibility, and typically give 85-98 percent purified compounds. The columns are compatible with standard organic purification, and have particular value for normal phase separations, because they permit faster elution of nonpolar compounds, thus saving solvent. Also, normal phase solvents, unlike the acetonotrile/water mix used in reversed phase, can be evaporated faster. "CombiFlash systems allow easy purification scale-up by simple change of columns which can be disposed after each use to avoid sample contamination," says Isco's chromatography program manager Vikas Padhye. The technology has proved popular with major pharmaceutical and biotechnology companies. "Orders for CombiFlash are tripling every nine months," says Padhye.

Changing Approaches

The choice of columns is more than matched by the variety of detection methods available to samples that emerge from the columns. The most common methods of detection involve absorbance of ultraviolet light (UV) and changes in refractive index. However, suppliers with special expertise in certain technologies have developed other methods for particular market niches.

Electrochemical detection, for example, offers roughly one thousand times greater sensitivity than ultraviolet absorption. "Under ideal conditions with some ideal compounds, we're down to the upper atom-mols," says John Waraska, director of marketing for ESA in Chelmsford, Massachusetts. ESA and other manufacturers have largely solved problems of reliability and maintenance that plagued the method in the past. Photodiode array detectors have also become popular, although more expensive than refractive index detectors, themselves more costly than UV instruments.

Another technique — light scattering — is beginning to make an impact on the market. It applies to large macromolecules such as proteins. The technique offers researchers the valuable capability of measuring proteins in their natural state, in aqueous solution. In one case, recalls Geofrey Wyatt, executive vice president of detector manufacturer Wyatt Technology, the technique revealed that a particular biomolecule dimerized in solution, to the surprise of the researchers working with the molecule.

While the market for light scattering instruments is growing, the loudest buzz in the detector world concerns the move to mass spectrometry (MS). "This is without doubt the biggest shift in the industry," says Waraska. "I'm hearing that the pharmaceutical industry is now moving primarily to LC/MS."

What accounts for mass spectrometry's soaring popularity? "Mass spectrometers tend to be significantly more expensive than the chromatography systems to which they're attached," Spangler says. "But they give you more than chromatography. You can get the accuracy down to a point at which you can ID a particular protein."

The detection technique faces one major barrier. "A lot of the people doing protein chromatography are afraid of mass spectrometry because it has the reputation of being difficult," says Spangler. "We're trying to make it the protein chemist's mass spectrometer or the molecular biologist's mass spectrometer."

Peter Gwynne is a freelance science writer based on Cape Cod, Massachusetts. Guy Page is managing director of Ferguson Forth Page, a consulting firm in Madison, Wisconsin.

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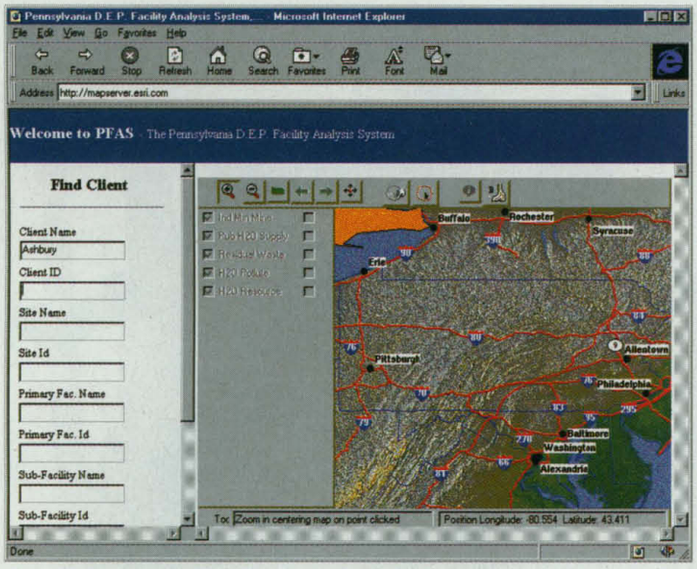

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ANNOUNCEMENT FOR THE ROBERT A. KEHOE CHAIR

The Department of Environmental Health, College of Medicine, University of Cincinnati is seeking a distinguished academic scientist to fill our newly created Robert A. Kehoe Chair of Environmental Health as a tenured faculty member. The Department of Environmental Health provides a collaborative environment of 42 faculty and over $17 million in grant and contract holdings. There are 80 full-time Ph.D. and M.S. students in the Department of Environmental Health. Applicant should be an internationally recognized leader in one of the disciplines relevant to environmental medicine, industrial hygiene, molecular and cellular toxicology, or epidemiology. The Department of Environmental Health focuses on the role of occupational and environmental exposure, gene-environment interactions, and cellular and molecular mechanisms of toxicant action in the etiology of human diseases. The Robert A. Kehoe Chair will provide a substantial financial foundation for the growth and development of this Chair's research program.

Please send curriculum vitae, including funding history, copies of recent publications, and the names, addresses, and telephone numbers of three references to: **Roy E. Albert, M.D., Chair of the Search Committee, Box 670056, Cincinnati, OH 45267-0056. E-mail: roy.albert@uc.edu.**

FACULTY POSITION IN MOLECULAR MEDICINE

The Ohio State University is in the midst of a major initiative in the Molecular Life Sciences that will include at least 30 new faculty positions. Applications are invited for a tenure-track faculty position in molecular medicine at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level in the College of Medicine, Dentistry, or Veterinary Medicine. The successful candidate is expected to develop an independent research program using transgenic animal models to elucidate the molecular basis of human disease and/or its treatment using molecular approaches like gene therapy. A modern transgenic facility, the W. M. Keck Genetic Research Facility, and other excellent support and instrumentation facilities are available. The successful candidate will have access to a large pool of graduate students, and ample opportunity to interact with numerous active research laboratories on campus. Columbus has been ranked by *Newsweek* as one of the country's best places to live and work. Applicants should submit a curriculum vitae, selected reprints, statement of research plans, and arrange to have three letters of reference sent to: **Chair, Molecular Medicine Search Committee, Department of Medical Biochemistry, 333 Hamilton Hall, 1645 Neil Avenue, Columbus, OH 43210.** Review of applications will begin on March 26, 1999. *The Ohio State University is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION IN NEUROSCIENCE

The Department of Neuroscience at the University of Virginia seeks to recruit an established Investigator in the areas of cellular, molecular (especially genetic), or developmental neuroscience. Applicants should have a distinguished record of scholarly activity and a well-established research program. We anticipate making this appointment at the **ASSOCIATE** or **FULL PROFESSOR** level.

Applicants should submit a curriculum vitae that includes a summary of current research activities, and the names and telephone numbers of three references to:

Faculty Search Committee
c/o Kevin Lee, Ph.D., Professor
Department of Neuroscience
University of Virginia Health Sciences Center
Box 5148
Charlottesville, VA 22908

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Is seeking an outstanding scientist at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. The candidate should have a strong interest in the genetic and developmental basis of cardiac structure and function. Although training in pediatric cardiology is asset, it is not required. Please submit a letter of application, curriculum vitae, a short description of research goals, and a list of potential referees to:

David E. Clapham, M.D., Ph.D.
Chair, Cardiovascular Search Committee
Children's Hospital
Room 1309 Enders Building
P.O. Box EN-306
320 Longwood Avenue
Boston, MA 02115

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

Diabetes. **FACULTY POSITIONS (TENURE-TRACK)** are available in a newly formed Center for Diabetes Research at the Indiana University School of Medicine. The School has embarked on a major initiative to enhance basic diabetes research. Faculty would have primary appointments in an appropriate basic science Department and would be expected to develop an externally funded basic research program with direct relevance to diabetes and its complications. Areas of interest include, but are not limited to, molecular mechanisms of insulin signaling and hormone action, molecular and cellular aspects of metabolic control, and islet cell biology. Successful candidates would also participate in training medical and graduate students. The levels of the positions are open and competitive space and start-up funding is available. Please send applications to: **Dr. Peter J. Roach, Director, Center for Diabetes Research, Van Nuys Medical Science Building, MS405A, 635 Barnhill Drive, Indiana University School of Medicine, Indianapolis, IN 46202. Telephone: 317-274-1582; e-mail: diabetes@iupui.edu.**

The University of Michigan Health System is seeking an **ASSOCIATE CHAIR** and **DIRECTOR OF RESEARCH** for the Department of Otolaryngology. Qualifications for this tenure-track position include an M.D. or Ph.D. degree, record of independent, funded research, and administrative and leadership experience in areas relevant to otolaryngology and the communication sciences. Recognized scientific background in molecular biology and interest in translational/interdisciplinary or applied basic research is desired. Interested applicants should submit a letter of interest, curriculum vitae, and references to: **Gregory T. Wolf, M.D., Professor and Chair, University of Michigan, Department of Otolaryngology–Head and Neck Surgery, 1500 East Medical Center Drive/1904 TC, Ann Arbor, MI 48109-0312.**

STA FELLOWSHIPS

Postdoctoral Fellowships in Japanese Government Laboratories

STA FELLOWSHIP PROGRAM

Introduction:

The Science and Technology Agency (STA), an administrative organ of the Government of Japan, established the STA Fellowship program in 1988 in order to offer opportunities for promising young foreign researchers in the fields of science and technology to conduct research at Japan's national laboratories and public research corporations (excluding universities and university-affiliated institutes).
Since 1989, the Program has been managed by the Japan Science and Technology Corporation (JST), a statutory organization under the supervision of STA, in cooperation with the Japan International Science and Technology Exchange Center (JISTEC). JST also has the strong support and cooperation of the Responsible Organizations listed in Table 1.

Tenure and Field of Research:

The tenure will be of:

- 6 months to 2 years (Long-Term Fellowship),
- 1 to 3 months (Short-Term Fellowship),

to be decided upon through negotiation between the candidate and the host institute.

Research fields: Mathematics; Physics; Geology; Electricity; Electrons; Information Engineering; Mechanics; Engineering Works; Architecture; Erosion Control; Landscaping; Chemistry; Metals; Resources Engineering; Medical Science; Pharmaceuticals; Agricultural Technology; Farming; Forestry; Fisheries; others in the Natural Sciences.
Any science or engineering discipline will be considered except military R & D.

Fellowship Qualifications:

As a general rule, applicants for long-term fellowships should be no older than 35 years old or should have received their PhDs within the last 6 years. The short-term fellowships have no age limitation.

Japanese language ability is preferable, but English is sufficient in most cases.

FELLOWSHIP AWARDS

Fellowships include round-trip air tickets (not available for dependents)

I. Long-term fellowship
   1) Living allowance: ¥270,000 a month.
   2) Family allowance: ¥50,000 a month if fellows are accompanied by one or more descendants during their tenure.
   3) Housing: Apartments will normally be provided to awardees.
   4) An initial international settling-in allowance of ¥200,000. (This amount is less in the case of short stays)
   5) An annual allowance of up to ¥115,000 for travel within Japan related to research activities.
   6) If JST accepts a fellow to present the results of his/her research at an international conference abroad, JST will pay up to ¥200,000 for his/her air fare.
   7) Medical insurance (N.B. not available for dependents).

II. Short-term fellowship
   1) Short-term fellows will receive ¥15,000 per diem for the duration of the fellowship to cover living expenses, intitial international moving costs, research-related travelling expenses within Japan, and housing costs.
   2) Medical Insurance (N.B. not available for dependents)

Assistance for Fellows:

Fellows may take advantage of Japanese language courses for Fellows and other services for daily life in Japan through JISTEC.

APPLICATION PROCEDURE FOR STA FELLOWSHIP (Fig. 1)

Two routes of submitting the application form:

I. Application through Responsible Organization (Fig. I-A)

Applicants possessing the nationality or citizenship or permanent resident status of a country listed in Table I should:

1) Contact the Responsible Organization in their country to obtain an application form and information about the host research institutes, which can also be found in the home page of JST.
2) Communicate with host research institutes of interest to ascertain their suitability for the applicant's area of specialization. This should be done using the Form I.
3) After agreeing with the prospective host institute on the subject of research, the length of tenure and starting date for the fellowship, the applicant should obtain from the institute a formal letter of acceptance expressing its willingness to serve as a host.
4) Submit the completed application form and the letter of acceptance to the Responsible Organization concerned. The Responsible Organization will then screen applicants, and submit its recommendations for Fellowship candidates to JST.
5) JST will then conduct a further screening and notify successful applicants by sending a Letter of Award through JISTEC. The Responsible Organization and the host research institute concerned will also be informed in this respect.

II. Application through Host Research Institutes (Fig I-B)

1) All applicants can apply by using this procedure, whether or not applicants have nationality or citizenship or permanent reseident status of a country. Applicants should send enquiries directly to institutes of interest. This should be done using the Form I, which is available from JST upon request.
2) The institute will screen the applicant and, if willing to pursue the application, will request him/her to send pertinent documents and information. These will then be sent along with a letter of recommendation to JST through JISTEC, twice a year, usually in January and in June.
3) JST will then conduct a further screening and notify successful applicants by sending a Letter of Award through JISTEC.

Fig. 1, Procedural Flow from Contact to Receipt of Award

Fig. 1-A ***Application through Responsible Organization***

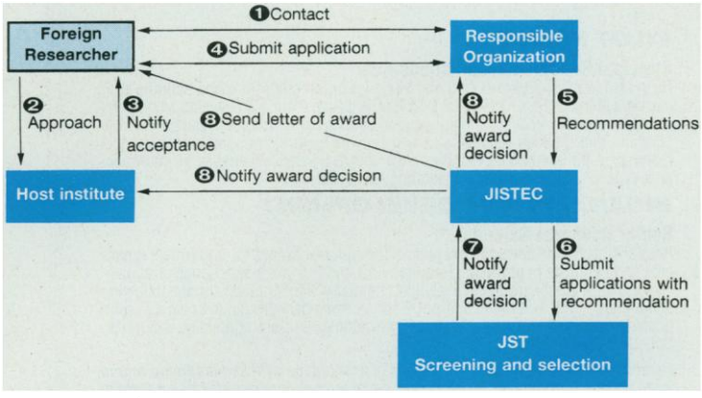

Fig. 1-B ***Application through Host Research Institute***

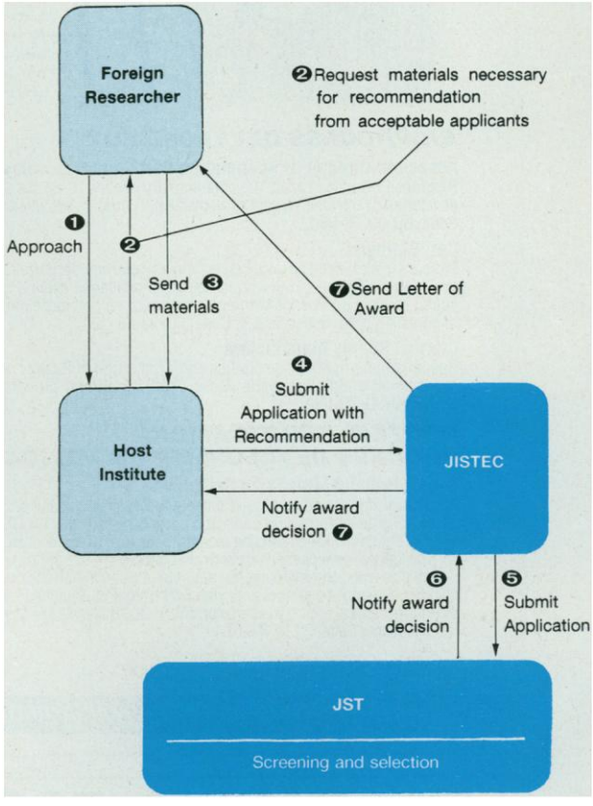

Table 1: RESPONSIBLE ORGANIZATIONS

COUNTRY	*CONTACT*
AUSTRALIA	AUSTRALIAN ACADEMY OF SCIENCE
AUSTRIA	FEDERAL MINISTRY OF SCIENCE AND TRANSPORT
CANADA	NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL OF CANADA
CHINA	MINISTRY OF SCIENCE AND TECHNOLOGY
GERMANY	ALEXANDER VON HUMBOLDT-STIFTUNG (Long-term fellowship) DEUTSCHER AKADEMISCHER AUSTAUSCH-DIENST (DAAD) (Short-term fellowship)
FINLAND	ACADEMY OF FINLAND
FRANCE	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)
INDIA	DEPARTMENT OF SCIENCE AND TECHNOLOGY, Government of India
ITALY	MINISTERO DELL UNIVERSITA E DELLA RICERCA SCIENTIFICA E TECNOLOGICA (MURST)
THE NETHERLANDS	TECHONOLOGIESTICHITING STW
NEW ZEALAND	MINISTRY OF RESEARCH, SCIENCE AND TECHNOLOGY
NORWAY	THE RESEARCH COUNCIL OF NORWAY
SWEDEN	SWEDISH NATIONAL BOARD FOR INDUSTRIAL AND TECHNICAL DEVELOPMENT (NUTEK)
SWITZERLAND	SWISS NATIONAL SCIENCE FOUNDATION
UNITED KINGDOM	THE ROYAL SOCIETY
UNITES STATES	NATIONAL SCIENCE FOUNDATION (NSF) NATIONAL INSTITUTES OF HEALTH (NIH)
EUROPEAN UNION	EUROPEAN COMMISSION

Further information regarding the fellowship, responsible organizations and host institutes is available from the responsible organizations, JST or JST home page.

Japan Science and Technology Corporation (JST)
Department of International Affairs
Address: Kawaguchi Center Bldg., 4-1-8, Hon-cho, Kawaguchi
Saitama 332-0012 Japan
Tel: 81-48-226-5630 Fax: 81-48-226-5751
Web-site: http://www2jst.go.jp/inter/fellow-e.html
E-mail: iketani@jst.go.jp tezuka@jst.go.jp

Japan International Science and Technology Center (JISTEC)
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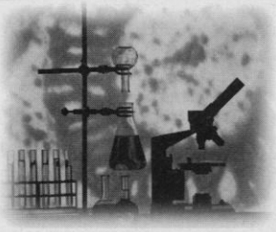

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Clinical Supply Manufacture
Responsible for pilot scale studies and production of Phase I clinical supplies of monoclonal antibodies made under GMP conditions. Supervises group of 5. Code: BD-99-TS-03A.

PROTEIN PURIFICATION, PROCESS DEVELOPMENT & VALIDATION

Senior/Principal Research Scientists
Responsible for designing and executing projects leading to the development and validation of large scale protein purification processes suitable for GMP manufacturing. Specific duties include developing modifications to existing manufacturing process purification steps, developing new purification processes and performing process validation studies using chromatographic, membrane ultrafiltration and other applicable technologies. Supervision of laboratory staff will be required. Requires PhD with 2-8 years of biopharmaceutical industry experience and in-depth knowledge of state of the art protein chemistry. Code: PD-99-TS-01A.

PILOT PLANT

Principal Research Scientist/Engineer
Responsible for troubleshooting and scale-up optimization of manufacturing processes within our Pharmaceutical Development Pilot Plant. Will develop technology related to product recovery and purification utilizing chromatography, tangential flow filtration, and filtration technologies and provide technical support to commercial manufacturing operations. Requires PhD with 3-8 years experience or equivalent plus experience with GMP manufacturing. Code: PP-99-TS-01A.

BIOANALYTICAL DEVELOPMENT

Senior Research Scientist
Responsible for the development and performance of assays for impurities, excipients and residuals in products. Requires PhD and 2-5 years experience or equivalent and strong background in analytical chemistry with emphasis on the following techniques: HPLC/HPLC-MS and/or CE and a strong background in liquid and solid phase extractions of trace analytes from complex protein containing solutions. Code: PD-99-TS-03A.

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Additional positions are available in the laboratory of Dr. Gregory D. May, Associate Scientist in the Plant Biology Division. Areas of research are:

* Functional Genomics (Postdoctoral/Research Associate)

The research aim is to understand gene function in the model legume Medicago truncatula. Candidates must have extensive experience in the generation of cDNA libraries and the automation of biological experiments for high-throughput analyses. Experience with large-scale sequencing, expression profiling, or robotics is a plus. Experience in designing and developing new databases on an industrial scale is highly desirable. Candidates must have an appreciation of the magnitude and pace of genomic research. (Position #71)

* DNA Repair Mechanisms (Postdoctoral)

Characterization of plant DNA repair enzymes with an emphasis on REC2 (RAD51B) and MutS homologues. Candidates must have demonstrated research productivity in the biochemistry and/or molecular genetics of eukaryotic DNA repair. (Position #72)

Send a cover letter stating the number of the position (#70, 71, or 72), areas of interest, full CV and the names and addresses of three referees, to **Ms. Jane Nance, Human Resources, The Samuel Roberts Noble Foundation, 2510 Sam Noble Parkway, Ardmore, OK 73401, USA.** Further details can be obtained from G.D. May, e-mail: gdm6@cornell.edu. The Noble Foundation is an Equal Opportunity Employer.

Summer Internship (Plan A) : July-September 1999

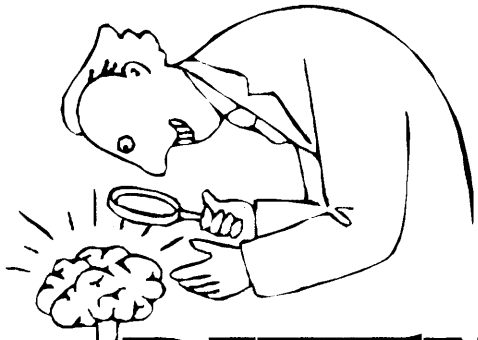
Laboratories at RIKEN BSI

Neuronal Function Research Group (K. Mori / Y. Yoshihara / R. Yano / T. K. Hensch)
Neuronal Circuit Mechanisms Research Group (M. Ito / H. Niki / T. Knoepfel / T.C. Saido)
Cognitive Brain Science Group (K. Tanaka / M. Tanifuji / A. A. Ioannides)
Developmental Brain Science Group (K. Mikoshiba / T. Furuichi / H. Okamoto / K. Kajiwara)
Molecular Neuropathology Group (N. Nukina / K. Yamakawa / A. Takashima)
Brainway Group (G. Matsumoto / M. Ichikawa)
Brain-Style Infomation Systems Research Group (S. Amari / S. Tanaka / A. Cichocki)
Advanced Technology Development Center [ATDC]
(C. Itakura / A. Miyawaki / T. Hashikawa / S. Itohara / M. Ogawa)

Lecture Course (Plan B) : "Development and Plasticity in CNS" July 25-August 7, 1999

Invited Lecturers

Dennis O'Leary (Salk Institute)
Hajime Fujisawa (Nagoya Univ.)
Masato Nakafuku (Tokyo Univ.)
Alain Prochiantz (Ecole Normale, Paris)
Fujio Murakami (Osaka Univ.)
Akinao Nose (Tokyo Univ.)
Masatoshi Takeichi (Kyoto Univ.)
Motoy Kuno (Shionogi)
Roberto Malinow (Cold Spring Harbor)
Shigetada Nakanishi (Kyoto Univ.)
Charles Gilbert (Rockefeller Univ.)
Yasushi Miyashita (Tokyo Univ.)
Matthew Wilson (MIT/RIKEN)
Gregory Gasic (Neuron)
Susumu Tonegawa (MIT/RIKEN)



RIKEN Brain Science Institute Summer Program 1999

The Brain Science Institute (BSI) at RIKEN is offering a summer program to train advanced students interested in molecular, cellular, systems, or computational neuroscience. Applicants may choose either a laboratory internship for up to two months with one of the 27 teams at BSI, or participate in an intensive two-week lecture course featuring a distinguished international faculty. Summer Interns (Plan A) may also enroll in the Lecture Course (Plan B). Funding is available for travel and lodging expenses as needed.

Deadline : March 31, 1999

Application Forms : visit our web site http://www.brain.riken.go.jp/summer/bsi-summer.html
or send inquiries to Summer Program Committee, BSI Planning Office, RIKEN, 2-1 Hirosawa, Wako-shi, Saitama 351-0198, JAPAN.
E-mail : bsi_summer_a@brain.riken.go.jp Fax : +81-48-462-4914

Brain Science Institute RIKEN

Purdue Biopharma L.P.

Purdue Biopharma L.P. is establishing a research and development facility located in Princeton, NJ where 60+ scientists will be required to develop synthetic antibody therapeutics and recombinant protein vaccines. Positions will include discovery research, prototype drug evaluation, and production of cGMP products for clinical trials. To staff this effort, Purdue has immediate openings in the following areas:

The next phase of scientific evolution

Head, Antibody & Vaccine Discovery Research

The successful candidate will have 10 or more years of relevant experience in immunotherapeutics research and be responsible for target identification, validation, and drug evaluation for our synthetic antibody and vaccine programs. Experience managing teams of Scientists is strongly desired. Candidates holding M.D. or Ph.D. degrees, or with highly relevant academic experience are highly encouraged to apply.

Head, Molecular Biology

The successful candidate will have 8-10 years of demonstrated ability to design and construct novel antibody-based proteins as drug candidates and the ability to oversee work in targeted identification and engineering systems for high-throughput screening and molecular modeling. The molecular biology group will enjoy extensive interaction with the protein production and purification group.

Head, Protein Production

The successful candidate will have 5-10 years of industry experience developing small and large-scale protein production methods. Extensive knowledge of transient expression and stable expression strategies is important, as is knowledge and experience with the regulatory aspects of cell banking and cGMP production.

Head, Protein Purification

The successful candidate will have 5-10 years of industry experience developing small and large-scale protein purification methods, and have extensive knowledge of regulatory requirements and cGMP production.

Laboratory Heads

Successful candidates will have at least 2 years of post-doctoral experience in one of the areas listed above.

Research Associates

Successful candidates will hold B.A., B.S., or M.S. degrees and have relevant experience in one of the areas listed above.

For immediate consideration, qualified applicants should mail or fax resumes indicating position of interest and salary requirements, to: **Associate Director, Human Resources Services, Dept-SM, Purdue, 100 Connecticut Avenue, Norwalk, CT 06850; Fax: (203) 851-5300.** Corporate standards require drug testing and background investigation. An Equal Opportunity Employer M/F/D/V.

St. Jude Children's Research Hospital

ALSAC • Danny Thomas, Founder

St. Jude Children's Research Hospital is conducting a broad-based search for laboratory based faculty members engaged in discovery oriented basic and translational research. We seek outstanding individuals with established potential to study fundamental problems in cell biology, virology, cancer genetics and immunology. Recruitment is focused at the Associate Member or Full Member level. Substantial resources will be invested in these recruitments. Ongoing institutional support is provided to each of our investigators to supplement and expand the impact of their extramural funding.

St. Jude Children's Research Hospital is dedicated to finding cures for children with catastrophic illnesses through research and treatment. Our research activities span clinical, translational and discovery oriented - basic research. Our faculty are organized in fifteen academic departments that include Biochemistry, Developmental Neurobiology, Genetics, Immunology, Molecular Pharmacology, Pharmaceutical Sciences, Tumor Cell Biology and Structural Biology. Several multi departmental programs within our cancer center foster multidisciplinary, interactive research. Shared resources include a Center for Biotechnology and a Transgenic/Gene Knockout Facility. Future plans call for extensive expansion of our animal facilities, the establishment of a shared resource for functional genomics and proteomics and the development of a program in chemical biology. Thus St. Jude Children's Research Hospital provides a rich and stimulating intellectual environment as well as the resources needed for aggressive pursuit of new scientific knowledge.

Applicants should submit a curriculum vitae, bibliography, and a brief statement of research interests to:

Dr. Arthur Nienhuis
Director
St. Jude Children's Research Hospital
332 N. Lauderdale Street
Memphis, TN 38105

St. Jude Children's Research Hospital was founded by Danny Thomas, and continues to receive support for its research and clinical programs through the fund-raising efforts of the American Lebanese Syrian Associated Charities (ALSAC).

Please visit our web site at: **www.stjude.org** for additional institutional information.

St. Jude Children's Research Hospital is an equal opportunity/affirmative action employer.

IRRI

INTERNATIONAL RICE RESEARCH INSTITUTE

Position Announcements

IRRI is seeking to fill two plant breeding positions and one coordination position at its headquarters south of Manila. The Institute is one of 16 members of the Consultative Group on International Agricultural Research (CGIAR), which is co-sponsored by the World Bank, FAO, and UNDP. It is a non-profit, autonomous organization engaged in research and training on rice-related technology, and its scientists work in partnership with agricultural research institutions in major rice growing countries throughout the world.

Salary and perquisites for the positions are internationally competitive. These include support for education of children, car and housing, medical and retirement benefits. IRRI provides a gender-sensitive environment and welcomes women applicants. The positions involve international travel. Interested candidates can learn more about IRRI and its activities by visiting the Institutes Web Site at http://www.cgiar.org/irri.

Affiliate Scientist (Plant Breeder)

This plant breeder position for IRRI's irrigated rice breeding project will be housed – along with its rainfed lowland, upland, and flood-prone rice breeding projects – in the Institute's Plant Breeding, Genetics and Biochemistry Division. The plant breeder will develop improved rice germplasm with high yield potential and superior grain quality as well as with multiple resistances to diseases and insects and tolerance for abiotic stresses. The breeding project relies heavily on the use of molecular markers as tools for understanding the genetic control of traits of interest and for more direct application to rice improvement. The plant breeder will work at IRRI's multidisciplinary irrigated rice germplasm improvement project, which includes plant pathologists, entomologists, plant physiologists, and agronomists. Collaboration with National Agricultural Research Systems (NARS) and with advanced research organizations is an integral part of the project. Candidates should have Ph.D. in Plant Breeding or Genetics, with at least 5 years of post Ph.D. experience. Understanding of molecular marker technology is desirable.

Upland Rice Breeder

The plant breeder position for IRRI's upland rice breeding project has the following major responsibilities: 1) developing improved germplasm with high and stable yields through improved tolerance for drought, effective suppression of weeds through combined competitiveness and allelopathy, resistance to blast and nematodes, and adaptation to acid soils with low phosphorus availability and good grain quality; and 2) establishing methodologies to increase breeding efficiency and farmers' adoption of improved varieties. The breeding project relies heavily on the use of molecular markers as tools for understanding the genetic control of traits of interest and for more direct application to rice improvement. The plant breeder is expected to lead and coordinate IRRI's multidisciplinary upland rice germplasm improvement project, which includes pathologists, nematologists, physiologists, agronomists, and socioeconomists. Collaboration with national agricultural research systems (NARS) and with advanced research organizations is an integral part of the project. The plant breeder plays a significant role in the seven-country Upland Rice Research Consortium in Asia, with the objective of developing strategic research on upland rice. Candidates should have a Ph.D. in Plant Breeding or Genetics with at least 5 years of post-Ph.D. experience in rice breeding, preferably upland rice. Understanding of molecular marker technology and a good background in quantitative genetics is desirable. Candidates should have proven ability to work in a multi-disciplinary and multi-cultural environment.

Coordinator, International Network for Genetic Evaluation of Rice (INGER)

The position starts 1 September 1999, INGER is an outstanding and unique network of national agricultural research programs and international centers that provides for the safe and efficient exchange and evaluation of rice germplasm, primarily improved varieties and elite breeding lines. Founded in 1975 as the International Rice Testing Program (IRTP), and renamed INGER in 1989, the network has facilitated the release of nearly 600 rice varieties in 64 countries, and the exchange of more than 40,000 breeding lines. These have been used in many countries to enhance the genetic base of the rice crop, leading to significant increases in rice production and productivity. The successful candidate will 1) coordinate INGER to ensure the continued exchange and testing of rice germplasm through the active participation of national agricultural research systems (NARS) and International agricultural research centers; 2) manage the INGER operations within the Genetic Resources Center at IRRI to ensure the timely and safe delivery of rice germplasm to collaborators in the network; 3) curate INGER data as part of the International Rice Information System (IRIS); 4) enhance access by NARS to improved and elite germplasm; facilitate the worldwide exchange and testing of rice germplasm in different rice ecosystems, and under different biotic and abiotic stresses; 5) improve access to and use of information on the performance and adaptation of rice germplasm. Candidates must have a Ph.D. in plant breeding and genetics or related crop improvement discipline, significant experience in rice germplasm management and evaluation, and experience in rice production and research in Asia. Experience in the management and operation of a germplasm exchange network, and data management and information exchange would be an advantage.

Applications

For any of these positions, please send applications by 31 March 1999, enclosing a full Curriculum Vitae and the names of three referees and their telephone and fax numbers, and/or e-mail addresses to:

Dr. Kenneth S. Fischer
Deputy Director General for Research
International Rice Research Institute
MCPO Box 3127
1271 Makati City, Philippines
Fax no.: (63-2) 891-1292
Tel. no.: (63-2) 845-0563, Ext. 773
E-mail: k.fischer@cgiar.org

Please refer to code: IR99-COMB-O 2.

ASSOCIATE DIRECTOR
NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION
And
ASSOCIATE DEAN OF RESEARCH
COLLEGE OF LIFE SCIENCES AND AGRICULTURE
UNIVERSITY OF NEW HAMPSHIRE

This is a full-time, full-year, tenure track position. The Associate Director is responsible for providing oversight and leadership to the New Hampshire Agricultural Experiment Station (NH AES). Specific AES responsibilities include coordination of NH AES programs with agriculture, natural resources, policy, biotechnology, and community client groups, administration of Hatch, McIntire-Stennis, Multi-State, State, and Animal Health and special AES projects. The Associate Director will be responsible to the Director for shared decision-making for the overall administration of the Station.

As Associate Dean of Research, the incumbent will be responsible for interacting with department chairs and faculty in planning, budgeting, and evaluating all research conducted by the College of Life Sciences and Agriculture. The individual serves as the College's liaison with the University of New Hampshire's Vice President for Research and Public Service. Additionally, the Associate Dean will assist the faculty in obtaining research support from federal, state, and private sector sources.

Requirements include: Ph.D. in a field of agriculture, natural resources, agricultural and resource economics, biological sciences, biotechnology, or closely related area; proven record of research accomplishments; experience with the Agricultural Experiment Station system; interest and capacity to facilitate the development of the broad range of research disciplines represented in the College.

Please send a letter of application, complete resume, and the names, mailing and email addresses, and telephone numbers of three references to: Dr. Ted Howard, Chair, Search Committee, New Hampshire Agricultural Experiment Station, Taylor Hall, UNH, Durham, NH 03824 USA. Dr. Howard can be reached at tehoward@christa.unh.edu. The Search Committee will begin to evaluate candidates on March 8, 1999.

Further information on the University of New Hampshire and the College of Life Sciences and Agriculture can be found at http://www.unh.edu and http://arethusa.unh.edu/colsa/colsa.htm, respectively.

UNH is strongly committed to achieving excellence through diversity. The University encourages applications and nominations of women, persons of color, and members of other underrepresented groups, including the disabled.

VION PHARMACEUTICALS, INC.

Vion Pharmaceuticals, Inc. is a biopharmaceutical company engaged in the discovery, development and commercialization of cancer treatment and anitvirals. We are seeking qualified individuals for the following position:

Research Associate
In Vivo Tumor Biology

Responsible for in vivo tumor biology experimentation, including cell culture and in vivo drug screening. Candidates must have at least 2 years experience in tumor modeling, and be skilled at IV/IP injections, histology and immunohisto chemistry. BS in a biological science is required; MS preferred.

Please send resume with salary requirements and letters of reference to:

Vion Pharmaceuticals, Inc.
Four Science Park
New Haven, CT 06511
Attn: Human Resources

VION
PHARMACEUTICALS, INC

Vion is an equal opportunity/affirmative action employer.

The field of pharmaceuticals and healthcare is more rewarding than ever as new products create a healthier world population. As one of the leaders in the dynamic industry, Pfizer Inc, a Fortune 50 company, is committed to continuing its remarkable growth. Join us, and bring science to life.

POSTDOCTORAL FELLOWSHIP IN CLINICAL INVESTIGATION

Unique opportunity to join our **Experimental Medicine** clinical research team for a 2-year fellowship. You will learn clinical investigation in a pragmatic, hands-on, mentored environment, and gain experience in a leading pharmaceutical company. The selected individual will participate in creative, novel clinical investigations in endocrinology and metabolism to support the progression of relevant compounds in the clinic. The fellowship will include both coursework and hands-on training. Similar to a junior faculty type position, this is a 2-year fellowship that will begin in the summer of 1999. Seeking an MD or MD/Ph.D. who is BC/BE in Internal Medicine and Endocrinology.

Pfizer offers competitive salaries and benefits, as well as growth potential, easy access to major Northeast cities and the Connecticut coast, relocation assistance, and the opportunity to attend on-site seminars. Please send your resume in confidence to: Pfizer Inc, Job Code #3059, Imaging Services, 235 East 42nd Street 4-42, New York, NY 10017-5755. As an Equal Opportunity Employer, Pfizer is focused on building a diverse workforce.

Pfizer

LIFE IS OUR LIFE'S WORK.

Molecular Virology Postdoctoral Positions

Mount Sinai School of Medicine is a leader in medical education and research. We currently have immediate openings available for NIH-funded postdoctoral fellowships. The successful candidates will be part of a dynamic research program on virus-host interaction, studying:

Mount Sinai

(1) The molecular mechanisms responsible for the pathogenesis of human parainfluenza viruses, focusing on the interaction of human parainfluenza virus type 3 with the host cell. Reply to: **Dr. A. Moscona, E-mail: A_Moscona@smtplink.mssm.edu**

(2) Herpes simplex virus interaction with its cellular receptor and mechanisms of viral invasion. Reply to: **Dr. B. Herold, E-mail: Betsy_Herold@smtplink.mssm.edu**

Please submit a C.V. and the names of three references indicating "Reply to" information, to: **Pediatric Infectious Diseases, Mount Sinai School of Medicine, Box 1657, One Gustave L. Levy Place, New York, NY 10029-6574; Fax: 212-426-4813.** Visit our website at: **www.careermosaic.com/mountsinai** We are an equal opportunity employer fostering diversity in the workplace.

Mount Sinai School of Medicine

MOLECULAR GENETICS RESEARCH AT PARKE-DAVIS

The Parke-Davis Laboratory for Molecular Genetics **(PDLMG)** is a new research center of the Parke-Davis Pharmaceutical Company, located in the San Francisco Bay area. The work at **PDLMG** is dedicated to genetics and genomics research and involves the identification and characterization of disease genes using a diverse set of molecular and genetic approaches, including gene mapping, positional cloning, large scale mouse mutagenesis and transgenesis, expression profiling and bioinformatics. **PDLMG** is currently undergoing a major expansion of its research staff, and there are many outstanding job opportunities for interested investigators. Located in Alameda, CA, **PDLMG** is centrally positioned relative to the outstanding academic institutions, national laboratories and biotechnology companies in the San Francisco Bay area.

Currently, we have several outstanding opportunities in our growing facility in **ALAMEDA, CALIFORNIA.**

Scientist/Senior Scientist
Job Code: CJM99080

You will participate in developing mouse models of human complex diseases, gene mapping, positional cloning and expression analysis programs leading to novel gene discovery. To qualify, you must have a Ph.D. in Genetics or Molecular Biology, 2 years' postdoctoral experience, and extensive experience using the mouse as a tool to understand the genetics of complex or simple disorders. A strong interest and extensive experience with bioinformatics approaches for data mining is highly desirable.

Scientist/Senior Scientist
Job Code: CJM99006

As part of a highly collaborative research team, you will design and develop transgenic animal models. Duties will include design and assembly of transgene and knockout constructs, analysis of gene expression in cell lines and tissues including northerns, Southerns, westerns and immunoprecipitations, and participation in the development of novel transgenesis and knockout technologies. Experience with functional genomics technologies such as high density differential expression assays, cDNA library construction, and/or bioinformatics tools is preferred. Research management experience is also a plus. To qualify, you must have a Ph.D. in a relevant biological science with 0-3+ years' postdoctoral experience in the development or application of transgenic animal models.

Associate Scientist/ Senior Associate Scientist
Job Code: CJM99004

As part of a research team developing transgenic and knockout mouse models of human genetic disorders, you will perform zygote and blastocyst microinjections. To qualify, you must have a BS/MS in a relevant field, with 2+ years' transgenic animal production experience. Must have extensive experience with all aspects of transgenic animal production, including hormone priming, mating, embryo harvest, injections, embryo transfers, and animal tracking. Preference given to highly organized candidates with transgenics production facility experience, and/or research experience in genetics or developmental biology.

Senior Associate Scientist/ Scientist
Job Code: CJM99005

You will maintain an ES cell tissue culture facility. Duties include preparation and maintenance of ES and feeder cell line stocks, media, and reagents, electroporation of ES cells and processing of transfectant clones. To qualify, you must have a BS/MS in a relevant field, with 5+ years' mammalian cell culture experience. Requires experience with mammalian cell culture, preferably with ES cells. Experience with ES cell line derivation, FISH, cytogenetics, primary cell culture is beneficial.

Scientist/Senior Scientist
Job Code: CJM99075

As part of a team which will work directly with scientists in our genetics and molecular biology facilities to analyze DNA and protein sequences, you will work with genotype data and perform analyses. The job will involve all aspects of bioinformatics, from algorithm development, tool development to analysis, and development of experimental paradigms.

To qualify, you must have a Ph.D. in the Biological Sciences, and a strong interest in genetics or molecular biology. The ideal candidate will have 1-2 years' experience in bioinformatics, especially in areas such as sequence assembly, ORF prediction, contig assembly. Knowledge of programming languages such as PERL and shell scripting are required. Demonstrated facility with GCG and other standard sequence analysis tools is essential. Experience with relational databases is preferred. All candidates must have strong communication skills and the ability to work well both independently and in a team setting.

Scientist/Senior Scientist
Job Code: CJM99076

Based on theoretical background and algorithms developed within the Statistical Genetics group, you will design, implement and support data analysis tools related to statistical genetics and pharmacogenetics. Working closely with the members of the Statistical Genetics group, you will identify and automate repetitive tasks to enhance data retrieval, manipulation, analysis and reporting procedures. Additionally, you will interact with the Bioinformatics group to increase task efficiency and to avoid duplication of efforts in statistical genetics related issues.

To qualify, you must have formal training in statistics, mathematics, genetics or a similar field, and extensive knowledge of UNIX-based systems. Must be proficient in C and/or C++. Experience with GUI implementation of statistical tools is desired. Excellent communication skills are highly desired since you will serve as a bridge between the Statistical Genetics and Bioinformatics group in database and general data analysis issues. Advanced degree in Computer Science and/or prior industry experience in a similar position is preferred.

Associate Scientist/ Senior Associate Scientist
Job Code: CJM99078

Working closely with members of the Statistical Genetics group, using in-house and public statistical genetics tools, you will perform data analysis across human and animal genetics projects. To qualify, you must have a BS or MS level training in statistics, biostatistics, genetics or a related life sciences field, and prior experience with several statistical genetics software. Genuine interest in the genetics of complex traits, excellent written and oral communication skills, and ability to organize, analyze and summarize data within given deadlines are a must. Experience with SAS is highly desirable. Hands-on knowledge of programming language such as Fortran, C or PERL is preferred. This position may be upgraded if a suitable P.h.D level candidate can be identified.

Postdoctoral Fellows
Job Code: CJM995526/5527

Postdoctoral positions available immediately in a multi-disciplinary laboratory using the mouse as a model system to identify genetic factors contributing to disease risk. Approaches used in the laboratory include gene mapping, positional cloning, expression analysis, proteomics and bioinformatics. Specific expertise in the genetics of diabetes, obesity of atherosclerosis is highly desirable. To qualify, you must have a Ph.D. in Mammalian Genetics or Molecular Biology. Experience using the mouse as a model system for molecular/genetic studies.

For the **ALAMEDA, CA** positions, please send your resume with Job Code to: **Parke-Davis, Attn: Resume Processing Center, P.O. Box 92242, Los Angeles, CA 90009-2242. Fax: 510-749-4294. Or e-mail: resume@aa.wl.com**

In addition to the above positions in **Alameda, CA**, our **ANN ARBOR, MI** Pharmaceutical Research division has the following positions available for Postdoctoral Fellows.

We have demonstrated an excellent track record of innovation through the use of great science to discover drugs for unmet medical needs. Our research facility is adjacent to the University of Michigan. This location offers a vibrant research environment and a very attractive residential setting and quality of life.

Postdoctoral Fellow
Job Code: CJM995909

You will study the transcriptional regulation of genes affecting lipid/lipoprotein metabolism in the Department of Cardiovascular Therapeutics. The objectives of this project would be to isolate and characterize regulation sites of specific promoters, and determine the relative importance of those sites. To qualify, you must have a Ph.D. in molecular/cellular biology and a working knowledge of the molecular techniques needed to elucidate gene regulation (cell culture, plasmid construction, cloning, site directed mutagenesis, and the necessary gel techniques).

Postdoctoral Fellow
Job Code: RJB-974164

A postdoctoral position is available in the Department of Cell Biology for a highly motivated, independent scientist in the area of intracellular signaling. The department is highly interactive with interests in basic and applied aspects of signal transduction. The opportunity is available in the laboratory researching mechanisms of insulin action; regulation of protein kinases and phosphateses.

For the **ANN ARBOR, MI** position, please send your resume with Job Code to: **Parke-Davis, 2800 Plymouth Road, Ann Arbor, MI 48105. Fax: 734-622-7617. Or e-mail: resume@aa.wl.com**

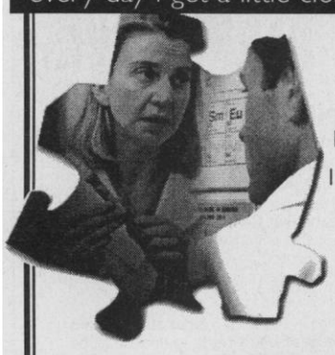
We offer competitive salaries, outstanding benefits, and an environment that's conducive to professional growth.

We are an equal opportunity employer. Smoke-free environment.

www.parke-davis.com

PARKE-DAVIS
A Warner-Lambert Division

every day I get a little closer...



...to a breakthrough that will change someone's life.

and I think, while some people work for a living.

I spend my days working to make life better.

what a difference. what an opportunity.

Envision an exciting future that brings new understandings in science, technological innovations and drug discoveries to meet the medical needs of our world. The people at Axys Pharmaceuticals are putting pieces of that future together every day.

Research Associate, Pharmacology

Axys is a leader in the integration of life science technologies with the goal of transforming gene discoveries into drugs. We have research collaborations with world-class pharmaceutical companies, covering a broad range of therapeutic areas.

You will be involved in establishing and running cell-based assays and in-vivo models of cancer for testing the potential therapeutic efficacy of novel anti-cancer agents; implement and validate cell-based assays and in-vivo models, perform biochemical analysis of proteins and other cellular and tissue components (ELISA, Western blot, Northern blot, flow cytometry, immunofluorescence and immnohisto-chemistry). Experience running a flow cytometry system is highly desired. This position requires a BS or MS in a relevant discipline, and an expertise in cell biology or pharmacology. Hands on experience in cell culture, running gels, performing ELISAs is desirable.

We offer an extremely competitive salary, full benefits, and career advancement within a progressive, growing company. Please forward your resume/cv to:

Axys Pharmaceuticals, HR Department, (Attn: Job# N98-158-SCI)
180 Kimball Way, South San Francisco, CA 94080
email: human_resources@axyspharm.com

AXYS

We look forward to hearing from you. EOE

www.axyspharm.com

THE OPPORTUNITY OF A LIFETIME. EVERY DAY.

Pioneer Hi-bred International, Inc.
An Equal Opportunity Employer

SENIOR RESEARCH ASSOCIATE GENETIC PATHWAYS (Job #98408B)

We are seeking a highly motivated individual to join the Plant Reproductive Biology Group. The successful candidate will conduct research to isolate genes required for male and female fertility using a combination of genetic, molecular, biochemical and bioinformatic tools. Furthermore, the candidate will characterize genes and their products to elucidate gene function in the context of maize reproductive biology.. This position requires extensive molecular expertise, as well as a solid background in genetics. A good understanding of plant reproductive biology and experience with molecular biology software tools is also needed. The candidate will be expected to interact closely with field personnel and other researchers within the project, in addition to interacting with external groups when necessary. Candidates with a gene isolation background, transposon tagging, and plant reproductive biology are favored. This position requires a B.S. degree with at least 5 years of relevant experience or a M.S. degree with 2 years of experience.

SENIOR RESEARCH ASSOCIATE PLANT MOLECULAR BIOLOGIST (Job #98411C)

An immediate opening for Senior Research Associate is available to develop transgenic plants for production of industrially important novel polymers. A primary responsibility will be to isolate and clone novel genes encoding enzymes that are involved in key metabolic pathways, to characterize their properties and to evaluate the expression and function of the genes in plants. The candidate will be expected to participate in a broader research program aimed at metabolic pathway engineering. Knowledge in molecular biology methods is required and prior experience with protein purification or enzymology is desirable but not required. Applicants must have Ph.D. or M.S. with at least 4 years of related experience in molecular biology or biochemistry. We also require the ability to communicate effectively with scientists of diverse backgrounds and to work in a highly collaborative and interactive research environment.

Please submit your curriculum vitae in scannable format to: Pioneer Hi-Bred International, Inc. ATTN: Human Resources - Research (reference job #), PO Box 1004, Johnston, IA 50131-1004; e-mail: jobsresearch@phibred.com , For more information on this positions visit our website www.pioneer.com.

University of Maryland Biotechnology Institute

PRESIDENT UNIVERSITY OF MARYLAND BIOTECHNOLOGY INSTITUTE

The Chancellor and the Regents of the University System of Maryland invite nominations and applications for the position of President of the University of Maryland Biotechnology Institute. The appointment will be effective at a mutually convenient date during 1999. We seek an entrepreneurial leader with a strong scientific and academic background and credentials, as well as significant experience with industry, to manage this young, dynamic, growing institution.

The President is the chief executive and scientific officer of the University of Maryland Biotechnology Institute (UMBI), one of two non-degree-granting scientific research institutions within the University System of Maryland. The State of Maryland established UMBI in 1985, setting out a three-fold mission:

a) to establish and nurture research programs at the forefront of basic science and biotechnology as applied to human health, the marine environment, agriculture and protein engineering/structural biology; b) to educate and train the next generation of scientists who will work in the area of biotechnology; and c) to catalyze biotechnology-related economic development in Maryland. With five centers in three counties within the Washington, D.C.–Baltimore corridor — one of three major hubs for the biotechnology industry nationally — the institution is ideally situated to contribute to and benefit from the area's rich intellectual, scientific and technological resources within industry, government and academia. UMBI's budget for the current fiscal year is in excess of $37 million; in 1998 it generated over $17 million in sponsored research funding. For additional information about the institute, please visit www.umbi.umd.edu.

The President is responsible for all operations of this innovative research institute, including overall leadership and guidance of the institution, its academic enterprise, fundraising, legislative relations, the development of budget requests and the administration of resources. The President will be responsible to the Chancellor of the University System and will operate in accordance with policies and procedures established by the Board of Regents.

Applications and nominations should be addressed to:

Dr. J. Stark Thompson, Chair
Search Committee for the President
of UMBI Life Technologies, Inc.
9800 Medical Center Drive
Rockville, MD 20850

Application review will begin on March 19 and will continue until a suitable candidate is selected. Women and minority candidates are strongly encouraged to apply.

The University of Maryland Biotechnology Institute is an Equal Opportunity Employer.

NATIONAL EXPOSURE RESEARCH LABORATORY POST-DOCTORAL PROGRAM

The National Exposure Research Laboratory (NERL) of the United States Environmental Protection Agency is seeking candidates to fill as many as **24 federal, four-year post-doctoral research positions** during the coming year. NERL conducts research and development related to the exposure of people and ecosystems to a wide range of pollutants in the air, water, and soil, and to other environmental changes resulting from human activities at a wide range of scales including landscape alterations. This research encompasses areas such as environmental monitoring and characterization (physical, chemical, biological, and microbiological); computer modeling of the transport, transformation, and fate of pollutants in multiple media and at multiple scales; human and ecological exposure analysis (including the development of exposure biomarkers and bioindicators); remote sensing applications; and landscape ecology. NERL also field-tests, evaluates, and demonstrates the applications of these findings to environmental problems of national importance to EPA's regulatory and regional offices, other federal agencies, and state, local, and tribal governments. Among NERL's current priorities are exposure of humans to airborne particulate matter and emerging microial pathogens (bacteria, protozoan parasites, and viruses) in water supplies; exposure of children to pesticides; multi-media, multi-pathway exposure modeling in humans; influence of landscape changes on surface water quality; development of integrated multimedia (atmospheric, terrestrial, and aquatic) transport and fate models; and assessment of the relative risk of exposure to a variety of stresses in regional ecosystems and large watersheds.

Because of the broad range of NERL's research mission, we are seeking candidates from a wide range of disciplinary backgrounds, including environmental science, chemistry, physics, biology, molecular biology, bacteriology, protozoology, virology, ecology, geography, applied mathematics and statistics, human health sciences, meteorology, computer science, and environmental or chemical engineering. The preferred candidate will have earned a Ph.D. in one of these areas within the last five years or will awarded it not later than August 31, 1999.

The NERL post-doctoral positions will be located in a division at either Research Triangle Park, North Carolina; Cincinnati, Ohio; Athens, Georgia; or Las Vegas, Nevada, depending on the particular disciplinary focus, and will be filled beginning **June 1999**. Successful applicants will begin work before October 1, 1999. These excepted service appointments will last for four years and offer a salary range of **$39,960 – $62,260**, commensurate with qualifications. The selected candidates will be eligible for a **full benefits package**, including relocation expenses, health insurance, life insurance, retirement, and vacation and sick leave benefits. **United States citizens are preferred and will be given first consideration for all positions.**

The filing deadline for these post-doctoral positions is **March 31, 1999.** If you are interested, **please mail a curriculum vitae, a letter of recommendation from your senior research advisor or other comparable official, and a letter indicating your research focus, desired position(s) and the geographic NERL location(s) you prefer** (see NERL Internet site below for specific positions) to Ms. Dorothy Carr, U.S. Environmental Protection Agency, Human Resources Management Division (MD-29), Research Triangle Park, NC 27711, Attn: NERL Post-Doctoral Program. If you are claiming veterans' preference, please include your **DD-214** with your application package.

If you send your application via Federal Express, address it to Ms. Dorothy Carr, U.S. Environmental Protection Agency, Human Resources Management Division (MD-29), 4201 Building, Suite 105, 79 Alexander Drive, Research Triangle Park. NC 27709, Attn: NERL Post-Doctoral Program. You may also submit your application via facsimile (fax) machine to (919) 541-2186; however, applications faxed from a U.S. government fax machine will not be accepted. Applications sent electronically via the Internet or mailed in US. government postage-paid envelopes will also **not** receive consideration. Your application materials must be received in the Human Resources Office or postmarked by **March 31, 1999.** Questions may be directed to Ms. Carr at (800) 433-9633. After all responses are reviewed, candidates will receive written notice of the status of their applications no later than **June 15, 1999.**

For specific job information on for the NERL post-doctoral program, you may access the National Exposure Research Laboratory's Internet site at http://www.epa.gov/nerl/

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Biogen has established a unique record of success as one of the world's premier biotechnology companies. Pioneering research by our scientists has led to the introduction of several important new medical therapies, including AVONEX® (Interferon beta-1a), the most prescribed therapy in the U.S. for relapsing forms of multiple sclerosis. We are staking our future growth on the development of our next generation of pharmaceutical products, five of which are currently being tested in human clinical trials. Today, we are seeking the following committed professional to join our expanding team in Cambridge.

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Expertise in a broad range of immunology and molecular biology techniques is necessary for this position in our TNF Family program. A BS/MS degree and 6+ years' experience in many of the following areas: FACS analysis, immunoprecipitation and immunohistochemistry methods, in vitro cell activity assays, as well as experience in small animal handling and dissection. Molecular Biology skills should include probe preparation and hybridization, RNA ISH, cloning, mammalian cell culture and transfection techniques. Successful candidate should have strong organizational skills, excellent communication skills, familiarity with molecular biology computer programs, and a flexible, team-oriented attitude. **Job Code: RC-CH**

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Postdoctoral Position in Neural Plasticity

Position available for a recent Ph.D. to study the role of cell interactions in modulating morphological plasticity in the developing and adult nervous system. Areas of study include changes in stem cell migration and integration, axon guidance and targeting, and the formation and remodeling of synaptic connections.

The candidate should have a strong background in cellular and developmental neuroscience or in the biology/chemistry of cell interactions.

Letters of application, including a CV and letters from two references should be sent to: **Urs Rutishauser, Ph.D., Cellular Biochemistry & Biophysics Program, Box 290, Sloan-Kettering Institute, 1275 York Avenue, New York, NY 10021.** EOE/AA.

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Research Scientists

The successful candidates will be involved in research of G-protein coupled receptors, especially chemokine receptors. This includes the cloning of ligand and receptor genes, their expression in mammalian cells, their pharmacological characterization and the identification of novel antagonists or agonists. The ultimate goal is to determine the pharmacological effects of novel agonists and antagonists in primary cells or tissues and in animal models, in order to assess the physiological role of these receptor pathways and to identify compounds suitable for clinical development for the therapy of immunoinflammatory diseases.

Candidate should have a B.S./M.S. degree or equivalent in Biochemistry, Molecular Biology, or Cell Biology with at least two years experience in a biochemistry or molecular biology laboratory with research skills that include ligand and receptor cloning, expression in mammalian cells, characterization of signal transduction pathways and receptor binding assays. Applicants with some experience in small animal biology are preferred. Good oral and written communication skills are required.

For consideration, please send resume and letters of reference to **Merck Research Laboratories, Human Resources, P.O. Box 2000, Ad #84, RY80A-3, Rahway, NJ 07065.** EEO/AA/VH Employer.

MERCK Research Laboratories

Postdoctoral Fellowships in the Radiation Sciences

Department of Environmental and Occupational Health, Graduate School of Public Health, University of Pittsburgh

The University of Pittsburgh has been designated as a unique academic "Center of Excellence" to provide Postdoctoral Fellowships for research and study in the Radiation Sciences. The goal of this training program, supported by the U.S. Department of Energy, is to replenish the national pool of doctoral-level, multidisciplinary radiation scientists in governmental, academic and industrial research positions focused on the health effects from ionizing radiation exposure.

The program offers a two year sequence including, course work, laboratory rotations, colloquia and seminars, a radiation epidemiology workshop and one year of field experience at domestic or foreign sites of interest to the Department of Energy. Areas of concentration include: radiation epidemiology and biostatistics; health physics and radiobiology; biological dosimetry, biomarker development and application; and occupational medicine.

Applicants should have a recent doctoral degree (Ph.D., M.D., D.Sc., Dr.P.H.) in the natural or health-related sciences. M.D.s may apply for concurrent admission to the residency program in Occupational Medicine. A university-supported third year may be arranged if necessary. A stipend of $33,500 for the first year, $36,000 for the second year, research expenses, health insurance and annual travel allowances to an from the research sites are provided. Fellows must be U.S. citizens or permanent residents.

For additional information or application materials, contact: H. Gregg Claycamp, Ph.D., Program Director, 260 Kappa Drive, Center for Environmental and Occupational Health and Toxicology, Pittsburgh, PA 15238; or telephone (412) 967-6514, fax (412) 624-1020, or e-mail hgc2+@pitt.edu.

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The Center for Scientific Review National Institutes of Health

Scientific Review Administrators

The Center for Scientific Review (CSR) at the National Institutes of Health (NIH) is undergoing an expansion. Building on 50 years of pride in peer review as the Division of Research Grants, CSR would like to identify highly qualified research scientists who are interested in serving as Scientific Review Administrators for CSR Study Sections. Individuals should have a history of proven independent research experience in their fields and have a broad knowledge of their scientific areas.

We are seeking highly motivated, enthusiastic individuals with excellent judgement and highly developed communication, analytic, interpersonal, organizational and writing skills. These individuals will apply their capabilities to the present and future challenges offered in scientific review.

Scientific Review Administrators will be responsible for understanding the current status and identifying future directions of their areas of biomedical research; selecting members of review panels; managing study section meetings; facilitating interactions with study section members and communicating the results of their deliberations and recommendations to the applicants and to the staff of the NIH Institutes which fund the applications.

These are GS-12, 13, or 14 Civil Service Positions, *requiring U.S. citizenship*. The current salary range for these positions is $48,796 to $89,142 per year. Applicants must have: a Ph.D. degree or M.D. degree (or have equivalent training and experience); postdoctoral research training; and, a record of research accomplishment. Recruitment bonuses may be available. For positions requiring the M.D. degree, a physician's comparability allowance is available.

Further information, qualification details and needed areas of scientific expertise can be obtained on the web site http://www.csr.nih.gov/interest.htm. The deadline date for consideration is April 9, 1999.

NATIONAL INSTITUTES OF HEALTH

Co-ordinator
Center for Scientific Review
National Institutes of Health
6701 Rockledge Drive
Bethesda, MD 20892-7776
E-Mail: scirev@csr.nih.gov

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Explore these challenging career opportunities available to you in our Biotechnology Unit that's situated on a 43-acre campus in Berkeley, CA and is responsible for the global research, development and production of biotechnology-derived products. Our working environment is a collective, collaborative one that redefines team, where every valued employee contributes in support groups utilizing their molecular biology, pharmacology and immunology expertise.

POST-DOCTORAL FELLOWS

CELL BIOLOGY/GENE THERAPY

Bring your interests in gene delivery for the purposes of gene therapy to our team! We seek a highly-motivated post-doctoral fellow with a strong background in either cell biology or gene therapy. Experience in membrane biology, extracellular transport, receptor-ligand interactions, endosome biology, nuclear localization and gene delivery via non-viral and viral strategies are strongly preferred. You will conduct research aimed at developing novel gene delivery vehicles and understanding the interaction between these vehicles and the various components of target cells. **Job Code GL/BK-19A.**

MOLECULAR BIOLOGY/GENE THERAPY

We seek a post-doctoral fellow in the fields of gene therapy/gene expression with a recent Ph.D. in Molecular Biology. A strong focus on regulation of gene expression and an interest in applying this knowledge to the field of gene therapy are also requisites. You'll join a team that has been recently formed to overcome the technical blocks in the field of gene therapy. This is a unique opportunity to collaborate with groups in molecular biology, chemistry, cell biology and animal pharmacology. In this position, you will work to design and optimize tissue specific expression vectors for non-viral gene therapy. The ability to think creatively and work as part of a team are essential. **Job Code GL/BK-19B.**

Bayer offers an attractive compensation and benefits package. Please forward your resume, INCLUDING JOB CODE OF INTEREST, to: **Human Resources, Bayer Corporation, Pharmaceutical Division, P.O. Box 1986, Berkeley, CA 94701. Fax: (510) 705-4709. E-mail: BRKL.jobs@Bayer.com** No agencies or phone calls please. *For more information on Bayer, search: http://www.bayerpharmana.com*

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POSITIONS OPEN

TENURE-TRACK FACULTY POSITIONS IN CANCER RESEARCH, CARDIOVASCULAR/RENAL SCIENCE, IMMUNOLOGY, AND NEUROSCIENCE

Applications are invited for two tenure-track faculty positions in the Division of Basic Medical Sciences, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, Canada. The Division consists of approximately 35 faculty members with research strengths in cancer research, cardiovascular/renal science, immunology, and neuroscience. One appointment will be in the area of cardiovascular/renal disease. A second appointment is open in any of the four areas. Applicants must hold an M.D. or Ph.D. degree and have postdoctoral training. Successful candidates will be expected to develop externally funded research programs and participate in medical undergraduate and graduate teaching. Additional information regarding the Faculty of Medicine and Memorial University of Newfoundland may be found at **website: http://aorta.library.mun.ca/med/** and **http://www.mun.ca/**.

Applications should include a curriculum vitae, description of research interests, and the names of three referees from which letters of reference have been requested. Reference letters should address the applicant's potential to develop an independent research program and to participate in teaching programs. Correspondence should be addressed to: **The Associate Dean, Division of Basic Medical Sciences, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland A1B 3V6 Canada.** Application review will begin April 1, 1999. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. Memorial University is committed to the principles of Employment Equity and welcomes applications from all qualified candidates.*

FACULTY POSITIONS IN BIOTECHNOLOGY

As part of a major expansion, the new College of Science and Technology at Temple University invites applications for multiple **TENURE-TRACK** faculty positions in the area of interdisciplinary biotechnology. The faculty will be expected to conduct high-quality funded research, and to contribute to our educational mission at the graduate and undergraduate levels. Appointments are possible at all academic levels, appropriate to experience. Applicants for Associate Professor or Professor must have an externally supported research program and a substantial publications record.

Emphasis will be placed on interdisciplinary approaches to (1) bioinformatics, including genomics and proteomics; (2) signal transduction; (3) structural and "single molecule" biology; (4) gene regulation.

Applicants should send a curriculum vitae, publication list, and a statement of research interests and teaching philosophy. Please include the names, addresses, and telephone numbers of four references. Materials should be addressed to: **The Chair of the Biotechnology Search Committee, Office of the Dean, Temple University, Philadelphia, PA 19122.** Additional information can be obtained at **website: www.temple.edu/biology.**

Temple University is an Equal Opportunity/Affirmative Action Employer. Applications from women and members of underrepresented minorities are encouraged.

FACULTY POSITION. The Department of Biochemistry of the College of Medical Sciences of Nova Southeastern University invites applications for a position of **ASSISTANT PROFESSOR.** The College of Medical Sciences is located in the Health Professions Division facility on the Fort Lauderdale, Florida campus. Qualified candidate will be responsible for participation in team-taught courses to health profession students, as well as expectations of scholarship and service. Position available July 1, 1999, pending approval of the Board of Trustees. We offer competitive compensation and benefits. Please send or e-mail résumé, a letter of intent stating career goals, curriculum vitae, copies of graduate transcripts, and the names, addresses, and telephone numbers of three professional references to: **(HLF) Nova Southeastern University, Human Resources Department, 3301 College Avenue, Ft. Lauderdale, FL 33314.** E-mail in MS Word or Word/Note Pad format, **e-mail: nsujobs@nsu.nova.edu.** *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

RESEARCH POSITION MOLECULAR BIOLOGY OF INFLAMMATION

The Vascular Biology Program at London Health Sciences Centre and the University of Western Ontario, London, Ontario, Canada has a position available for a scientist. The members of the Vascular Biology Program consist of basic and clinician scientists interested in the systemic inflammatory response syndrome (SIRS). The Vascular Biology Program currently receives funding from the Medical Research Council of Canada (Group Grant as well as individual grants), Heart and Stroke Foundation, and industrial sources. For more information about the Vascular Biology Program please visit our **website: www.lhsc.on.ca/vascularbio.**

The applicant will receive an appointment at the **ASSISTANT/ASSOCIATE PROFESSOR** level in the most appropriate Academic Department at the University of Western Ontario. The applicant is expected to have demonstrated excellence in research as attested by extramural funding in the area of molecular/immunologic regulatory mechanisms involved in any aspect of acute inflammation. In order to complement existing technology and approaches, the individual should have a good background in the regulation of any of the myriad of genes involved in the inflammatory process. The applicant is expected to interact with the members of the Vascular Biology Program whose interests include inflammation, neutrophil-endothelial adhesive interactions, adhesion molecule expression, and vascular disorders associated with SIRS.

London, Ontario is a city of 350,000 in southwestern Ontario with easy access to various major centers in Canada and United States. The absence of urban congestion and pollution, in conjunction with a mild climate, makes it one of the most attrative communities in Canada, offering an excellent cultural and family-orientated environment.

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. The closing date for applications is April 30, 1999.

Interested individuals should submit their curriculum vitae to: **Peter R. Kvietys, Ph.D., Director, Vascular Biology Program, London Health Sciences Centre Research Inc., 375 South Street, Room C210, London, Ontario N6A 4G5 Canada.**

FACULTY POSITION MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Department of Nuclear Engineering invites applications for a junior-level, **TENURE-TRACK POSITION** in the areas of radiation science and technology starting September 1999. The successful candidate will develop sponsored research in areas related to biological effects and applications of radiation. Applicants with backgrounds in engineering or physical sciences, and with experience in biological applications are encouraged to apply. Applicants should send curriculum vitae, description of research interests, and the names of three references to: **Prof. Kent F. Hansen, Search Committee Chairman, Room E40-391, Massachusetts Institute of Technology, Cambridge, MA 02139.** E-mail applications can be sent to **e-mail: kfhansen@mit.edu.** For additional information, see our **website: www.mit.edu/ned/www/.** *MIT is an Equal Opportunity/Affirmative Action Employer. MIT is a nonsmoking environment.*

ASSISTANT PROFESSOR DEPARTMENT OF SURGERY
Section of Anatomy and Experimental Surgery

The Department of Surgery, Section of Anatomy and Experimental Surgery at Yale University School of Medicine invites applications for a faculty position at the level of Assistant Professor. Responsibilities will include the development of a strong, independent research program and participation in the teaching of gross anatomy to medical students. Applicants should submit their curriculum vitae with a summary of present and future research interests by April 30, 1999, to: **Dr. William B. Stewart, Section Chief, Department of Surgery, Section of Anatomy and Experimental Surgery, P.O. Box 208062, New Haven, CT 06520-8062.** *Yale is an Equal Opportunity/Affirmative Action Employer. Members of minority groups and women are encouraged to apply.*

POSITIONS OPEN

TENURE-TRACK POSITIONS NEUROSCIENCE CASE WESTERN RESERVE UNIVERSITY

As part of a new phase of growth, the Department of Neurosciences at Case Western Reserve University School of Medicine invites applications for the first two of six new tenure-track positions. These positions are designed to be filled at the **ASSISTANT PROFESSOR** level, but exceptionally qualified candidates for other levels will be considered. While all areas will be considered, including molecular/genetic, cellular, and systems, we are especially interested in areas that are complementary to existing strengths in developmental and molecular neuroscience. The department is housed in contiguous, newly renovated space, and provides state-of-the-art facilities and ample opportunity for interaction with the 14 primary faculty members, as well as with secondary faculty in adjacent departments, including genetics, pediatrics, physiology and biophysics, and molecular biology and microbiology. Generous start-up funds are available. Candidates should possess a Ph.D./M.D. degree, and have several years of postdoctoral experience. They will be expected to develop a successful, funded research program and participate in medical and graduate teaching. Evaluation of applications will begin on April 15, 1999, and continue until both positions are filled. Please submit a curriculum vitae, a summary of research interests, and the names of three references to: **Dr. Lynn Landmesser, Chair, Department of Neurosciences, Case Western Reserve University School of Medicine, 10900 Euclid Avenue, Cleveland, OH 44106-4975.** *Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.*

University of Missouri–Rolla (UMR). Donald L. Castleman/FCR MO **ENDOWED PROFESSORSHIP** of Discovery in Chemistry. Applicants are sought for a new endowed position. Duties will include responsibility to attract and inspire superior graduate, undergraduate, and postdoctoral students, to teach innovative problem solving, to maintain external support for a vigorous research program, to maintain state-of-the-art curriculum, to help other faculty members obtain grants and access to modern equipment, to collaborate with faculty and students in other departments and research centers at UMR, and to serve as a standard of excellence for faculty members in UMR's Department of Chemistry. Ph.D. degree required or substantial experience that substitutes for the Ph.D.; must be an inspiring scientist/educator, a demonstrated leader, with a high level of achievement, significant recognition such as potential for membership in the U.S. National Academy of Sciences, etc. Send letter of application, complete résumé, and three letters of reference to: **Human Resource Services, Reference Number R52769, University of Missouri–Rolla, 1202 North Bishop, 1870 Miner Circle, Rolla, MO 65409-1050.** The search committee will begin review of applications on May 1, 1999, but applications will be accepted until the position is filled or August 1, 1999, whichever is sooner. *UMR is an Affirmative Action/Equal Opportunity Employer. Females, minorities, and persons with disability are encouraged to apply.*

Faculty position in infectious diseases. The Department of Veterinary and Microbiological Sciences at North Dakota State University invites applications for a tenure-track faculty position in infectious diseases, which is expected to be filled at the level of **ASSISTANT PROFESSOR.** The successful candidate will teach undergraduate and graduate-level courses, and carry out active independent research in an area that complements existing programs in bacteriology, virology, and immunology. See the Departmental website for further information, **website: http://www.ndsu.nodak.edu/instruct/devold/vetmicro/.** Candidates must have a relevant Ph.D. degree, a commitment to teaching, appropriate research experience, and good oral and written communication skills. Teaching experience, postdoctoral research experience, and evidence of grantsmanship ability are preferred. Review of applications will begin April 16, 1999, and will continue until the position is filled. Send a letter of application, including curriculum vitae and the names and e-mail addresses of three references, to: **Michael Robinson, Ph.D., Chair, Search Committee, Department of Veterinary and Microbiological Sciences, North Dakota State University, Fargo, ND 58105. Telephone: 701-231-7841; FAX: 701-231-7514; e-mail: mrobinso@plains.nodak.edu.** *North Dakota State University is an Equal Opportunity Institution.*

HOLLAND LABORATORY

POSTDOCTORAL FELLOWS

Hematopoiesis Research Program

Two postdoctoral fellow positions are available to study stem cell processes and gene function during hematopoietic development. Applicants should have a Ph.D. and a strong background in molecular and cellular biology. Projects, which will employ MSCV retroviral vector gene transfer methodology (Gene Ther. 1:136, 1994; PNAS 93:10297, 1996; Gene Ther. 4:1013, 1997; Blood 92:2003, 1998; CLONTECHniques XIV:20, 1999), are focused on mechanisms in early embryonic hematopoiesis (Blood 92:877, 1998) and characterization of novel regulatory genes (Genomics 50:44, 1998).

The Hematopoiesis Department is a new basic research group being formed at the Jerome H. Holland Laboratory, the national research and development division of the American Red Cross, located ten miles north of the NIH in Rockville, MD (Washington, DC metropolitan area). Stipends are highly competitive.

Interested individuals should send their curriculum vitae and names of three references to: **Robert G. Hawley, Ph.D., Head, Hematopoiesis Department, Holland Laboratory, American Red Cross, 15601 Crabbs Branch Way, Rockville, MD 20855.** EOE, M/F/D/V.

American Red Cross

MAYO CLINIC FACULTY POSITIONS IN TRANSPLANTATION BIOLOGY

mayo

Mayo Clinic is undertaking an expanded research initiative in transplantation biology. One objective of this initiative is to assemble a faculty of independent investigators who can focus diverse scientific interests on the biological and immunological hurdles to transplantation and on the development of novel approaches to overcoming those hurdles. Four scientists of the highest caliber with expertise in cellular biology, molecular or structural biology, biochemistry, immunology, or virology who might want to contribute to such an integrated program are sought. The basic science research program will include opportunities to interact with clinical and preclinical programs. To inquire, send a cover letter describing your research interests, a curriculum vitae, and the names of three references to:

Jeffrey L. Platt, M.D.
Mayo Foundation
Medical Sciences Building
Room 2-66
Rochester, MN 55905

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POSITIONS OPEN

ECOSYSTEM MODELER
ASSISTANT RESEARCH PROFESSOR

The Biological Sciences Center (BSC), Desert Research Institute (DRI), seeks outstanding Ecosystem Modeler at higher ranks. Position is 100 percent research and interacts with diverse group of scientists on varied research projects and proposals. Prefer ability to link laboratory and field-based process-level studies to regional and global scales, or link process-based models to land management strategies. Must be able to communicate effectively with experimentalists to design integrated research studies and to develop externally funded research program. Required: Ph.D. in life sciences and strong background in mathematics or vice versa; minimum of two years of research experience beyond Ph.D.; established record of publication in peer-reviewed journals; success obtaining research funding and managing research programs. Salary is competitive and dependent on qualifications. DRI offers an excellent benefits package.

Submit curriculum vitae, letter describing how your qualifications meet the position requirements, a statement of your research interests, and contact information, including electronic, for five references. Review begins March 15, 1999, and continues until the position is filled. Reference Position #P40-013 and send materials to: **Human Resources, Desert Research Institute, 2215 Raggio Parkway, Reno, NV 89512.** For additional information, visit our **website: www.dri.edu** or contact: **J. Arnone, Assistant Research Professor, Biological Sciences Center, Telephone: 775-673-7445; e-mail: jarnone@dri.edu.**

An opening is expected for a **NEUROSCIENTIST** position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level in the Department of Radiology, Massachusetts General Hospital. Candidates should have a background in cognitive or basic neuroscience, and at least three years of experience in functional MRI, including computational image processing and mathematical and statistical analysis of functional image data. Preferred research interests would be in the areas of multimodality image fusion including the integration of MEG, EEG, and fMRI data, and in the development of novel functional brain image atlases.

Applicants must possess a Ph.D. or equivalent degree, a promising record of publications in the area of functional MRI, and a proven ability to initiate and conduct multidisciplinary research in functional brain imaging. The successful candidate will be expected to establish collaborative studies with other scientists within the department.

Applicants should send a letter of interest and curriculum vitae to: **Bruce R. Rosen, M.D., Ph.D., Director, Massachusetts General Hospital–NMR Center, Building 149(2301), 13th Street, Charlestown, MA 02129.**

The Massachusetts General Hospital is an Equal Opportunity Employer.

Biochemistry position. Stetson University. The Department of Chemistry invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level to start in fall 1999. A Ph.D. in biochemistry is required, with postdoctoral experience preferred. The successful candidate will assume direction of a newly developed Biochemistry Program now enrolling about 30 undergraduate biochemistry majors, will teach the Program's two-semester sequence of biochemistry courses, and will be expected to pursue a vigorous program of research involving undergraduates. Stetson University is a selective, primarily undergraduate institution of about 2,000 students, employing five faculty in the Chemistry Department. The Department is committed to excellence in teaching and is ACS-approved. Applicants should submit a curriculum vitae, statements of teaching philosophy and research interests, and copies of undergraduate and graduate transcripts, and should arrange to have three letters of recommendation sent to: **Dr. Kenneth G. Everett, Chair, Department of Chemistry, Stetson University, DeLand, FL 32720.** Review of applications will begin in March 1999 and continue until the position is filled. *Stetson University, an Equal Opportunity Employer, affirms the values and goals of diversity and strongly encourages the applications of women and candidates from historically underrepresented groups.*

Molecular biology. **ASSISTANT PROFESSOR.** Tenure-eligible, Department of Biomedical Sciences, Southwest Missouri State University. Program in Cell and Molecular Biology. Start date: January (preferred) or August 2000. For full information, see **website: http://www.smsu.edu/contrib/bms/biomed.html.** *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR
MOLECULAR BIOLOGY—ANATOMY

The School of Dentistry, University of the Pacific (UOP) in San Francisco seeks to fill a full-time, tenure-track Assistant Professor position. Candidates should be able to develop and maintain a strong externally funded research program in a field of molecular biology and teach histology to dental students. A Ph.D. or equivalent and three years of postdoctoral experience are required.

UOP has a small but active research program that includes gene and drug delivery by liposomes, actin and microtubule-based molecular motors, periodontal pathogens, NMR of proteins, HIV infection mechanisms, and regulation of bone morphogenesis. Priority will be given to applicants whose research relates to the dental sciences and who are willing to collaborate with other laboratories.

Applicants should send a letter of interest, curriculum vitae, names of three references, and statement of research and teaching experience to: **Dr. David W. Chambers, University of the Pacific, 2155 Webster Street, San Francisco, CA 94115.** The search committee will begin considering applications on 15 April 1999 and will continue to do so until the position has been successfully filled. *Women and underrepresented minorities are encouraged to apply.*

CARNEGIE MELLON UNIVERSITY
DEPARTMENT OF
MATHEMATICAL SCIENCES

The Department of Mathematical Sciences at Carnegie Mellon University seeks candidates with research interests in mathematical/computational biology. Qualified candidates at **ALL LEVELS** are encouraged to apply. We are particularly interested in researchers with interests in neural modeling, brain function, and genome mathematics. A successful candidate for this position would be expected to interact with allied scientists in other centers and departments at Carnegie Mellon. Applicants should send a curriculum vitae, list of publications, and a statement describing current and planned research. Candidates should also arrange to have at least three letters of recommendation sent to: **Appointments Committee, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213.** Applications will be accepted until the position is filled. *Carnegie Mellon University is an Affirmative Action/Equal Opportunity Employer.*

LECTURER IN WILDLIFE

Full-time, temporary, one-year position. Ph.D. required at time of appointment. Candidate must demonstrate interest and ability to teach undergraduates. Responsibilities include 15 semester units of teaching. Dedication to superior teaching is a tradition at Humboldt State University. Applicants should demonstrate expertise in evaluating wildlife-habitat relationships, wildlife techniques, and ornithology. Successful candidate may teach habitat ecology, wildlife techniques, ornithology, or other assigned courses. Submit curriculum vitae, three letters of reference, and transcripts to: **Dr. Mark A. Colwell, Chair, Wildlife Department, Humboldt State University, Arcata, CA 95521. Telephone: 707-826-3723.** Applications accepted until 1 April 1999 or until position is filled. *Humboldt State University is an Equal Opportunity/Affirmative Action/Title IX Employer.*

DEPARTMENT OF MOLECULAR BIOLOGY
PRINCETON UNIVERSITY

Applications for a **JUNIOR POSITION** in any area of modern experimental biology are invited. We seek a vigorous, creative scientist with a serious commitment to excellence in education at the graduate and undergraduate levels.

Interested individuals should send a curriculum vitae to:

Junior Faculty Search Committee
Department of Molecular Biology
Princeton University
Princeton, NJ 08544

Princeton University is an Equal Opportunity/Affirmative Action Employer.

The International Foundation for Ethical Research (IFER) is pleased to announce the availability of **GRADUATE STUDENT FELLOWSHIPS** in animal welfare. IFER is dedicated to the development and implementation of scientifically valid alternatives to the use of animals in research, product testing, and education. Deadline: March 15, 1999. Grants up to $15,000. Renewable. Visit us on our **website: www.IFER.org** or call at **Telephone: 312-427-6025.**

POSITIONS OPEN

RESEARCH FELLOWS

The City of Hope National Medical Center and Beckman Research Institute seek the following Research Fellows.

Molecular medicine (code TK/SCI): Perform studies in genetic instability and chromosome translocation; requires a Ph.D.

Cell and tumor biology (code BS/SCI): Perform protein structural/functional analysis of DNA repair and replication nucleases. Requires a Ph.D. in genetics, biochemistry, microbiology, or equivalent with emphasis of enzyme biochemistry. Please refer to our publications (*Cell* **95**:135–, 1998; *TiBS* **23**:171–, 1998; *JBC* **273**:33064–, 1998) for more scientific details.

The City of Hope, located near Pasadena, offers a competitive salary and benefits package. Please send your curriculum vitae (indicating position code) and a statement of research interests and plans along with the names, addresses, and telephone numbers of three referees to: **Adrienne Fryhoff, Research Services, City of Hope, 1450 East Duarte Road, Duarte, CA 91010. FAX: 626-301-8843.** Visit our **website: www.cityofhope.org/cohjobs.**

MEDICAL DIRECTOR
MEDICAL ASSOCIATE

Medical education firm seeks Medical Director and Medical Associate. Medical Director candidate must have Ph.D., M.D., or Pharm.D. and will be responsible for assessing the medical and scientific content of various communications projects (e.g., primary and secondary publications, slide kits, monographs, symposia content, and newsletters) and interfacing with opinion leaders. Preference given to candidates with specialization in cardiology/cardiovascular diseases, endocrinology, or the central nervous system. Medical Associate candidate will be responsible for verifying scientific and clinical content of communications projects pertaining to pharmaceutical products. M.S., R.Ph., Pharm.D., or B.S. plus equivalent experience required. Both positions offer very competitive salary/benefits package. Mail résumé: **Applied Clinical Communications (medical), 1160 Parsippany Boulevard, Parsippany, NJ 07054. FAX: 973-316-5997; e-mail: jdagnese@appliedclinical.com.**

A position is available immediately for a **NEUROSCIENTIST** with the rank of Ph.D. or its equivalent for appointment as a **RESEARCH FELLOW** in the Pain Research Group in the Department of Anesthesia at Boston Children's Hospital and Harvard Medical School.

The interests of the laboratory include (1) effects of prolonged peripheral nerve blockade on activity-dependent neuroplasticity in developing and mature organisms; (2) development of novel local anesthetics preparations for clinical use; (3) molecular pharmacology of local anesthetic action in mature and developing organisms.

Previous research in molecular biology, electrophysiology, or neuropharmacology is desirable. Interested applicants should address inquiries to: **Charles Berde, M.D., Ph.D., 333 Longwood Avenue, 5th Floor, Boston, MA 02115.** *Children's Hospital is an Equal Opportunity Employer.*

GENE TARGETING SPECIALIST/
MOLECULAR BIOLOGIST
ES CELL CULTURE

The Transgenic Mouse Facility of the Memorial Sloan-Kettering Cancer Center seeks a highly motivated Research Specialist experienced in gene targeting and ES cell culture; genotyping of transgenic and targeted mice by Southern and PCR; and preparation/purification of transgene and targeting vectors. Requires two to three years of relevant experience. Animal husbandry experience also desirable. Candidates at all levels (B.S., M.S., and Ph.D.) will be considered.

Salary will be commensurate with experience. Interested individuals should send their curriculum vitae and the names and contact information for three references to: **Employment Department, #99070.1R, Memorial Sloan-Kettering Cancer Center, 633 Third Avenue, 5th Floor, New York, NY 10017.**

Memorial Sloan-Kettering Cancer Center. The Best Cancer Care. Anywhere.

Equal Opportunity Employer/Affirmative Action.

Anticipated
ASSISTANT/
ASSOCIATE
PROFESSOR

Wetland Biogeochemistry Institute
Required Qualifications: Ph.D. in soil microbial ecology or related field; publication record in peer-reviewed journals; evidence of scholarly activity at level of proposed rank; proven grant writing ability. Additional Qualification Desired: postdoctoral experience. Responsibilities: establish an independently funded research program emphasizing wetland microbial ecology; collaborate in joint research activities with the faculty and staff of the Wetland Biogeochemsitry Institute and sister institutes; teach courses in marine/wetland microbial ecology or related areas of interest. Salary and rank will be commensurate with qualifications and experience. Anticipated hire date is August 16, 1999. Application deadline is March 31, 1999, or until candidate is selected. Submit letter of application and resume to:

Karen H. Gros
Wetland Biogeochemistry
Institute / CCEER
Louisiana State University
Ref: Log #843
Baton Rouge, LA 70803-7511

LSU IS AN EQUAL OPPORTUNITY/EQUAL ACCESS EMPLOYER

HOLLAND LABORATORY

SCIENTISTS I/II

Hematopoiesis Research Program

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

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

Interested individuals should send their curriculum vitae, a career statement and three reference letters to: **Robert G. Hawley, Ph.D., Head, Hematopoiesis Department, Holland Laboratory, American Red Cross, 15601 Crabbs Branch Way, Rockville, MD 20855.** EOE, M/F/D/V.

American Red Cross

Computational Genomics

at Cornell

As part of a major, university-wide genomics initiative, Cornell University is soliciting applications from outstanding candidates for both faculty and senior (Ph.D.-level) staff in the area of computational genomics. The appointees will all be associated with the newly created Institute for Computational Genomics within the Cornell Theory Center and intensively interact with researchers throughout the university. More information about the Cornell Genomics Initiative, and links to individual position descriptions can be found at **http://www.tc.cornell.edu/Research/ICG/** Applications for the **faculty** positions will be reviewed beginning **February 1, 1999,** those for those for the **staff** positions will be reviewed starting **May 1, 1999.**

FACULTY POSITIONS

In all cases, a strong emphasis will be placed on identify exceptionally talented individuals with strong computational science and analytical backgrounds who are interested in teaching and collaborative research on computational approaches to solving biological questions.

Director, Institute for Computational Genomics: Coordinating Institute activities, developing interactions and partnerships with industry and other academic institutions, developing funding opportunities, and maintaining a vigorous research program. This position will be supported at the University level and the departmental affiliation will be determined by the successful applicant and the search committee from departments within the College of Engineering on the Ithaca campus. Strong research interests in computational aspects of biology are required. Applicants with interests in modeling feedback and control mechanisms in metabolic and gene expression pathways, structural biology, comparative genomics, visualization, databases, and high-performance computing to support computational biology are of particular interest. We are looking for candidates with demonstrated research accomplishments and commitment to excellence in teaching. Significant administrative experience is also desirable. For further information, please visit **http://www.cs.cornell.edu/ (reference CB #6)**

Assistant/Associate Professor: Development of new algorithmic approaches to computational problems in genomics. Areas of particular interest are algorithms for genomic analysis, simulation, visualization, databases, and high-performance computing. The departmental affiliation for this position will be determined by the successful applicant and the search committee from departments within the College of Engineering on the Ithaca campus. For further information, please visit **http://www.cs.cornell.edu/ (reference CB #2)**

Assistant Professor: Develop, test and implement new statistical algorithms relevant to genomics research. Interests in application in comparative and functional genomics and genomic diversity are of special interest. The departmental affiliation for this position will be determined by the successful applicant and the search committee from departments within the College of Agriculture and Life Science on the Ithaca campus. Contact Dr. Charles McCulloch **(cem1@cornell.edu)** or Dr. Charles Aquadro **(cfa1@cornell.edu)**

Research Associate Professors: Two positions are open within the Medical College for computational biologists. One position will be associated with the program in genetic medicine, and the other with the program in structural biology. These are non-tenure track faculty positions located in New York City. Contact Dr. Lisa Staiano-Coico **(lisasc@mail.med.cornell.edu)**

STAFF POSITIONS

Three senior staff positions are open within the Institute for Computational Genomics in the areas of sequence analysis techniques, including database and knowledge base technologies, parallel algorithm development and implementation, and scientific visualization and molecular graphics. However, applications are encouraged from applicants in all areas of computational genomics. In addition, exceptional individuals with strong analytical skills and outstanding credentials in traditional mathematical, physical, or engineering sciences and a proven track record in biologically-related interdisciplinary research will also be considered.

The primary responsibility of the appointees in these positions will be to function as consultants and collaborators on interdisciplinary research teams lead by university faculty; they will have a non-tenure track academic appointment in an appropriate department. These positions are funded through significant partnerships with federal and state agencies, foundations, private industry, and university funds. The academic appointment and salary level will be commensurate with the applicable skills and experience. Contact David Schneider **(schneid@tc.cornell.edu)**

Cornell University is an affirmative action/equal opportunity employer.

CORNELL UNIVERSITY

POSITIONS OPEN

STAFF SCIENTIST

The Matrix Metalloproteinase Unit of the National Institute of Dental and Craniofacial Research is conducting a national search for a collaborative Staff Scientist in the area of genetic approaches to extracellular matrix remodeling. The Unit is focused on understanding the molecular mechanisms and regulation of extracellular matrix catabolism. Specifically the applicant will be exploring the biologic function of specific matrix metalloproteinases in health and disease.

Under the NIH collaborative Staff Scientist Program, the position would be (somewhat) equivalent to the Research Assistant Professor level. The selectee will work cooperatively in the context of the program on projects designed and developed by an independent Investigator and will not control independent resources. A variety of employment mechanisms are available. Salary is in the $58,000 range commensurate with qualifications and experience. Applicants must have a Ph.D., M.D., D.D.S.-D.M.D., or equivalent with research experience and/or training in genetic approaches to extracellular matrix biology. Specifically, the applicant must have experience with the generation and characterization of knockout, knockout/knock-in, and conventional transgenic mice.

Applicants may apply by submitting the following materials: a curriculum vitae, bibliography, and names of three to six individuals who can supply letters of recommendation. Further information about the position may be obtained from: **Ms. Sharon Wentzel, Intramural Program Specialist, NIDCR, Building 30, Room 132, 30 Convent Drive MSC4326, Bethesda, MD 20892-4326. Telephone: 301-496-1483.**

Application materials must be postmarked and sent to **Ms. Wentzel** by the closing date of March 19, 1999. The opening date is February 19, 1999. *NIH is an Equal Opportunity Employer.*

ASSISTANT RESEARCH SCIENTIST

The Department of Surgery at the University of Michigan seeks candidates for a faculty position in the area of gastrointestinal physiology. Applicants should have extensive research experience in the application of microspectrofluorimetry to the study of intracellular ion concentrations, confocal microscopy, and related cellular biological techniques. Competitive applicants will have a Ph.D. with at least two years of postdoctoral experience and a record of research productivity. The candidate will be expected to participate in an extramurally funded research program and to teach medical students and Research Fellows. We offer an interdisciplinary research environment, competitive salary, and research space. Please send inquiries along with current curriculum vitae to: **Michael W. Mulholland, M.D., Ph.D., Department of Surgery, 2922TC, 1500 East Medical Center Drive, Ann Arbor, MI 48109-0331.**

The University of Michigan is a nondiscriminatory/Affirmative Action Employer and strongly encourages females and minorities to apply.

The National Institute on Aging, National Institutes of Health, is seeking a **SCIENTIFIC REVIEW ADMINISTRATOR** to conduct reviews of grant applications in areas of science of importance to aging (GS 601/602–13/14, $58,027 to $89,142). Applications are invited from candidates with demonstrated strong scientific, administrative, and communication skills. Broad knowledge of principles, theories, and practices related to the scientific fields of contemporary science is expected. Experience with peer review of health research grant applications is desirable.

U.S. citizenship is required. Send a résumé and/or the Optional Application for Federal Employment (OF-612), or the Application for Federal Employment (SF-171), and a copy of transcripts for highest level of degree received, to: **Christine O'Connor, NIA Personnel Office, Building 31, Room 2C02, 31 Center Drive MSC 2292, Bethesda, MD 20892-2292. E-mail: oconnorc@exmur.nia.nih.gov; Telephone: 301-496-5460** by March 19, 1999. To receive a FAX copy of the complete vacancy announcement (#AG-99865), **Telephone: 1-800-728-5627**, ID# 1217.

NIH is an Equal Opportunity Employer.

ASSOCIATE RESEARCH SCIENTIST. Must have more than three years of postdoctoral experience using whole-cell patch clamp to study cardiac swelling-induced chloride current. Send curriculum vitae and representative reprints to: **Steve Sorota, Department of Pharmacology, Columbia University, 630 West 168th Street, New York, NY 10032.** *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

SUMMER RESEARCH PROGRAM REQUEST FOR APPLICATIONS

The Morehouse School of Medicine Neuroscience Institute (MSMNI) is offering a 10-week (May 31 to August 6, 1999) Summer Research Program to qualified undergraduate and medical school students. Selected applicants will come to the Morehouse School of Medicine for 10 weeks over the summer, where they will join a single laboratory, undertake a well-defined research project with Institute faculty, and make scientific presentations at the end of the program. Other supporting activities include weekly lectures, journal club, and seminars from outside speakers. Preference will be given to students with a demonstrated commitment to biomedical research.

Participants will receive a $3,000 stipend and money to cover the cost of travel.

Interested students that wish to apply should forward the following: (1) a one- to two-page statement of interest that includes a preferred area of research, prior research experience, and long-term goals; (2) an official undergraduate transcript; and (3) two letters of recommendation to:

Peter R. MacLeish, Ph.D.
Interim Chair and Professor of Anatomy
Director, Neuroscience Institute
Morehouse School of Medicine
720 Westview Drive S.W.
Atlanta, GA 30310

Submission deadline: Thursday, April 1, 1999.
Selections to be made by April 30, 1999.

DEVELOPMENTAL TOXICOLOGIST FROSTBURG STATE UNIVERSITY

Frostburg State University (FSU), Department of Biology invites applications for a contractual position, renewable as contractual for three years, beginning with the 1999–2000 academic year. Annual renewal will be contingent upon satisfactory performance. Contingent upon the availability of a tenure-track line and the faculty member's performance, this position may be converted to tenure-track after the third year of appointment. Responsibilities: Establish a research program involving undergraduate and graduate students. Contribute to the general biology program. Teach courses in areas such as developmental biology, genetics, evolution, toxicology, and scientific investigations. Minimum qualifications: Ph.D. (by fall 1999) in biology or related field. Demonstrate excellent potential in teaching and research, with a background in developmental biology, molecular biology, evolution, and toxicology. Preferred qualifications: Experience in aquatic toxicology. To apply send letter of interest; résumé; and the names, addresses, and telephone numbers of three professional references by April 5, 1999, to:

Frostburg State University
Office of Human Resources
Attn: Developmental Toxicologist
(Position #99-1058)
Frostburg, MD 21532

FSU is an Affirmative Action/Equal Opportunity Employer. Appropriate auxiliary aids and services for qualified individuals with disability will be provided upon request. Please notify in advance.

SENIOR SCIENTIST

AnaSpec, a biotechnology company seeks a **SENIOR IMMUNOLOGIST/BIOLOGIST** to develop antibodies. Candidate must have M.S. and at least five years of working experience to identify hot proteins for antibodies and familiar with Western blot techniques. Some start-up business experience is helpful. Résumé to: **Dr. Frank Hong, AnaSpec Inc., 2149F O'Toole Avenue, San Jose, CA 95131. Telephone: 408-452-5055; FAX: 408-452-5059.**

POSITIONS OPEN

TERRESTRIAL VERTEBRATE EVOLUTIONARY BIOLOGIST AND DIRECTOR OF THE MUSEUM OF VERTEBRATE ZOOLOGY
University of California, Berkeley

The Museum of Vertebrate Zoology and Department of Integrative Biology seek an outstanding Evolutionary Biologist working on terrestrial vertebrates for a tenure-level Curatorial position in the Museum and Associate or Full Professorship in the Department, beginning at the earliest time convenient. The position also carries an initial five-year appointment as Director of the Museum, an Organized Research Unit of the University of California that is a center for research and graduate education. In addition to its large and well-curated collections, the Museum includes the Laboratory for Evolutionary Genetics, the Laboratory for Human Evolutionary Studies, and the Hastings Natural History Reservation. There are five faculty Curators and additional Research Professors, as well as a Professional administrative and curatorial staff. The Director is expected to be an active research scientist and teacher. The successful candidate will have an active Research Program focused on organisms in their natural environments, and might emphasize systematics, ecology, or other areas of evolutionary biology. The Museum occupies new quarters and has research laboratories well equipped for molecular approaches to problems in evolution. The successful candidate will have teaching obligations, and responsibility for the curatorial operations of the Museum's large collections. Applicants should submit a résumé and statement of teaching and research interests, provide a written statement of his/her vision for museums in the academic setting of a major research university, and have letters from four referees sent to: **Vertebrate Biology Search Committee, Museum of Vertebrate Zoology, University of California, Berkeley, CA 94720 USA.** Completed applications must be received by March 31, 1999.

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

Geo-Centers, Inc. is looking for a Ph.D. and B.S.-level **INHALATION TOXICOLOGIST** to support our contract with ERDEC in Aberdeen, Maryland.

The Ph.D. candidate, as the Principal Investigator, would research the effects of low-level exposure to CW agents. He/she will develop a test plan, conduct the research, and report the results. Qualifications include a Ph.D. in toxicology with training in inhalation toxicology and a strong background in pulmonary toxicology and physiology. They must be willing to work with highly toxic materials, be a self-starter, and have a record of inhalation toxicology papers.

The B.S. candidate will assist the Principal Investigator in the performance of the research. Qualifications include a B.S. degree or equivalent experience as a Technician. He/she must have experience using inhalation toxicology equipment, be willing to work with highly toxic agents, and have a good mechanical aptitude.

We offer a competitive salary, generous benefits package, and relocation assistance. Candidates are encouraged to send their résumé to: **Geo-Centers, Inc., 1801 Rockville Pike, Suite 405, Rockville, MD 20852. FAX: 301-816-8647; e-mail: coferral@wash.geo-centers.com.** *Equal Opportunity Employment/Affirmative Action.*

U.S. GENOMICS

U.S. Genomics is a cutting-edge genetic analysis company with focus on fully integrating nanotechnology and various solid-state techniques with molecular biology. We are looking for a few true experts for pursuit of advanced genetic techniques. The following individuals are sought:

GENE MAPPING EXPERT. Requires a Ph.D. and at least five years of postdoctoral/industry experience in genetics. In particular, the job requires extensive knowledge of genetics, handling of megabase DNA, recA protein assays, and isolation of genomic DNA from various samples. Individuals who have worked with RARE, optical mapping, or rec-A–assisted DNA purification would be excellent candidates.

SENIOR RESEARCH TECHNICIAN. Requires more than five years of experience with standard molecular biology techniques and microscopy. Techniques should include agarose/polyacrylamide gel electrophoresis, DNA purification, enzymatic assays, and an excellent hands-on ability with microscopes.

Contact: **U.S. Genomics, 8 Saint Mary's Street, 9th Floor, Boston, MA 02215. FAX: 617-358-0016.**

The National Institutes of Health (NIH), National Human Genome Research Institute's (NHGRI),

Office of Public Information and Communication (OPIC) seeks candidates for three positions. Successful candidates will share in the excitement of the Human Genome Project and major advances in human genetics.

Director: The successful applicant for Director, OPIC must be able to grasp and interpret sophisticated biomedical science topics and effectively communicate the importance of the Human Genome Project and human genetics research to a variety of audiences, including the news media, professional societies, patient advocacy groups, and the general public. The Director supervises communications specialists who disseminate information about NHGRI research and policy activities on the NIH campus and at research institutes around the country. (Salary: $80,658 - $104,851 per year or commensurate with experience.)

Science Writer (two positions): Candidates must be familiar with the biomedical sciences and have experience covering biomedical research for the news media, research institutions, or related organizations. Candidates must possess the ability to interpret technical biomedical information for lay audiences both orally and in writing and have demonstrated ability to interact effectively with news media and other public entities. Writer maintains close contact with scientific and policy staff to coordinate public messages, maintain current knowledge of scientific and policy developments, and develop strategies for disseminating information to targeted groups. Prepares publications, reports, press releases, and speeches that describe and interpret the impact of the Human Genome Project and genetics research on clinical medicine, biological research and social policy. (Salary: $40,700 - $89,100 per year commensurate with education and experience.)

For additional information about these vacancies, please contact Terri Messick in the NHGRI Personnel Office at (301) 594-0953, e-mail: tm17w@nih.gov or visit the Federal Job Opportunities Bulletin at **http://www.usajobs.opm.gov/a.htm** (search for specific SERIES 1035 and/or 1083) **Applications must be received by COB 3/12/99.**

NIH is an Equal Opportunity Employer

The Future *is Here!*

Affymetrix is dedicated to developing state-of-the-art technology for acquiring, analyzing and managing complex genetic information for use in genomics, clinical research, disease management and pharmacogenomic studies. As the creators of GeneChip® technology, Affymetrix represents an exciting future in expression monitoring, polymorphism screening and disease management. Our pioneering efforts continuously look toward extending the reach of our technology.

SENIOR SCIENTIST/MANAGER

In this management role, you will develop genome mapping, gene expression monitoring and general DNA analysis methods using high-density oligonucleotide probe arrays, as well as methods of sample preparation, probe design and data analysis. You will also drive programs to support the conception/development of technologies for new applications of DNA probe arrays. Requires PhD in Biophysics, Biochemistry, Genetics, Molecular Biology or related field, and minimum 8 years relevant experience in DNA/RNA and standard molecular biology procedures/concepts. Experience with mammalian genetics, especially mapping and linkage analysis methods, and with cancer, tissue typing and/or pharmacology is highly desirable. Experience in diagnostic assay development is preferred. Excellent communication skills are crucial.

www.affymetrix.com

For consideration, please mail, fax, or email your resume, indicating Job Code SCI-ATR246, to: Affymetrix, Human Resources, 3380 Central Expressway, Santa Clara, CA 95051; Fax: (408) 481-0422. Email: hr@affymetrix.com. We are an equal opportunity employer.

AFFYMETRIX

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St. Jude Children's Research Hospital

ALSAC • Danny Thomas, Founder

The Brain Tumor and the Transplantation and Gene Therapy Programs at St. Jude Children's Research Hospital are searching for faculty members at the Assistant/Associate Member level. Candidates are sought with an interest in developing an independent research program in an area relevant to the treatment of childhood brain tumors. Those with interest and experience in the development of gene therapy approaches, investigating the role of angiogenic mechanisms or the development of novel pharmacological approaches are especially encouraged to apply. Candidates at the Associate Member level should have an established research program supported by peer reviewed grants. A generous start-up package is available for outstanding candidates. Ongoing institutional support is provided to each of our investigators to supplement and expand the impact of their extramural funding.

The Brain Tumor and the Transplantation and Gene Therapy Programs are multi-disciplinary efforts focused on bringing basic research discoveries to clinical application. Members of the programs include physician investigators with an interest in brain tumor treatment, bone marrow transplantation and the treatment of genetic diseases as well as laboratory based investigators exploring disease mechanisms and the development of gene therapy approaches. Opportunities are available for collaboration with basic science departments in the areas of biochemistry, cancer genetics, developmental neurobiology, immunology, microbial pathogenesis, pharmacology, structural biology, and virology.

St. Jude Children's Research Hospital was founded by Danny Thomas, and continues to receive support for its research and clinical programs through the fund-raising efforts of the American Lebanese Syrian Associated Charities (ALSAC).

Please send a current curriculum vitae and bibliography, a letter describing your proposed research program and three references from whom can be obtained a letter of recommendation to:

Arthur W. Nienhuis, M.D.
Director, St. Jude Children's Research Hospital
332 N. Lauderdale Street
Memphis, TN 38105

Interested individuals are encouraged to visit our web site at **www.stjude.org** for additional institutional information.

St. Jude Children's Research Hospital is an equal opportunity/affirmative action employer.

POSITIONS OPEN

COOPERATIVE EXTENSION BIOLOGICAL CONTROL ASSISTANT SPECIALIST

The University of California at Berkeley, Division of Insect Biology within the Department of Environmental Sciences, Policy, and Management invites applications for a Cooperative Extension Specialist at the Assistant level with emphasis on biological control of insect pests. This is a full-time fiscal-year position and is available July 1, 1999.

Applicants must have a Doctoral degree in entomology or a related field, an excellent record of scientific productivity, and a background in applied biological control of insects. The successful applicant will be expected to develop an applied research program in biological control and conduct educational programs for UC-CE Advisors, agricultural or horticultural groups, state and municipal agencies, and commercial biological control organizations.

Interested persons should apply by submitting a curriculum vitae, a statement of research interests, a statement of educational interests and experience, copies of recent publications, and have at least three letters of reference sent to:

Professor Donald Dahlsten, Chair
Cooperative Extension–Biological Control Specialist Search Committee
Department of Environmental Sciences, Policy, and Management
Division of Insect Biology
201 Wellman Hall
University of California
Berkeley, CA 94720-3112

The closing date for applications is April 15, 1999.

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

TECHNICAL SCIENCE WRITER/EDITOR (TEMPORARY)

The Ernest Gallo Clinic and Research Center at the University of California, San Francisco has an immediate opening for an experienced temporary Technical Science Writer/Editor to work with established, overcommitted scientists in preparing manuscripts and grants, including literature searches and graphics. Requires M.S. or Ph.D. in biochemistry and/or cell biology; two to four years of technical writing experience; exceptional organizational and written/verbal communication skills. Send résumé and the names of three references to: **Ernest Gallo Clinic and Research Center, Attn: Human Resources, 1001 Potrero Avenue, Building 1, Room 101, San Francisco, CA 94110. E-mail: hr@gallo.ucsf.edu** (text only). Please visit our **website: gallo.ucsf.edu** for further information.

PLANT ECOLOGIST/BOTANIST. Lynchburg College in Virginia announces a position for a broadly trained Plant Ecologist/Botanist at the **ASSISTANT/ASSOCIATE PROFESSOR** level to fill needs in both biology and environmental science. For a full description of the position along with additional information on teaching and related responsibilities and the college's resources, see **website: http://lasi.lynchburg.edu/people/carico_j/public/position.htm.** Send letter of application, curriculum vitae, teaching philosophy and experience, research plans, and a list of three references along with their e-mail and mailing addresses by 14 March 1999 to: **James E. Carico, Chair, Department of Biology and Environmental Science, 1501 Lakeside Drive, Lynchburg, VA 24501.** An electronic version can be sent in advance of the hard copy as long as it is in PC Windows version of Wordperfect of MSWord.

Equal Opportunity Employer.

The Stem Cell Laboratory at Indiana University School of Medicine is seeking an **ASSOCIATE DIRECTOR** for experimental hematopoiesis and cell therapy of the Stem Cell Laboratory. This centralized laboratory provides various hematopoietic components for both basic and translational research activities of the adult and pediatric hematology/oncology, stem cell transplantation programs, and Gene Therapy Working Group at Indiana University. The successful candidates (Ph.D., M.D., or both) who have expertise in hematopoiesis or gene transfer technology are invited to apply. Please forward curriculum vitae and three reference letters to Chair of Search Committee: **Rafat Abonour, M.D., 1044 West Walnut, Room 202, Indianapolis, IN 46202. Telephone: 317-274-0843; FAX: 317-278-1810; e-mail: rabonour@iupui.edu.** *Indiana University is an Equal Employment Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS

The Lankenau Medical Research Center has the following opportunities available:

In the first position, you will investigate stem cells in the epidermis and hair follicles during hyperplastic growth, carcinogenesis, and aging. Approaches include isolation and characterization of clonogenic keratinocytes and strategies for lineage analysis *in vivo* and *in vitro*. Background in molecular biology is essential. A recent graduate with an interest in stem cells is preferred. **Attn: Rebecca Morris, Ph.D., FAX: 610-645-8299; e-mail: ricercar@tigger.jvnc.net.**

In the second position, you will study molecular mechanisms of colon epithelial carcinogenesis. Experience with tissue culture and transient transfection methods required. **Attn: Dr. A. P. Soler, M.D., Ph.D., Telephone: 610-645-8230; FAX: 610-645-2205; e-mail: solera@mlhs.org.**

Send curriculum vitae, statement of research interests and accomplishments, and three letters of reference to appropriate person listed above: **The Lankenau Medical Research Center, 100 Lancaster Avenue, West of City Line, Wynnewood, PA 19096. Website: www.jeffersonhealth.org.** *Equal Opportunity Employer/Minorities/Females/Disabled/Veterans.*

POSTDOCTORAL POSITIONS

Two Postdoctoral positions are currently available to study the mechanisms of amyloid production and accumulation in Alzheimer's disease and the structure and assembly of amyloid fibrils. One position is for a Cell Biologist or Biochemist with a background in protein trafficking and processing. Expertise in cell culture, immunoprecipitation, and subcellular fractionation is preferred. A background in biophysics or biochemistry is desired for the second position. Experience in fluorescence spectroscopy is desired. Qualified applicants should send curriculum vitae and the names of three references to: **Dr. Charles Glabe, Department of Molecular Biology and Biochemistry, University of California, Irvine, Irvine, CA 92697-3900.** Applications close May 1, 1999. Minimum starting salary $29,112 per annum. *The University of California is an Equal Opportunity Employer committed to excellence through diversity.*

POSTDOCTORAL FELLOWSHIP YALE UNIVERSITY

NIH Training Grant position on project for positional cloning of genes responsible for human autosomal-dominant polycystic liver disease (PLD). We have established linkage to one locus and demonstrated genetic heterogeneity. The program is directed at identifying PLD genes and understanding their function in the context of other genes causing polycystic disease (*Science* **272**:1339; *Cell* **93**:177). *Applicants must be U.S. citizens/permanent residents* with a strong background in molecular biology. Please send description of research experience, curriculum vitae, and three references to: **Stefan Somlo, M.D., Boyer Center for Molecular Medicine/Nephrology, P.O. Box 208029, New Haven, CT 06520-8029. FAX: 203-785-7068; e-mail: denise.krause@yale.edu.**

POSTDOCTORAL POSITION for studying transcriptional regulation of human β-globin gene by a novel enhancer located in the β-globin Locus Control Region. The project involves knocking out this enhancer in transgenic mice that carry a YAC clone spanning the human β-globin gene locus. The position requires expertise in molecular biology. Experience in handling YAC clones and yeast is desirable. Send curriculum vitae and names and e-mail addresses of three references to: **Dr. Dorothy Tuan, Professor, Department of Biochemistry and Molecular Biology, Medical College of Georgia, Augusta, GA 30912-2100. E-mail: dtuanlo@mail.mcg.edu.** *Equal Employment Opportunity/Affirmative Action.*

POSTDOCTORAL FELLOW in molecular evolution. Experience in phylogenetic analysis or bacterial molecular genetics. Significance and mechanism of lateral gene transfer, especially between Archae and Bacteria. Contact: **W. F. Doolittle, Department of Biochemistry, Dalhousie University, Halifax, Nova Scotia B3H 4H7 Canada. E-mail: ford@is.dal.ca; FAX: 902-494-1355.**

POSITIONS OPEN

ANTICIPATED POSTDOCTORAL RESEARCHERS

Two Postdoctoral positions are available starting May 1, 1999, to study the processing of odorant information within the olfactory bulb of catfish (Louisiana State University—**J. Caprio**) and goldfish (University of Minnesota—**P. Sorensen**). Appointments will be on a year-to-year basis. A Ph.D. or equivalent degree in a biological science or related field plus one to two years of related laboratory experience is required. Work experience in electrophysiological recordings from neurons within the central nervous system is desired. Please contact: **Dr. J. Caprio, Department of Biological Sciences, Louisiana State University, 508 Life Sciences Building, Baton Rouge, LA 70803. E-mail: zocapr@lsuvm.sncc.lsu.edu** or for further information. Send résumé with cover letter indicating whether you are interested in employment at Louisiana State University or the University of Minnesota. Applications will be accepted through March 31, 1999, or until candidates are selected.

LSU and the University of Minnesota are Affirmative Action/Equal Opportunity Employers.

POSTDOCTORAL POSITION ANGIOGENESIS/GROWTH FACTORS/CANCER BIOLOGY

Postdoctoral position available in the field of angiogenesis, signal transduction in hypoxia, angiogenic cytokine mRNA stabilization, tumor cell survival mechanisms, and *in vivo* animal models of angiogenesis, tumor growth, and metastasis. Experience in cell and molecular biology of angiogenic growth factors, integrins, metalloproteinases, and metalloproteinase inhibitors useful. Projects designed for independent study and advancement. Challenging academic environment in a multidisciplinary Center for Vascular Biology located in a new research wing. Position requirements are Ph.D. or M.D. with a strong research background.

Please send curriculum vitae, recent reprints, and names of three references to: **Dr. Kevin Claffey, MC 3505, University of Connecticut Health Center, 263 Farmington Avenue, Farmington, CT 06030.**

POSTDOCTORAL POSITION available to study human tumor antigens (glycoproteins, mucins, and glycolipids) using a combination of immunologic, biochemical, and molecular approaches (see Research Programs at **website: www.mskcc.org/lr.htm** for more information). Candidates should have a background in molecular biology, biochemistry, or immunochemistry. Send curriculum vitae and names of three references to: **Kenneth O. Lloyd, Ph.D., Immunology Program, Sloan-Kettering Institute, 1275 York Avenue, New York, NY 10021.** *Memorial Sloan-Kettering Cancer Center is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION available at the Fox Chase Cancer Center, one of only four independent Comprehensive Cancer Centers designated by the National Cancer Institute, to study membrane-based mechanisms of cellular resistance to cytotoxic drugs. Previous experience in signal transduction, membrane biochemistry, or molecular biology preferred. Please send curriculum vitae to: **Gary D. Kruh, M.D., Ph.D., c/o Human Resources Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111.** *Equal Opportunity Employer.*

POSTDOCTORAL POSITION is available to construct and develop live and DNA vaccines to be tested in veterinary models of infectious diseases. A background in molecular biology and microbiology is required. Send curriculum vitae, description of previous experience, and references (address, telephone, e-mail) to: **Dr. Dieter M. Schifferli, University of Pennsylvania, Department of Pathobiology, 3800 Spruce Street, Philadelphia, PA 19104-6049. FAX: 215-898-7887.**

ANALYTICAL CHEMIST. Ph.D. Chemist for **POSTDOCTORAL/RESEARCH ASSOCIATE** position. Focus is on collaborative projects with Mass Spectrometry Laboratory and interdisciplinary Neurobiology Laboratory. Experience required: analysis of biological samples with HPLC or mass spectrometry (preferably MALDI/electrospray). Mail curriculum vitae to: **Dr. E. Butelman, Laboratory on the Biology of Addictive Diseases (Box 171), Rockefeller University, 1230 York Avenue, New York, NY 10021.** *Affirmative Action/Equal Opportunity Employer.*

ACCEPT THE NAVY CHALLENGE

Become a member of an elite research and development community involved in basic and applied scientific research and advanced technological development for tomorrow's Navy.

NAVAL RESEARCH LABORATORY

Listed below are anticipated career opportunities at the Naval Research Laboratory (NRL) for Senior Scientists and Engineers to perform a variety of theoretical research, technology development, analytical studies, and consultative services.

Senior Scientist for Materials Physics
Washington, DC

The incumbent will focus research and program development on superconductivity, magnetism, thermal-electric materials and their integration into devices and systems of military significance. These areas are rapidly growing and are developing new and sophisticated multi-component structures and devices that will greatly enhance future Navy system performance in the areas of sensors, communications, and data processing. Future capabilities provided by research programs in this area include devices and systems with significantly high speed, lower power, smaller size, and more reliability. These attributes will provide essential advances for information acquisition, distribution, and management.

HRO Code 1810MC Att: 63-ST037

Senior Scientist for Optical Remote Sensing
Washington, DC

Provides scientific expertise and leadership for the Navy's remote sensing research efforts utilizing passive optical remote sensors and the interpretation of the data for marine bio-optical and other environmental information. He/she will have responsibility to stimulate, plan, lead, and coordinate multi-disciplinary and multi-institutional research efforts resulting in documented S&T achievements of critical importance to Navy, DoD, and other national efforts. Applicants must have demonstrated leadership in developing, planning, and executing optical remote sensing programs having national/international impact.

HRO Code 1810 MB Att: 72-ST04

Senior Scientist for Nanoelectronics
Washington, DC

Conducts advanced theoretical research in nanoelectronics of importance to the Navy, including the electronic and optical properties of low dimensional semiconductor heterostructures, thermoelectric transport in low dimensional materials, photonic properties of microcavities and the potential of these for applications. He/she provides scientific expertise and leadership for the Navy's programs in nanoelectronics and serves as a consultant in planning, guiding, and coordinating these programs in the Division, at NRL and other research institutions.

HRO Code 1810MB Att: 68-ST06

Senior Scientist for Ocean Modeling and Prediction
Bay St. Louis, MS

Conducts theoretical and experimental research in dynamical and physical processes of the ocean and marine boundary layer. He/she provides scientific expertise and direction for oceanography research programs at the Naval Research Laboratory Stennis Space Center (NRL-SSC), conducts personal research and leads research teams in oceanography and ocean modeling, and develops new and innovative approaches to interfacing oceanography and acoustics research efforts.

HRO Code 1810CS Att: 73-ST07

Senior Scientist for Liquid Crystal Material and Devices
Washington, DC

Serves as senior scientist and guides interdisciplinary teams of scientists focusing on bio/molecular self-assembly and liquid crystal materials and devices. As an expert in the field will address: advanced material and biomaterial development for electronic, sensor, medical, and structural applications; IR and acoustic sensors; displays for military and commercial applications, and projects concerned with applying scientific and technical breakthrough to problems of concern to the Department of the Navy and the Department of Defense with potential commercial applications.

HRO Code 1810NF Att: 69-ST05

Senior Scientist for Information Assurance
Washington, DC

Serves as the chief technical expert for information assurance in NRL's Information Technology Division (ITD) and Technical Director of the Navy's Center for High Assurance Computer Systems within NRL ITD. Applicants must have experience as a researcher evidenced by professional affiliations and service, national and international leadership roles, and professional recognition with documented publication in major journals in the field of information assurance.

HRO Code 1810KW Att: 55-ST01

APPLICANT INFORMATION

Applicants should be recognized as national/international authorities in their specialty, have planned and executed difficult programs of national significance or specialized programs that show outstanding attainments in their field of research or consultation. Salaries range from $89,728 to $118,400 (plus locality pay) per year. Detailed resumes or application documentation must reach offices listed above by ***31 March 1999.*** *Prior to applying, contact the HRO at 202-767-3030 for specific application procedures.*

APPLY TO:
Naval Research Laboratory
(Insert attention line from above)
4555 Overlook Avenue SW
Washington DC 20375

NAVY IS AN EQUAL OPPORTUNITY EMPLOYER

Global Opportunities

THE UNIVERSITY OF THE WEST INDIES
ST. AUGUSTINE, TRINIDAD

Applications are invited for the following vacancies:

PROFESSOR/SENIOR LECTURER IN PLANT SCIENCE

Department of Life Sciences

Applicants should have a PhD in Plant Science or Botany and research interest in Ecology, Plant Biotechnology or Plant Physiology. Considerable teaching/administrative experience at University level as well as a good record of research and publication in a relevant area of Plant Science an advantage.

PROFESSOR/SENIOR LECTURER IN VETERINARY PHYSIOLOGY

School of Veterinary Medicine

Applicants should have a PhD or DVM or equivalent and at least ten years teaching/research University experience.

ANNUAL SALARY RANGE: (US$1 = TT$6.30; UK£1 = TT$10.25) Non-Medical Professor TT$196,224 - TT$227,808; Senior Lecturer: TT$142,488 x TT$3,072 - TT$170,136/173,208 x TT$3,072 - TT$176,280. **Medical:** Professor TT$212,400 x TT$238,320; Senior Lecturer TT$166,536 x TT$3,072 - TT$175,752/178,824 x TT$3,264 - TT$195,144, plus an Institutional Allowance. Regional and Housing Allowance, Passages, Pension, Study, Travel and Book Grants. Detailed applications (two copies) giving full particulars of qualifications and experience, date of birth, nationality, marital status and the names and addresses of three referees should be sent to the Campus Registrar, The University of the West Indies, St Augustine, Trinidad, West Indies (fax: (1 868) 663 9684) from whom further particulars of the posts can be obtained. Further particulars are also available from Association of Commonwealth Universities (Advertising), 36 Gordon Square, London WC1H 0PF, UK (tel: 0171 387 8572 ext. 206; fax: 0171 383 0368; email: appts@acu.ac.uk). In order to expedite the appointment procedures, applicants are advised to ask their referees to send references under **Confidential** cover directly to the Campus Registrar at the above address without waiting to be contacted by the University. Closing date: **31 March 1999.**

NATIONAL SCIENCE FOUNDATION

Directorate for Computer and Information Science and Engineering (CISE)
Arlington, VA

NSF seeks candidates for 2 leadership positions in the CISE Directorate: **Director, Division of Advanced Networking Infrastructure and Research (EP 99-6) & Director, Division of Experimental and Integrative Activities (EP-99-7).** Incumbents serve on the CISE Directorate leadership team and direct Division activities. CISE supports research in computer and information science and engineering, access and research in advanced scientific computing, and high performance networking. Appointment to these Federal Senior Executive Service positions will be on a career or a 2- to 3-year limited term basis with $110,351 — $125,900 salary range. Alternatively, incumbents may be assigned under Intergovernmental Personnel Act provisions.

Announcements, with position requirements and application procedures, may be obtained on NSF's homepage at: www.nsf.gov/home/chart/work.htm#hrm or by calling NSF's HR Division on 703-306-0755 (hearing impaired individuals may call TDD 703-306-0189). **Applications are due 4/9/99.**

Equal Opportunity Employer.

Neurobiology of Disease Postdoctoral Fellowships
The Johns Hopkins University School of Medicine

This new, integrated, multidisciplinary program provides training opportunities for young M.D./Ph.D. scientists who desire careers as independent investigators in the challenging fields of neurodegenerative diseases, viral infections of the nervous system, and other neurological/psychological illnesses. Our faculty use cellular/molecular/biochemical strategies to examine the mechanisms of these disorders in *in vitro* model systems, in transgenic mice, and in gene-targeted mice. In addition, members of our group have experience in behavioral studies and experimental therapeutics in *in vivo* models. A strong graduate record in cellular/molecular neurobiology is preferred. Recently funded by the NINDS, several positions are available immediately to U.S. citizens or Permanent Residents.

Send *Curriculum Vitae* and 3 references to:
Dr. Donald L. Price,
558 Ross Building, 720 Rutland Avenue,
Baltimore, Maryland 21205-2196

Program Director	**Faculty**	
Dr. Donald L. Price	Dr. D. Borchelt	Dr. V. Koliatsos
	Dr. T. Dawson	Dr. M. Lee
Program Co-Directors	Dr. V. Dawson	Dr. A. Markowska
	Dr. M. Gallagher	Dr. L. Martin
Dr. John Griffin	Dr. D. Griffin	Dr. C. Ross
Dr. Richard Huganir	Dr. M Hardwick	Dr. J. Rothstein
	Dr. P. Wong	

Equal Opportunity/Affirmative Action Employer.

European Opportunities

Imperial College
OF SCIENCE, TECHNOLOGY AND MEDICINE

Appointment of
Rector

Arising from the retirement of Sir Ronald Oxburgh, the post of Rector of Imperial College will become vacant on 1 October 2000.

The College would expect to appoint a person of international reputation in Science, Engineering or Medicine with relevant academic and senior management experience.

Those interested in being considered for this appointment or wishing to propose candidates for it are invited to write in confidence as soon as possible to:

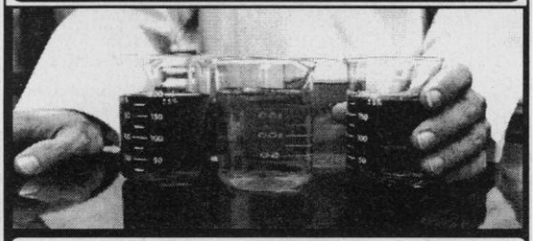
Lord Vincent of Coleshill,
Chairman of the Court and the Council,
c/o The College Secretary,
Imperial College of Science, Technology and Medicine,
London SW7 2AZ.

Further information about the post may be obtained from the College Secretary.

The Selection Committee will not restrict its consideration to persons coming to its attention from this advertisement.

The College is striving towards Equal Opportunities

RESEARCH OPPORTUNITIES



Pasteur Mérieux Connaught is committed to making the world a better place. As a leader in the research, development and distribution of human vaccines and biologicals, we are proud of the impact we've had in the fight against pediatric and adult diseases. As we move toward the next millennium, our purpose is to contribute, as the global leader, to the protection and maintenance of human health by creating superior immunological products for the prevention and treatment of infectious diseases and cancers.

Senior Research Scientist, Molecular Biology & Microbiology

The Senior Research Scientist, Molecular Biology & Microbiology will serve as scientific advisor/leader for vaccine projects. Responsibilities include designing and developing potential vaccines and other biologicals, designing projects to elucidate the scientific principles involved in expressing and producing antigens in their most immunogenic and safest form, serving as the scientific resource to the company in the area of their specific expertise (e.g., Molecular Biology, Microbiology, Virology, Fermentation, etc.)

Qualified candidates must have a Ph.D. in Microbiology, Molecular Biology or a related field, at least two years post-doctoral experience as well as experience with cloning, sequencing, recombinant protein expression, fermentation optimization and protein purification. Experience with baculovirus or *Pichia* expression systems and bio-informatics or genomics, and five years industrial experience is preferred. **(Job Code: GS/SRSRD)**

Research Scientists, Immunology (2)

We seek Immunologists capable of making significant contributions to the design and development of human vaccines. Responsibilities include serving as a vaccine project team leader or team member, formulating long-range strategies for implementing plans to meet project milestones/objectives, elucidating the scientific principles involved in producing antigens in their most immunogenic and safest form, characterizing immune responses in animals, and developing in vitro and in vivo tests to assess vaccine potency.

Qualified candidates must have a Ph.D. in immunology or related field, demonstrated knowledge of the immunology of infectious disease supported by a publication record, expertise in humoral immunity with a knowledge of animal models, strong project and interpersonal skills, proficiency in technical writing, experience with analytical techniques, aseptic techniques and design of experiments.

Additionally, familiarity with cellular and molecular immunological techniques, knowledge of FDA regulations for biologicals and vaccine pre-clinical experience in an industrial setting is desired. **(Job Code: GS/RSI)**

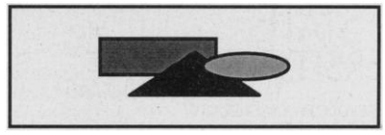
Pasteur Mérieux Connaught is located in a campus-like setting in a beautiful area of Northeast Pennsylvania. As a member of the Rhône-Poulenc Group, we offer an attractive salary/benefits package, ongoing opportunities for continuing education and professional development, and the satisfaction of working for a leading edge company with an exceptional record of success in the global marketplace.

For an opportunity to contribute to our innovative programs, **please send your curriculum vitae and indicate appropriate job code to: Pasteur Mérieux Connaught, Discovery Drive, Attn: Job Code____, Swiftwater, PA 18370. E-mail: resumes@us.pmc-vacc.com.**

PASTEUR MÉRIEUX CONNAUGHT
RHÔNE-POULENC GROUP

We are an Equal Opportunity Employer M/F/D/V

European Opportunities



EPIDAUROS AG is a new German biotechnology company located 25 miles south of Munich on Lake Starnberg. Our mission is to develop genetic tests to tailor drug prescription to individual patients' needs. The correlation between variable drug response and individual genotype will be studied in prospective and retrospective analyses.

The following opportunities are presently available at EPIDAUROS:

Group Leader Molecular Pharmacogenetics

Your task: The analysis of genetic polymorphisms and their influence on effects, metabolism and side effects of drugs. Your qualifications: Several years of experimental experience as postdoc in molecular biology and cell- or tumor biology.

Group Leader Bioinformatics

Your task: The analysis of sequence data and genetic polymorphisms. Your qualifications: Several years of experience as postdoc in informatics. Experience in the application of informatics to questions relevant to molecular biology, generation and management of databases.

Network Specialist

Your task: The establishment and maintenance of our computer networks. Your qualifications: Network management (Unix, Windows NT, MacOS) and experience with data transfer protocols in heterogenous networks. Programming experience is of advantage.

Database Administrator

Your task: Generation and management of relational databases. Your qualifications: a minimum of one year experience in configuration and maintenance of a major relational database management system. Experience with SQL, Unix and Client/Server configurations. Programming experience is of advantage

Research Associates

Your task: DNA-sequencing, genotyping, and molecular biology. Your qualifications: Excellent experience in molecular biology or cell biology techniques. Experience with the application of pipetting robots is of advantage.

We are looking for highly motivated people who are capable to work independently in leading positions, and as team players in interactive research projects. We offer competitive salaries and the opportunity to share the success of our company with stock options.

Interested candidates should send a cover letter and a resume to:

EPIDAUROS BIOTECHNOLOGIE AG
Am Neuland 1
D-82347 Bernried, GERMANY
FAX: +49 (8158) 9985-48
E-mail: info@epidauros.com
Internet: www.epidauros.com

WAYNE STATE UNIVERSITY

POSTDOCTORAL RESEARCH ASSOCIATE POSITION AVAILABLE IMMEDIATELY

Postdoctoral Research Associate position available immediately for Ph.D. or M.D.-Ph.D. graduate in cellular or molecular biology with an interest in integrin receptors and tumor cell metastasis. The project involves the study of a newly isolated and novel form of the αIIb receptor. (**Trikha et al**, "Identification of a novel truncated αIIb integrin" *Cancer Research* **58**:4771–4775, 1998). The study will place an emphasis on prostate cancer and cancer metastasis in general. Successful candidates should have demonstrated experience with standard molecular biology and cell biology techniques. Previous experience with integrin biology is desirable. Preference will be given to candidates with demonstrated research ability and strong written communication skills. Minimum salary $28,000, dependent upon experience. Please send (1) a brief statement of research interest, capabilities, and goals; (2) curriculum vitae; (3) address, FAX/telephone numbers; and (4) three references to: **Dr. Kenneth V. Honn, Professor, re: αIIb ad, 431 Chemistry Building, Wayne State University, Detroit, MI 48202. E-mail: k.v.honn@wayne.edu.**

Wayne State University is an Equal Opportunity/Affirmative Action Employer. All buildings, structures, and vehicles at Wayne State University are smoke-free. Wayne State University—people working together to provide quality service.

UNIVERSITY OF PENNSYLVANIA SCHOOL OF MEDICINE

POSTDOCTORAL POSITION available immediately to perform neurophysiology experiments in behaving monkeys to study functions of brain monoaminergic systems. The successful applicant will join an active group recording noradrenergic and dopaminergic neurons in locus coeruleus and midbrain during performance of cognitive tasks aimed at testing the roles of these systems in attention, reinforcement, and learning. Applicants with neurophysiology experience preferred. Excellent salary and benefits. Send curriculum vitae and names of three references to: **Dr. Gary Aston-Jones, Department of Psychiatry, University of Pennsylvania, VA Medical Center (151), University and Woodland Avenues, Philadelphia, PA 19104.**

A **POSTDOCTORAL FELLOW** position is available immediately to study intracellular signaling events involved in the regulation of lymphocyte development and function. Current projects include (1) dissecting the immune responses *in vivo* using an animal model generated in this laboratory (*Immunity* **9**:209–216, 1998); (2) generating and analyzing mice deficient in signaling molecules related to lymphocyte development and function using gene targeting technology (*PNAS* **95**:15547, 1998). Candidates with a strong background in molecular biology, immunology, and biochemistry are invited to apply. Will accept applications two (2) months after this advertisement appears. Application should be sent to: **Dr. Hua Gu, Laboratory of Immunology, DIR, NIAID, NIH, 12441 Parklawn Drive, Rockville, MD 20852.**

NIH is an Equal Employment Opportunity Employer.

POSTDOCTORAL POSITION is available to study the endocytosis and intracellular sorting of growth factor receptors. Research will focus on the molecular mechanisms of receptor trafficking and on the role of endocytosis in growth factor signaling. Training in molecular and cell biology is helpful. Please send curriculum vitae and the names of three references to: **Dr. Alexander Sorkin, Department of Pharmacology, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Denver, CO 80262. Telephone: 303-315-7252; FAX: 303-315-7097; e-mail: alexander.sorkin@uchsc.edu.** *UCHSC is committed to Equal Employment Opportunity/Affirmative Action.*

A **POSTDOCTORAL POSITION** is available immediately to study neural regulation of catecholamine gene expression. Experience with molecular biological and cellular techniques is desirable. Please send résumé and names of three references to: **Marian Evinger, Ph.D., Department of Pediatrics, State University at Stony Brook, Stony Brook, NY 11794-8111.** *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS

The Office of Biomedical Research at San Francisco State University is seeking to fill four Postdoctoral Research Associate positions to work on projects funded by the NIH through its Research Infrastructure at Minority Institutions (RIMI) program. Positions will be available starting October 1, 1999.

Faculty seeking Postdoctoral Associates, and their research interests, include **Alissa Arp**: cellular effects of (chronic or intermittent) hydrogen sulfide exposure: induction of intracellular granules and apoptosis; **Cliff Berkman**: the research will involve the synthesis and chiral resolution of N-thiophosphonyl and N-thiophosphoryl amino acids; **Carmen Domingo**: our research examines the mechanisms guiding cell commitment during *Xenopus* gastrulation; **Zheng-Hui He**: molecular and genetic analysis of cell signaling in plant cells; **Tom Smith**: study of the major histocompatibility complex (MHC) in birds and its relationship with infectious diseases.

Applicants are required to have a Ph.D. or equivalent Doctorate-level degree. For fullest consideration, please send applications (indicate position of interest) including a curriculum vitae, and the names of three references by Thursday, April 15, 1999, to:

Linda M. Leong
Office of Biomedical Research
San Francisco State University
HSS 204
1600 Holloway Avenue
San Francisco, CA 94132

For more information on the research listed above, please visit our **website: http://www.chemistry.sfsu.edu/obr/postdocwebpage.html**. *San Francisco State University is an Equal Opportunity Employment/ADA Employer. Women and minorities are strongly encouraged to apply.*

POSTDOCTORAL CELL AND MOLECULAR BIOLOGISTS

Three Postdoctoral positions are available in the laboratory of **Dr. Paul Dent**. Two positions are to study the interactions between signal transduction pathways and control of the cell cycle in primary hepatocytes. Studies are to gain an understanding of defective growth arrest mechanisms during tumorigenesis. One position is to study the interactions between ionizing radiation, signaling pathways, cell cycle control, and radiosensitivity in breast cancer cell lines. Highly motivated candidates with experience in cellular and molecular biology are encouraged to apply. Animal handling and adenovirus construction a plus. Send curriculum vitae and the names and addresses of at least three references by mail or e-mail to: **Dr. Paul Dent, Department of Radiation Oncology, 401 College Street, Massey Cancer Center, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298-0058 USA. E-mail: pdent@hsc.vcu.edu.**

POSTDOCTORAL POSITION HARVARD MEDICAL SCHOOL BRIGHAM AND WOMEN'S HOSPITAL

One NIH-supported position is available immediately at the Infectious Disease Division. The successful applicant will study structural, functional relationship of protective monoclonal antibodies to bacterial polysaccharides of group B streptococci. Applicants should have an M.D. and/or Ph.D.; immunology experience is a must. Send curriculum vitae, relevant reprints, and names of three references to: **Hilde-Kari Guttormsen M.D., Ph.D./Dennis L. Kasper M.D., Channing Laboratory, 181 Longwood Avenue, Boston, MA 02115. FAX: 617-731-1541; e-mail: hilde-kari.guttormsen@channing.harvard.edu.** *We are an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSTDOCTORAL POSITION MOLECULAR HEMATOLOGY WASHINGTON UNIVERSITY School of Medicine

Position available to study the molecular basis of bone marrow failure (**website: http://dbbs.wustl.edu/rib/bessler.html**). Experience in bone marrow culture and/or molecular biology preferred. Send curriculum vitae and three references to: **M. Bessler, M.D., Ph.D., e-mail: mbessler@im.wustl.edu; FAX: 314-362-8826.** *An Equal Opportunity/Affirmative Action Employer/Minorities/Females/Disabled/Veterans.*

POSITIONS OPEN

Washington
WASHINGTON UNIVERSITY IN ST. LOUIS
School of Medicine

POSTDOCTORAL POSITION IN REPRODUCTIVE ENDOCRINOLOGY

A Postdoctoral position is available immediately in the Department of Obstetrics and Gynecology. Applications are sought for a highly motivated Ph.D. scientist with a strong background in molecular and cell biology. We study the function of nuclear receptors that regulate the development and differentiation of the reproductive system. More information is available at our **website: www.sadovsky.wustl.edu.**

For further information or for submission of curriculum vitae and references please contact:

Yoel Sadovsky, M.D.
Department of Obstetrics and Gynecology
Washington University School of Medicine
4911 Barnes–Jewish Hospital Plaza
St. Louis, MO 63110
Telephone: 314-747-0937
FAX: 314-362-8580
E-mail: sadovskyy@msnotes.wustl.edu

Washington University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available at the University of Pittsburgh to apply viral transneuronal tracings methods to define the functional organization of the amygdala. The successful candidate will participate in a collaborative study between the laboratories of **Dr. J. P. Card, Dr. P. Levitt,** and **Dr. L. Rinaman** in the Departments of Neuroscience and Neurobiology. The goal of this collaboration is to use neurotropic alpha herpesviruses to define the functional organization and developmental assembly of polysynaptic circuits involving the amygdala in rodents. Candidates should have a background in neuroanatomical and morphological approaches for studying nervous system organization. The position is available immediately. Interested candidates should send a curriculum vitae and three letters of reference to: **Dr. J. Patrick Card, Department of Neuroscience, 446 Crawford Hall, University of Pittsburgh, Pittsburgh, PA 15260. E-mail: mail:card@bns.pitt.edu.**

Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOW

The Department of Medicine, Section of Nephrology, Tulane University School of Medicine is searching for a postdoctoral-level Biochemist with background in molecular and cellular biology. Previous experimental experience in the areas of protein isolation and identification, sequencing, and cloning is preferred. Collaborate with other Investigators in a modern, well-equipped laboratory, joining a research team involved in basic studies in hypertension etiology. Excellent salary and benefits. Interested applicants should send an updated curriculum vitae and the names, addresses, and telephone numbers of three references to: **Jules B. Puschett, M.D., Department of Medicine SL12, 1430 Tulane Avenue, New Orleans, LA 70112-2699.**

POSTDOCTORAL POSITION

A Postdoctoral position is available immediately for an exciting, NIH-funded project studying macrophages in atherosclerosis/vascular wall biology. *Candidate must be a U.S. citizen or permanent resident* and must have background in areas related to the cytoskeleton and in fluorescence/confocal microscopy. Send curriculum vitae and three references to: **Dr. Ira Tabas, Division of Molecular Medicine, Columbia University, 630 West 168th Street, New York, NY 10032. E-mail: iat1@columbia.edu.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Postdoctoral position in gene therapy available immediately. The successful applicant will develop and study cell-type specific retroviral vectors and their entry into target cells. Applicant should have a solid background in molecular biology (e.g., cloning, tissue culture, PCR, etc.). Experience with mouse model systems is a big plus. Please send résumé to: **Dr. Ralph Dornburg, Thomas Jefferson University, Division of Infectious Diseases, Jefferson Alumni Hall, 1020 Locust Street, Philadelphia, PA 19107.**

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MAYO CLINIC

Research on zinc finger transcriptional repressors, epithelial cell growth, and cancer. Postdoctoral position immediately available for a highly motivated individual to study the role of novel zinc finger proteins in transcriptional repression and in the regulation of normal and neoplastic pancreatic epithelial cell growth. (J Clin Invest 1997;99(10):2365; J Biol Chem 1998;273(40):25973) The successful candidate will be part of a multidisciplinary team using state-of-the-art molecular and cell biological techniques. Applicant should have previous experience in protein chemistry and/or molecular biology. Send curriculum vitae and three references to:

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

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EUROPEAN OPPORTUNITIES

St George's Hospital Medical School

University of London

and

British Heart Foundation

John Parker British Heart Foundation Chair of Molecular Cardiovascular Sciences

The School invites applications from individuals of outstanding achievement and promise in molecular cardiovascular sciences. The appointed individual (clinical or non-clinical) will already have major grant support at BHF programme level or its equivalent, or can demonstrate a clear ability to do so. An honorary clinical contract with St George's Healthcare will be available for an appropriately qualified individual. The appointed individual will take the lead in appointing a substantial group of investigators and support staff with core funding of an initial £3m over the first 5 years to develop a strong interdisciplinary bioscience group of relevance to the broad agendas of cardiovascular research.

The School has a strong Department of Cardiological Sciences (starred for excellence in the UK Higher Education Funding Council Research Assessment Exercises in 1992 and 1996). It is anticipated that the new group will work closely with this department and also with other relevant research strengths in the School (which include medicine, pharmacology, epidemiology, physiology, embryology and genetics).

Full details and an application form are available from the Personnel Officer, St George's Hospital Medical School, Cranmer Terrace, London SW17 ORE, 0181 725 5020 (24-hour answerphone), website www.sghms.ac.uk, or by email: personnel@sghms.ac.uk. Closing date 23 April 1999.

Please quote reference 307/99

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EUROPEAN OPPORTUNITIES

KLINIKUM DER UNIVERSITÄT WÜRZBURG

Position available for a

PhD student

(Biochemistry, Molecular Biology)
at the Department of Neurology,
University of Würzburg,
Section of Developmental Neurobiology.

The group is dealing with mechanisms underlying pathogenesis in inherited neuropathies. Applicants with knowledge in molecular biology will be preferred. Please send your application including CV and 2 references to

Prof. Dr. Rudolf Martini
Neurologische Universitätsklinik
Experimentelle Entwicklungsneurobiologie
Josef-Schneider-Straße 11
97080 Würzburg/Germany
Phone: 0049/931/201-2268
Fax: 0049/931/201-2697
email: neukl176@rzkl-uni-wuerzburg.dc

cancer research campaign

University of Southampton
Faculty of Medicine, Health and Biological Sciences
CRC Department of Medical Oncology

Deputy Director & Senior Lecturer Laboratory Programmes

The Department of Medical Oncology is seeking at least two scientists at Senior Lecturer level or above to develop new programmes in basic and applied cancer research with funding from the Cancer Research Campaign. Applicants should have a proven record of international research leadership, publication and grant funding. They will be able to establish their own programmes in new purpose-built laboratories in close collaboration with a fully developed clinical cancer centre.

The fields of research to be undertaken are flexible, but ideally would strengthen the immunology and molecular biology in the Cancer Sciences Division of the School of Medicine. Current programmes include cancer vaccines, receptor signalling, control of apoptosis and molecular genetics, and those with interests in these areas are especially encouraged to apply.

Salary up to £34,464 pa on a 5 year renewable contract.

Informal enquiries are welcome and should be addressed to Professor Peter Johnson, CRC Department of Medical Oncology, University of Southampton, CF99 Southampton General Hospital, Tremona Road, Southampton SO16 6YD.
Tel: 01703 796186 or email:johnsonp@soton.ac.uk

Applicants should send 7 copies of a CV with the names and addresses of 3 referees to: The Personnel Department, University of Southampton, Highfield, Southampton SO17 1JB.

University of Southampton

Tel: 01703 592750, email:recruit@soton.ac.uk or minicom: 01703 595595.
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POSTDOCTORAL POSITION
UNIVERSITY OF ARKANSAS AT LITTLE ROCK
Department of Biology

Postdoctoral position available to study the role of vesicular transport on the structure and function of the contractile vacuole in *Dictyostelium discoideum*. An earned Ph.D. in biology, biochemistry, or related field is required. Preference will be given to candidates with documented expertise in one or more of the following areas: Rab protein structure and function, molecular and analysis of vesicular transport, and/or molecular analysis of *Dictyostelium discoideum*. Send curriculum vitae and contact information for three references to: **Dr. John Bush, Department of Biology, University of Arkansas at Little Rock, 2801 South University, Little Rock, AR 72204-1099. Telephone: 501-589-3620; e-mail: jmbush@uair.edu**. The position will remain open until filled.

The University of Arkansas at Little Rock is an Affirmative Action/Equal Opportunity Employer and actively seeks the candidacy of qualified minorities, women, and persons with disability. Under Arkansas law, all applications are subject to disclosure. Persons hired must have proof of legal authority to work in the United States.

POSTDOCTORAL POSITION
THE UNIVERSITY OF PENNSYLVANIA HEALTH SYSTEM
Department of Dermatology

Postdoctoral position is available on an NIH-funded Training Program in investigative dermatology to study the molecular, cellular, and tissue aspects of a wide variety of problems in cutaneous biology. Research will be conducted under the mentorship of established Investigators in any of the following areas: cell adhesion; cell proliferation; cutaneous oncology/immunology; epidemiology; extracellular matrix and wound healing; inflammation; intrinsic and photoaging; and pharmacology. Candidates must have a M.D., Ph.D., or M.D.-Ph.D. *and be a U.S. citizen or permanent resident.* Candidates should apply by March 31, 1999. Please send curriculum vitae and summary of current research and goals, along with the names of three references to: **Robert M. Lavker, Ph.D., Director of Research, Department of Dermatology, University of Pennsylvania Health System, 415 Curie Boulevard, 232 Clinical Research Building, Philadelphia, PA 19104. Telephone: 215-898-3232; FAX: 215-573-2143; e-mail: lavker@mail.med.upenn.edu.**

POSTDOCTORAL POSITION
PROTEIN-TYROSINE PHOSPHATASES AND INSULIN SIGNALING
Thomas Jefferson University

NIH-funded project to study PTPases in insulin action using recombinant proteins, cellular transfection, transgenic models, and clinical materials from human subjects. See: *JBC* **272**:448; *JCI* **95**:2806. Send curriculum vitae with statement of research interests and career goals with names of three references to: **Dr. Barry J. Goldstein, Room 349, 1020 Locust Street, Philadelphia, PA 19107. FAX: 215-923-7932.** *Equal Opportunity Employer.*

UNIVERSITY OF ILLINOIS AT CHICAGO

A **POSTDOCTORAL POSITION** is available immediately to study rRNA functions in translation (*Proc. Natl. Acad. Sci. USA* **96**:85–90; *Biochemistry* **38**:1780–1788). The project requires strong expertise in molecular biology of the ribosome and/or RNA. Send curriculum vitae and names of three scientific references to: **Dr. Alexander Mankin, Center for Pharmaceutical Biotechnology—m/c 870, University of Illinois, 900 South Ashland Avenue, Chicago, IL 60607. E-mail: shura@uic.edu.**

A **POSTDOCTORAL POSITION** is available to study herpesvirus transforming and antitransforming genes. The applicant should be a recent Ph.D. with a strong background in molecular biology of nucleic acid/protein interactions with some experience in tissue culture. Please send your curriculum vitae to: **Dr. L. J. Rosenthal, Department of Microbiology/Immunology, Georgetown University, 3900 Reservoir Road N.W., Washington, DC 20007. FAX: 202-687-1264; e-mail: rosenthl@gunet.georgetown.edu.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS
SIGNAL TRANSDUCTION AND GENE REGULATION IN PHYSIOLOGICAL SYSTEMS

We are seeking highly motivated individuals to study signal transduction and gene regulatory mechanisms involved in mediating the cellular response to hypoxia and other stress-related stimuli. The position will involve the use of modern cell and molecular biology approaches including reporter genes, DNA arrays, signal transduction analysis, cloning, and the production and utilization of transgenic and gene knockout models. An interactive and challenging environment provides an excellent opportunity for scientific growth. Exceptional individuals may have the opportunity for advancement and employment beyond the Postdoctoral Fellowship. Send curriculum vitae and three letters of reference to:

David E. Millhorn
Professor and Chair
Department of Molecular and Cellular Physiology
University of Cincinnati
P.O. Box 670576
Cincinnati, OH 45267-0576

POSTDOCTORAL POSITIONS. Department of Microbiology and Immunology, The Pennsylvania State University College of Medicine at Hershey. Postdoctoral positions are available immediately to study cellular and molecular aspects of liver pathophysiology in hepatic cell system. Specific areas of research include regulation of growth control with emphasis on α 1 integrin expression and TGFβ signal transduction; TNFα and Fas ligand mediated apoptosis; metal-induced cell injury and HBV replication. Position requires experience in molecular biology. Send curriculum vitae and the names and addresses of three references to: **Harriet Isom, Ph.D., Department of Microbiology and Immunology, JOB#: S-4357W, The Pennsylvania State University College of Medicine, H107 P.O. Box 850, 500 University Drive, Hershey, PA 17033. E-mail: hisom@psu.edu.** For more information visit our **websites: http://www.collmed.psu.edu/micro/faculty/isom.htm** or **http://www.personal.psu.edu/hcil**. *For your health, Hershey Medical Center is a smoke-free campus. Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOW/ RESEARCH ASSOCIATE
NEUROCHEMISTRY/MOLECULAR BIOLOGY

NIH R01-funded position, competitive salary. Project involves molecular cloning of neurotransmitter receptors and ion channels in the auditory/vestibular periphery. Journal publications in molecular biology required. Submit curriculum vitae, previous publications, and names of three references to: **Dr. Dennis Drescher, Director, Laboratory of Biootology, Wayne State University School of Medicine, 540 East Canfield Avenue, Detroit, MI 48201.**

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POSTDOCTORAL POSITIONS available for highly motivated candidates to join a multidisciplinary group studying RNA-protein interactions involved in HIV-1 replication. (1) Bioorganic/Biophysical Chemist: projects involve combinatorial synthesis of peptides and fluorescence spectroscopy to analyze the structures of RNA-protein complexes. (2) Molecular/Cell Biologist: strong background in cell biology is required and prior experience in gene expression at the cellular level is essential. Send curriculum vitae and names of three references to: **Dr. Tariq M. Rana, Department of Pharmacology, Robert Wood Johnson (Rutgers) Medical School, 675 Hoes Lane, Piscataway, NJ 08854. E-mail: rana@umdnj.edu.**

POSITIONS OPEN

POSTDOCTORAL TRAINING PROGRAM IN THE CELLULAR AND MOLECULAR ASPECTS OF AGING

Positions are available for Postdoctoral Trainees (Ph.D. and/or M.D.) to obtain two years of specialized training in the methods and models of research on aging. This program is funded by the National Institute on Aging and directed by a consortium that includes MCP Hahnemann University: **Dr. E. Friedman** and **Dr. J. Roberts**; Thomas Jefferson University/Lankenau Medical Research Center: **Dr. R. Baserga/Dr. V. J. Christofalo**; University of Medicine and Dentistry of New Jersey: **Dr. H. Ozer**; The Wistar Institute: **Dr. E. Levine**.

Research emphases include cell cycle kinetics/dynamics; growth factor regulatory mechanism; growth regulatory genes; cellular transformation and immortalization; regulation of gene expression; cytogenetics; nutrition, aging and cancer; vascular cell physiology; cardiovascular physiology/pharmacology; adrenergic neurotransmission. Must be NRSA-eligible.

Address applications (curriculum vitae, three letters of recommendation, and graduate school transcripts) to: **Vincent J. Cristofalo, Ph.D., Lankenau Medical Research Center, Jefferson Health System, 100 Lancaster Avenue, Wynnewood, PA 19096.** *Equal Opportunity Employer.*

Stanford University School of Medicine. **POSTDOCTORAL FELLOWSHIPS** in cellular neurophysiology and anatomy of neocortical and thalamic neurons and networks. Issues include reorganization of membrane properties, receptors, and circuits after injury; pharmacology and physiology of pre- and postsynaptic GABA, glutamate, and peptidergic receptors; and mechanisms of epileptogenesis. Techniques include use of models of chronic cortical injury, whole cell and cell- attached patch clamp recordings in "thin" slices, intracellular labeling, and immunocytochemistry. Eligibility: M.D., Ph.D., or equivalent, and appropriate experience. *U.S. citizen or green card holder.* Salary: NIH scale plus supplement. Send curriculum vitae, names of three referees, and statement of interests to: **David A. Prince, M.D., Department of Neurology/Neurological Sciences, Room M016, Stanford University School of Medicine, Stanford, CA 94305-5122. E-mail: daprince@leland.stanford.edu; FAX: 650-723-1080.** *Affirmative Action/Equal Opportunity Employer.*

MOLECULAR NEUROSCIENCE
NEURODEGENERATIVE DISEASES

POSTDOCTORAL POSITION available to study the role of microtubule-associated protein tau in axonal development and in neurodegenerative diseases. Our program focuses on new functions for tau, including its interactions with nonreceptor tyrosine kinases and actin-associated proteins. We are also investigating the tyrosine phosphorylation of tau and its role in signal transduction in neuronal cells. Applicant should have a strong background in molecular biology, cell biology, and/or biochemistry. Please send curriculum vitae and the names of three references to: **Dr. Gloria Lee, Department of Internal Medicine, University of Iowa College of Medicine, 51 Newton Road, Room BSB 1-632, Iowa City, IA 52242. E-mail: gloria-lee@uiowa.edu.**

Two **POSTDOCTORAL POSITIONS** are available to study the regulation of signal transduction by ethanol: (1) Cellular and molecular investigations into the regulation of glucose homeostasis by ethanol with an emphasis on the control of insulin-stimulated and Ca+2-dependent GLUT4 vesicle trafficking in adipose and muscle. Candidates should have experience in cellular and/or molecular biology. (2) Pharmacological and molecular studies of inflammatory responses (TNFa, interleukins, and NO) in liver macrophages after ethanol exposure. Experience in signal transduction and/or macrophage biology preferred. Send curriculum vitae and names of three references to: **Dr. Laura E. Nagy, Case Western Reserve University, School of Medicine, Department of Nutrition, 2123 Abington Road, Room 201, Cleveland, OH 44106-4906. E-mail: len2@po.cwru.edu.**

POSITIONS OPEN

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POSTDOCTORAL POSITION
STRUCTURAL BIOLOGY

Researcher needed to develop and study novel technology for high-resolution protein structure by EM. Send curriculum vitae and references to: **Dr. William H. Massover, Department of Anatomy and Cell Biology, New Jersey Medical School, 100 Bergen Street, Newark, NJ 07103.**

GLOBAL OPPORTUNITY

RESEARCH POSITION IN
FARM ANIMAL SCIENCES

Applications are invited for a permanent research position at the Institute of Animal Sciences (**website: http://www.agri.gov.il/**) in the areas of reproduction or growth. Applicants should have a Ph.D. degree with at least one year of postdoctoral experience. Send curriculum vitae with names and addresses of three referees to: **Dr. A. Bar, Institute of Animal Science, Agricultural Research Organization, The Volcani Center, P.O. Box 6, Bet Dagan 50250 Israel. E-mail: vlabar@volcani.agri.gov.il.** *Applicants should be eligible for an Israeli citizenship.*

MEETINGS

TWELFTH INTERNATIONAL
C. ELEGANS MEETING

The Twelfth International *C. elegans* Meeting will be held at the Memorial Union of the University of Wisconsin in Madison on June 2–6, 1999. The Organizing Committee, consisting of **Susan Strome** (Chair), **Ken Kemphues, Stuart Kim, Craig Mello, Barbara Meyer,** and **Ikue Mori,** invite you to attend. The deadline for submitting abstracts will be March 18, 1999. Registration information and materials are available online from the Wisconsin Union Conference Services office (**website: http://www.wisc.edu/union/info/conf/celegans/celegans.html**) or can be obtained by contacting:

Wisconsin Union Conference Center
University of Wisconsin
800 Langdon Street
Madison, WI 53706-1495
Telephone: 608-265-6534
FAX: 608-265-8299
E-mail: celegans99@macc.wisc.edu

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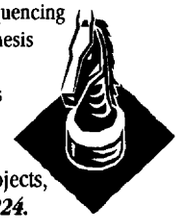

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Ref 1. Lennon, G., Auffray, C., Polymeropoulos, M., Soares, M.B. (1996) *Genomics 33*, 151-152.
2. http://www.ncbi.nlm.nih.gov/UniGene/index.html
3. http://ratEST.uiowa.edu

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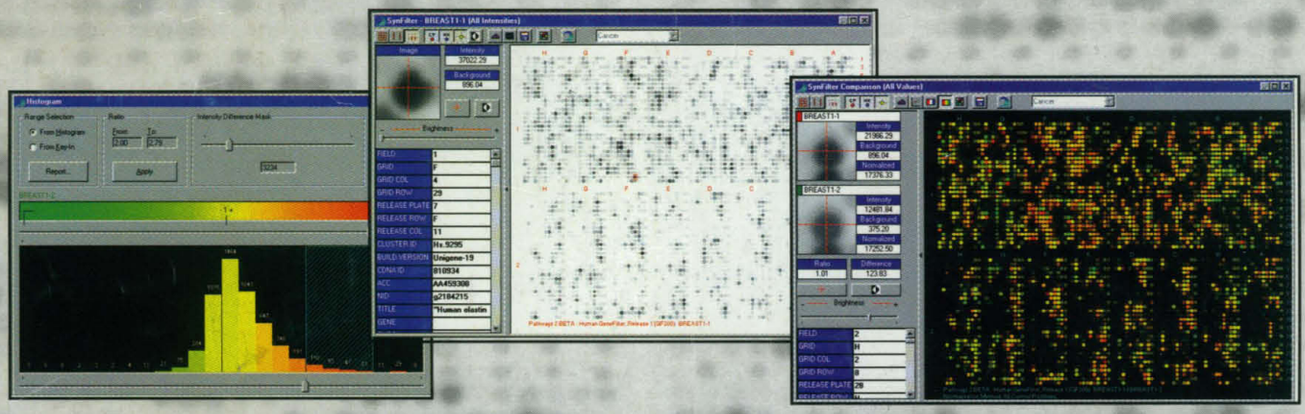

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