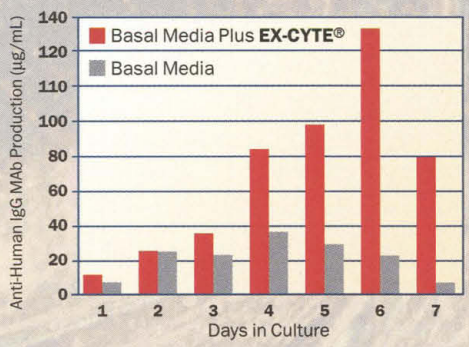
EX-CYTE® Powers Cell Culture Productivity

- **Increases Protein Yield**
- **Promotes Cell Viability**
- **Lot-to-lot Consistency**
- **Quality Guaranteed**

Serologicals Corporation®, a leading manufacturer and global supplier of cell culture reagents, proudly offers **EX-CYTE®**, a patented formulation of essential lipoproteins and fatty acids which enhance cell culture productivity.

EX-CYTE® Growth Enhancement Media Supplement is currently being used by biopharmaceutical manufacturers to achieve up to 6-fold increases in protein yield and to reduce dependence on serum. Additionally, using EX-CYTE® simplifies the downstream processing and purification of recombinant proteins and monoclonal antibodies.



Cell Growth and Antibody Production of a Hybridoma Cell Line Supplemented with EX-CYTE®.

Cells were adapted for growth in media supplemented with EX-CYTE® at 30 µg cholesterol/ml. Other media supplements were HSA (10 mg/ml), human APO-transferrin (2.5 µg/ml), insulin (5 µg/ml) and 10^{-7} M sodium selenite.

We at Serologicals are committed to providing enabling products and technologies designed to accelerate your research from the laboratory to the marketplace.

Our two high-volume production and distribution facilities have been providing the highest quality recombinant insulin, transferrin, BSA (Heat Shock and Cohn process), aprotinin, and fetuin to the cell culture industry for over 20 years. Plus, our cell culture supplements are manufactured under cGMP and ISO9000 quality standards.

Call us or visit **www.serologicals.com** for detailed information.

Serologicals Corporation Contact and Ordering Information

North America	1.866.737.6246	North America Fax	1.866.737.6247
Europe	44.1865.784.646	Europe Fax	44.1865.784.648
All Others	1.678.728.2246	All Others Fax	1.678.728.2247

5655 Spalding Dr., Norcross, GA 30092 customerservices@serologicals.com www.serologicals.com

Serologicals® Corporation

The ORFeome BioCharter™

The future isn't created by chance. It's the mirror of our imagination. Yet for the future to emerge as we picture it, the abstract must crystallize into the concrete, the vision transformed into action. In the life sciences the challenge is especially great. The rapid pace of discovery feeds on itself, demanding constant innovation.

Learn how your organization can join the leading pharmaceutical and biotechnology companies to create the ORFeome BioCharter™.

United States: 760 603 7262 (direct) 800 955 6288 (toll free)
Europe: +49 721 6189100 Japan: 03 3663 8692 www.invitrogen.com/biocharter

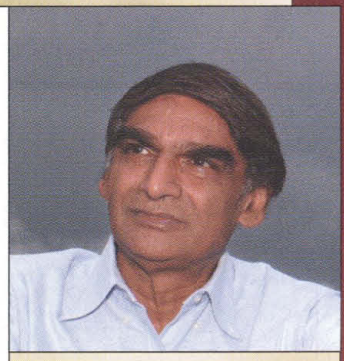
1600 Faraday Avenue • Carlsbad, CA 92008 • Toll Free 800 955 6288 • Fax 760 602 6500

Invitrogen™
life technologies

WE DEVELOPED ONE OF THE MOST ACCURATE HURRICANE FORECASTING TECHNOLOGIES IN THE WORLD.

CONDITIONS HERE WERE PERFECT.

Florida State University's prominence in the field of hurricanes was predictable when you consider that FSU is home to internationally renowned meteorologist T.N. Krishnamurti. His Super Ensemble hurricane-forecasting model — used by NASA and the National Hurricane Center — is acknowledged as one of the most accurate in the world. Using data from FSU and other U.S. and international weather models, Professor Krishnamurti's method continues to gather strength, providing more precise tracking and longer lead-time for evacuations and saving lives. Another idea with the power to move people.



Professor T.N. Krishnamurti, winner of the American Meteorological Society's Rossby Research Medal.

FLORIDA STATE UNIVERSITY

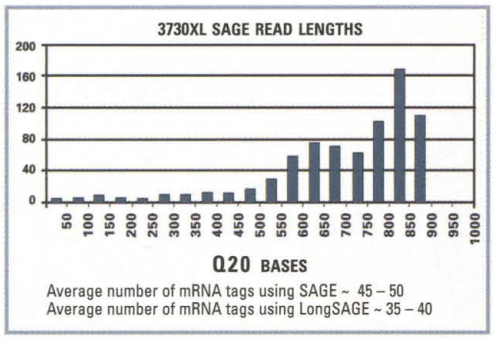
IDEAS THAT MOVE

http://conditions.fsu.edu

NEW STREAMLINED SERVICES
FOR SNP DISCOVERY AND EXPRESSION PROFILING

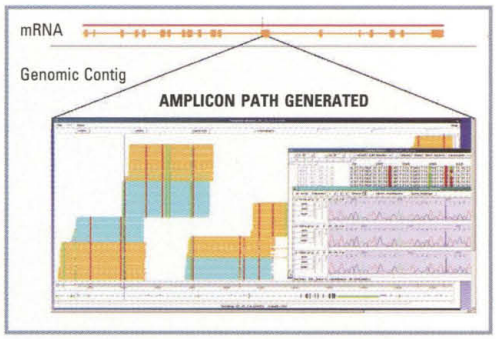
"OUR SAGE SEQUENCING AND SEESNP DISCOVERY PIPELINE UTILIZE OUR SPRI™ MAGNETIC BEAD PURIFICATION SYSTEM TO CONSISTENTLY GENERATE HIGH QUALITY DATA AT AFFORDABLE PRICES."

HIGH QUALITY SEQUENCING READS FOR LONGSAGE™



SAGE is a powerful tool that allows the analysis of overall gene expression patterns with digital analysis. Because SAGE does not require preexisting knowledge of the genome, it can be used to identify and quantitate new genes as well as known genes.

SeeSNP™ OUTPUT



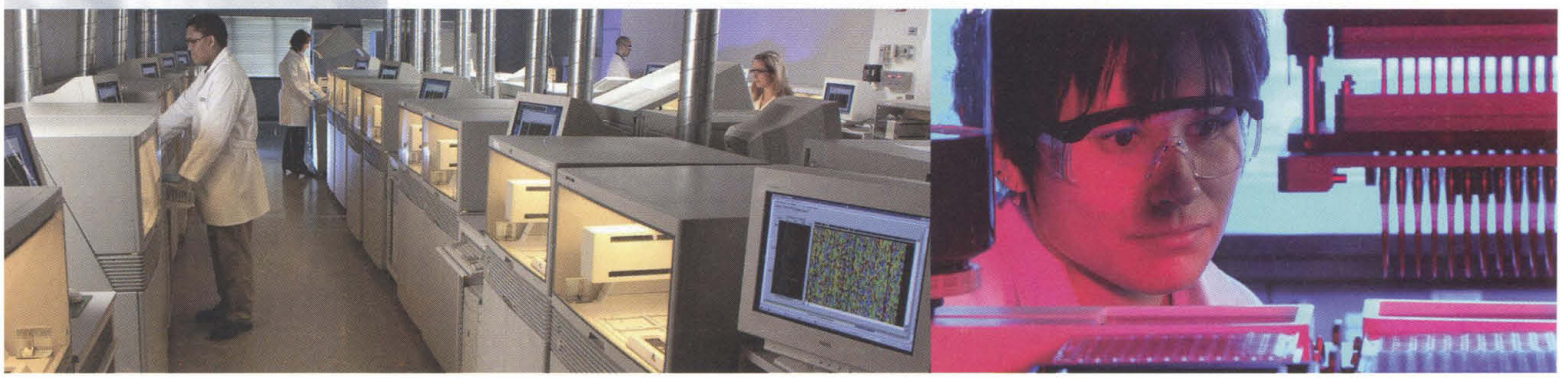
SeeSNP Software annotates known and discovered SNPs (color coded for quality and frequency).

SAGE™ SEQUENCING

- Produce enduring quantitative Gene Expression data
- Identify low level expression of mRNA transcripts
- Use SAGE for your future microarray design
- Extra long read lengths with the ABI 3730XL™
- SAGE Library Validation
- Highly cost competitive
- Rapid turnaround times

SeeSNP™ DISCOVERY

- Directed resequencing service for candidate regions in multiple patients
- Discovery of new SNPs and map them with TSC or in silico SNPs
- Obtain high quality coverage for exons and regulatory regions
- Automated process aligns mRNA sequences to genomic DNA for design of PCR amplicon models
- Services include: assay design, PCR, oligo synthesis, sequencing and analysis
- Proven system that reduces assay variability and improves amplicon success rates



Agencourt Bioscience Corporation

ENABLING DISCOVERY SOLUTIONS™

Agencourt Bioscience Corporation • 100 Cummings Center, Suite 107J • Beverly, MA 01915
(t) 978-867-2600 or 800-361-7780 (f) 978-867-2601 www.agencourt.com

TGRADIENT Thermocycler

Get the perfect annealing temperature in a single run

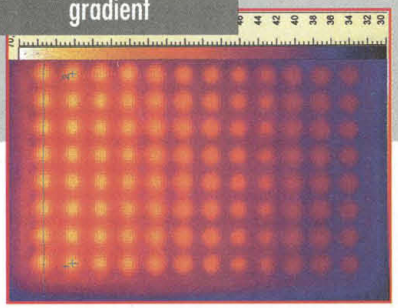
Fast optimization of annealing temperatures

Defined lid pressure

Interchangeable block modules

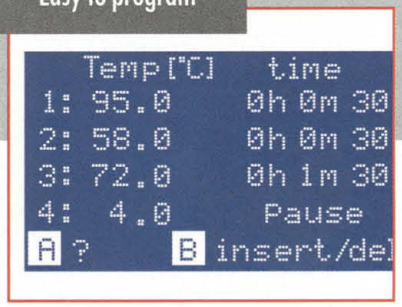
Our experience for your success

Widest temperature gradient



Gold plated silver block

Easy to program



Whatman **Biometra®**

Biometra GmbH · phone +49-(0)551/50 68 6-0 · fax +49-(0)551/50 68 6-66
e-mail: info@biometra.co.uk · Web site: www.biometra.com

Making the Complex Achievable

*Trans*IT-TKO® siRNA Transfection Reagent

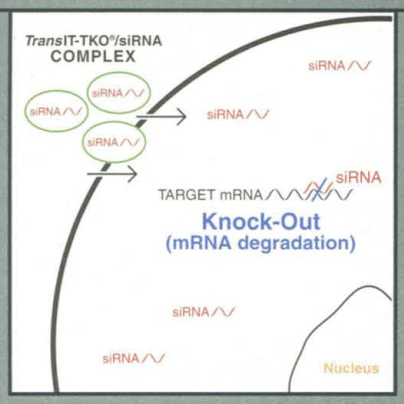
Deliver A Knock-Out

RNA interference is a powerful mechanism for silencing genes and has become the chosen method for studying gene function and control. Mirus' *Trans*IT-TKO® Transfection Reagent is the first reagent specifically developed for optimal transfection of siRNA in mammalian cells and is used by researchers worldwide. Join the leaders in the field and use the "gold standard", *Trans*IT-TKO® siRNA Transfection Reagent.

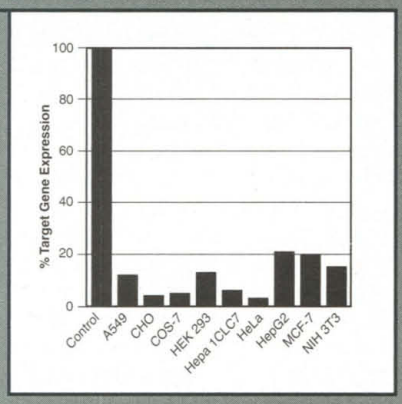
- **Optimized** - High efficiency transfection of siRNA for silencing endogenous genes and transgenes.
- **Versatile** - Low toxicity reagent proven to perform in a wide variety of cell lines.
- **Convenient** - One step reagent; add complexed *Trans*IT-TKO® reagent and siRNA directly to cells in media.

Mirus specializes in developing and manufacturing state-of-the-art nucleic acid transfer and labeling technologies for use in biomedical research and drug discovery.

888-530-0801
www.genetransfer.com



*Trans*IT-TKO® delivers siRNA to the cytoplasm where it binds to the target mRNA. The target mRNA is degraded resulting in inhibition of mRNA translation.



Efficiency of knock-out using *Trans*IT-TKO® Transfection Reagent with 5 nM anti-firefly luciferase siRNA in various cell lines.

Call Mirus today to request a free copy of Mirus' *Technical Report* on *Trans*IT-TKO® Transfection Reagent.

Mirus

Gene Transfer Specialists™

Finding Healthy Solutions

For the past 220 years, innovation and creativity have thrived at Takeda, where, as a major producer of pharmaceuticals for the healthcare industry around the world, we have supplied inventive solutions to help people enjoy better health and a higher quality of life.

In creating some of the drugs that are now in use worldwide, Takeda's scientists pioneered new areas of pharmaceutical research to uncover original compounds with unique modes of action. Our medicines have helped millions of patients to fight diseases such as diabetes, hypertension and prostate cancer—in some of the more remarkable cases, surgery could be avoided.

Each small miracle points to our ultimate goal of finding cures. Using original approaches and the latest technology we are resolved to search until they are found.

Seeking the world's cures

Takeda

TAKEDA CHEMICAL INDUSTRIES, LTD.

http://www.takeda.com Head Office: 1-1, Doshomachi 4-chome, Chuo-ku, Osaka 540-8645, Japan

HUPO

Human Proteome Organisation

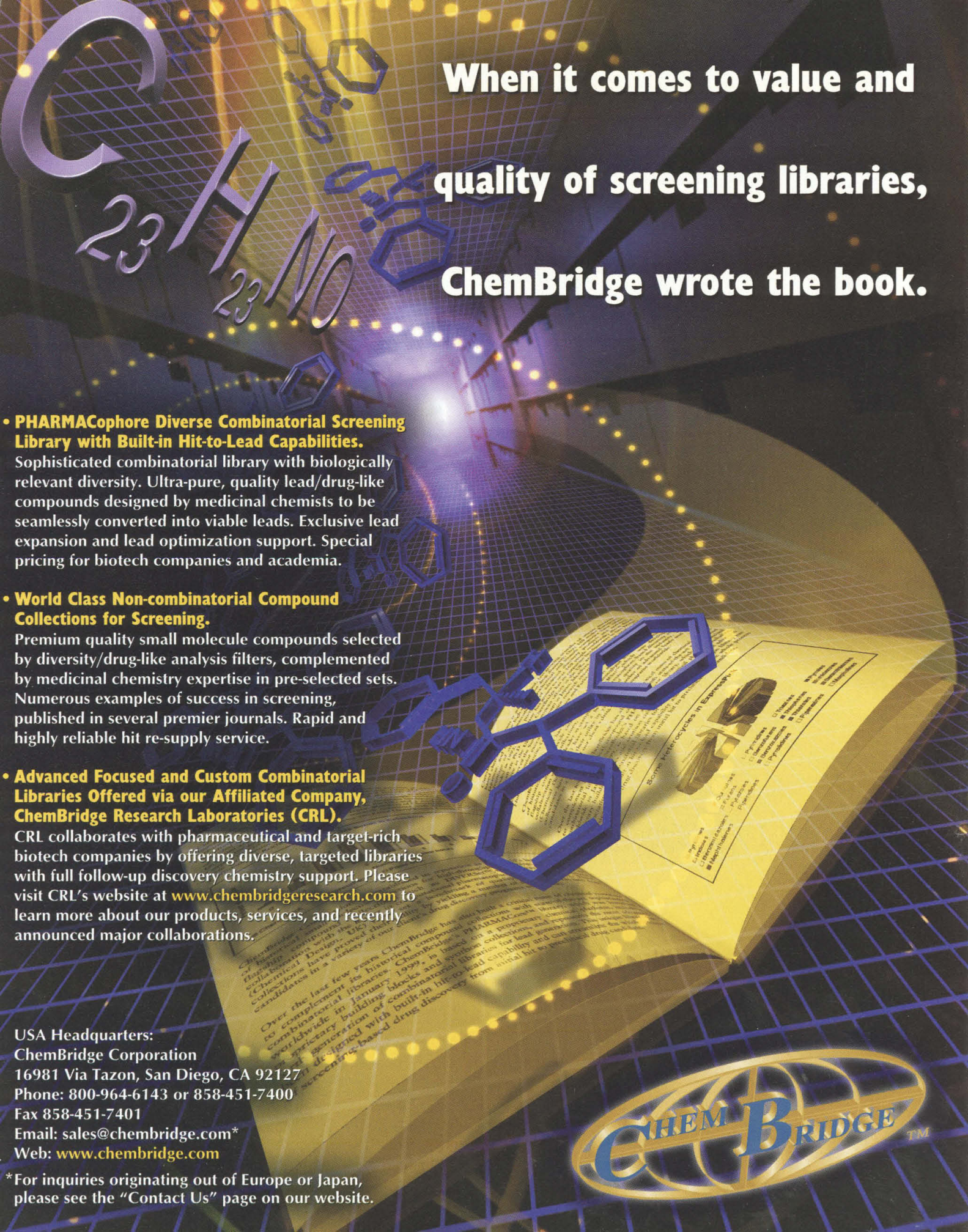
Key Note Presentations

Christian Brechot,	INSERM, France
Alfred Gilman,	U. of Texas
Francis Collins,	NHGRI, USA
Leroy Hood,	Inst. for Systems Biology
Mathias Mann	U. of Southern Denmark
Stanely Hefta,	Bristol Myers Squib

Register online www.hupo.org

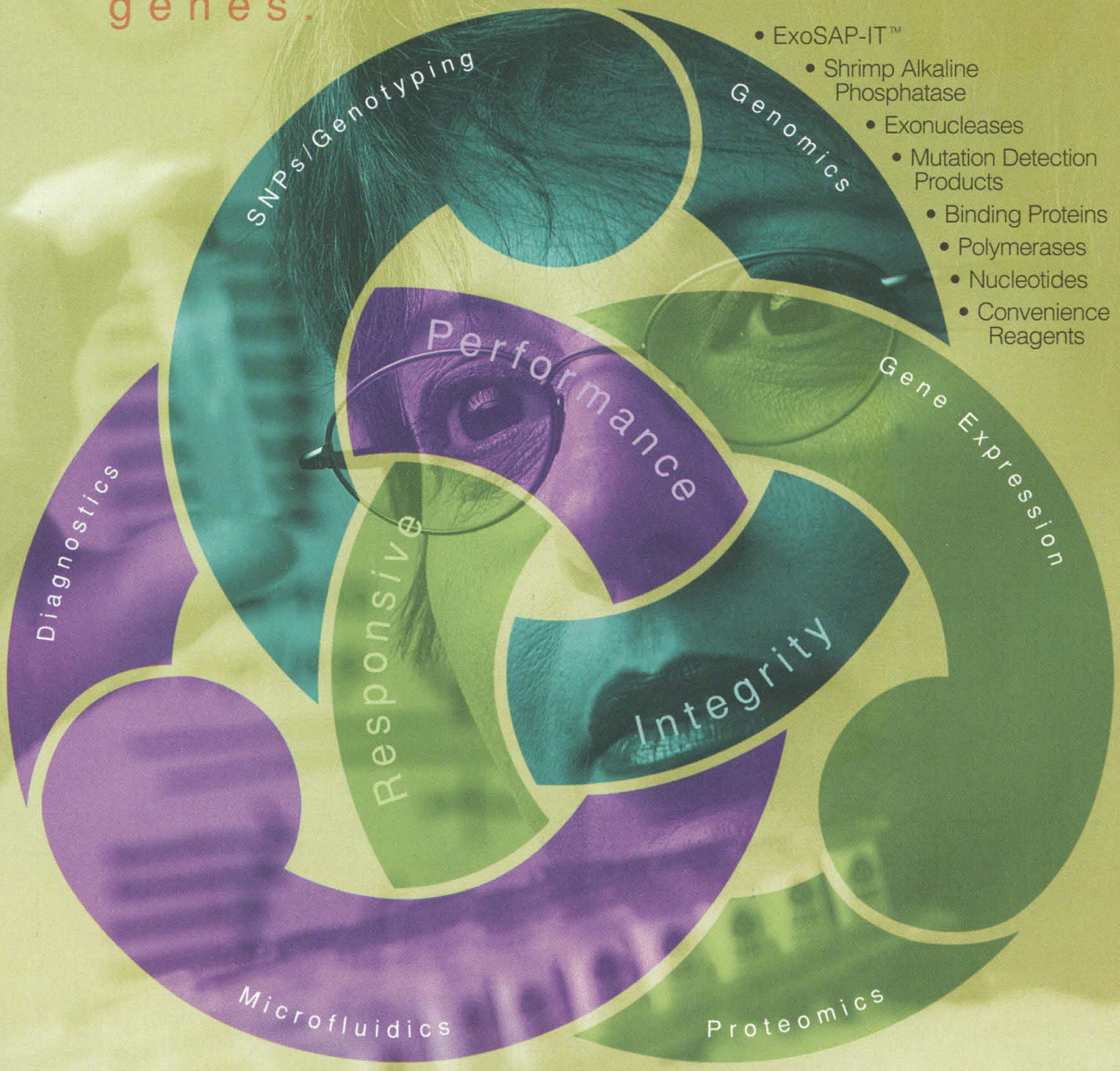
For questions or clarifications with registration, you may contact HUPO by e-mail hupoadmin@umich.edu or by phone at 734-615-4765 (USA)

The Human Proteome Organization (HUPO) will hold its first global congress in Versailles, France on November 21-24, 2002. HUPO anticipates 1500 attendees from academia, industry, and government, with presentations of the latest advances in the field and reviews of initiatives in proteomics throughout the world. Topics include resources and technology issues in proteomics; protein bioinformatics; applications of proteomics to cell biology and signaling; protein-protein interactions; studies of model cells and tissues; expression profiling in health and disease; the plasma proteome initiative; and the proteome antibody initiative. Also included are poster sessions of ongoing research, sponsor workshops and exhibits. Young investigator awards will be made and oral presentations will be selected from submitted abstracts.


When it comes to value and
quality of screening libraries,
ChemBridge wrote the book.
• PHARMACophore Diverse Combinatorial Screening Library with Built-in Hit-to-Lead Capabilities.
Sophisticated combinatorial library with biologically relevant diversity. Ultra-pure, quality lead/drug-like compounds designed by medicinal chemists to be seamlessly converted into viable leads. Exclusive lead expansion and lead optimization support. Special pricing for biotech companies and academia.
• World Class Non-combinatorial Compound Collections for Screening.
Premium quality small molecule compounds selected by diversity/drug-like analysis filters, complemented by medicinal chemistry expertise in pre-selected sets. Numerous examples of success in screening, published in several premier journals. Rapid and highly reliable hit re-supply service.
• Advanced Focused and Custom Combinatorial Libraries Offered via our Affiliated Company, ChemBridge Research Laboratories (CRL).
CRL collaborates with pharmaceutical and target-rich biotech companies by offering diverse, targeted libraries with full follow-up discovery chemistry support. Please visit CRL's website at www.chembridgeresearch.com to learn more about our products, services, and recently announced major collaborations.
USA Headquarters:
ChemBridge Corporation
16981 Via Tazon, San Diego, CA 92127
Phone: 800-964-6143 or 858-451-7400
Fax 858-451-7401
Email: sales@chembridge.com*
Web: www.chembridge.com
*For inquiries originating out of Europe or Japan, please see the "Contact Us" page on our website.
CHEMBRIDGE™

Fueling Innovation

It's in our genes.

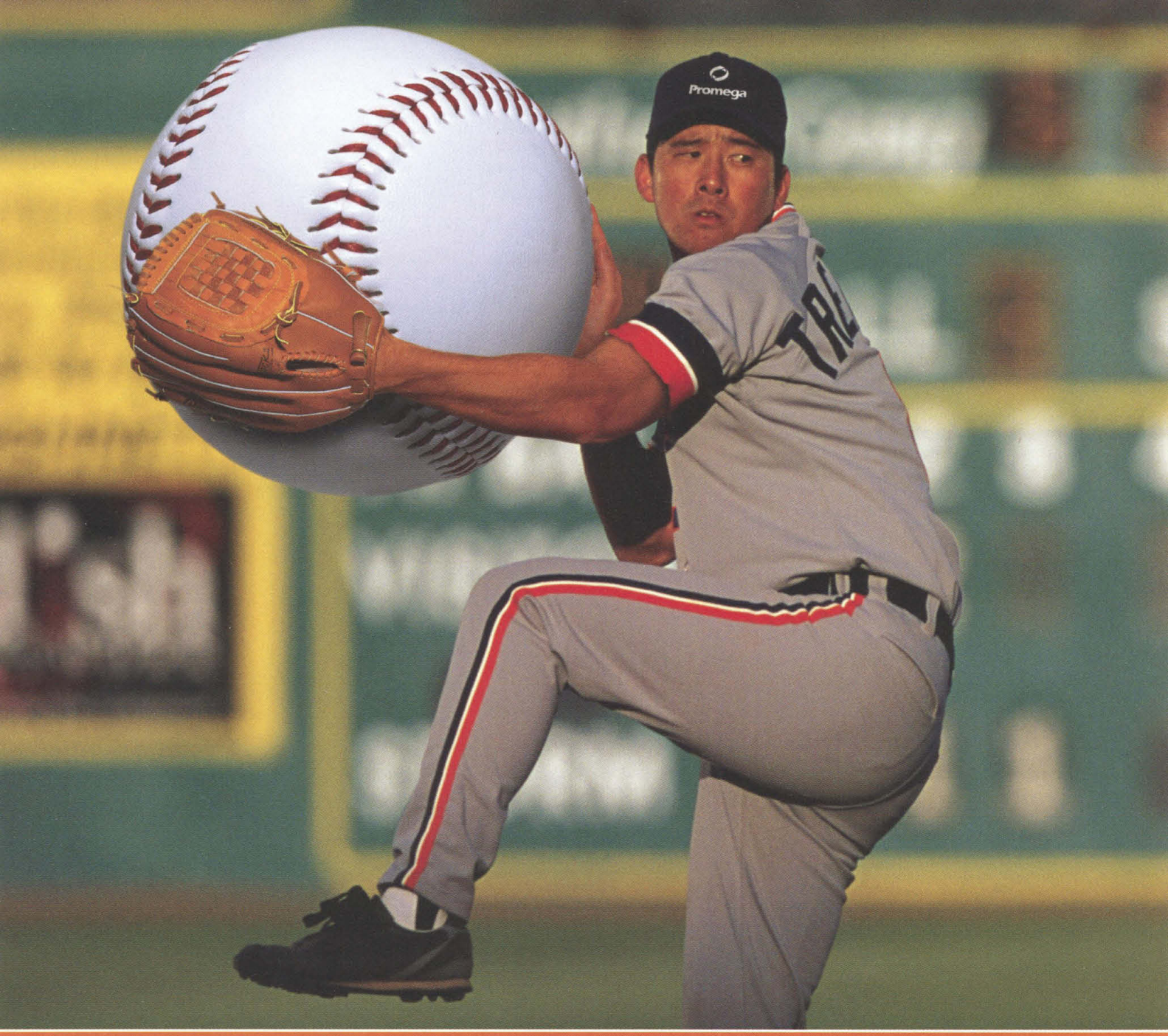


- ExoSAP-IT™
- Shrimp Alkaline Phosphatase
- Exonucleases
- Mutation Detection Products
- Binding Proteins
- Polymerases
- Nucleotides
- Convenience Reagents

Fueling innovation is at the very core of what we do for you, by supplying a wide range of quality products to the academic and industrial biosciences. Like ExoSAP-IT™. Our new Mut proteins. Sequenase™ T7 DNA Polymerase. And many other tools that fuel emerging technologies and applications. At USB, our commitment to innovation — along with our proven performance, integrity and responsiveness — have made us a leader in the supply of biochemicals and molecular biology reagents. Call USB today – Your Partner in Fueling Innovation™.

USB Corporation 26111 Miles Road Cleveland OH 44128 800.321.9322 www.usbweb.com

usb
Fueling Innovation™



How can you miss?

Get a hit every time with the new READIT™ SNP Genotyping System.

Need ACCURACY *and* FLEXIBILITY in your game? Step up to the plate with confidence knowing Promega READIT™ genotyping results give you six sigma separation between calls. You design the genotyping assay, you choose the throughput, you keep your budget under control. It's a "can't miss" for you and your lab. For more information about hitting some real homeruns with the READIT™ SNP Genotyping System, visit www.promega.com/readit.

PROMEGA CORPORATION • www.promega.com

Promega

Healthcare Opportunities 2002

Your Passport to the Future of Life Sciences, and the Pharmaceutical and Medical Device Industries

THREE CONCURRENT EXECUTIVE SUMMITS

- **Marketing Innovations in the Pharmaceuticals Industry**
  An Interactive Forum for Chief Marketing Officers, Directors, and Senior Managers Striving for Advantage in a Hyper-competitive Market
- **Maximizing Outcomes of IT in Drug Discovery and Development**
  An Interactive Forum for Chief Executives and Heads of Research, Development, and Discovery Technologies Seeking Productivity Breakthroughs
- **Growth Strategies and Opportunities in the Medical Device Industry**
  An Interactive Forum for Senior Executives Seeking a Strategic Pulse on Industry Drivers, Technology Directions, and Competitive Challenges

November 3-7, 2002

Hilton Torrey Pines Resort • La Jolla, California

Register Now

e. cfsales@frost.com
t. 1.877.GO FROST (1.877.463. 7678)
f. 1.888.674.3329

Mention *Science Magazine* and receive 25% off registration fee

You Need A CO_2 Incubator You Can Depend On. NAPCO.

Providing reliable controlled growth conditions for cell culture applications since 1918.

When your work may result in life-saving advances in medical science, it easy to see why most researchers choose dependable NAPCO incubators – and have chosen them over the competition for more than eighty years.

NAPCO's water-jacketed CO_2 Incubators control temperature, CO_2, and even oxygen with microprocessor precision. They maintain relative humidity at the highest levels in the industry – up to 98%. And best of all, they return to setpoint conditions up to three times faster than ordinary incubators, so more of your time can be spent working instead of waiting.

For more information on NAPCO CO_2 Incubators (or our entire line of lab equipment), call us today at (800) 621-8820. Or visit us on the web at www.napco2.com.

NAPCO
THE CELL CULTURE SPECIALIST

170 Marcel Drive • Winchester, Virginia 22602
800 621 8820 • 540 869 9892 • Fax 540 869 0130

www.napco2.com • info@napco2.com

NEW PRODUCTS

Physical Chemistry
MCH Multimedia Inc.
Montreal, Canada
$37.85
888-390-7947
www.mchmultimedia.com

EDUCATIONAL CHEMISTRY CD

Physical Chemistry is a CD-ROM produced by Houghton Mifflin as a student resource. The tutorial offers the student a series of chapters that are rich in explanation, animation, and interactivity. Installation is straightforward but annoying because the user must reboot the computer twice: once after installation of the install wizard and a second time to activate the program itself.

The CD is organized as a book with chapters on topics such as thermodynamics, chemical equilibrium, electrochemical cells, chemical kinetics, quantum mechanics, chemical bonds, and the solid state. Each chapter begins with a statement of the learning objectives and contains 5 to 15 sections that detail the subtopics. Some sections are either misnumbered or strangely numbered, but this does not detract from their usability.

Upon opening a page, the user is presented with a text box with scroll bar, a list of several options, and a second text area with browser. Many are supplemented by short voice clips (marked with a speaker icon) that further describe the phenomenon under study.

The chapter on the First Law of Thermodynamics presents students with a cartoon of a drink with a thermometer near it and prompts them to "drop" an ice cube into the drink. When the ice cube enters the drink, the temperature on the thermometer drops. Accompanying text discusses systems, states, and state functions. The next page asks students to drop an ice cube into an ocean to illustrate the concepts of infinite heat baths and infinite heat capacity. The section on equilibrium states and reversibility begins with the familiar cartoon of a quantity of gas confined in a cylinder by a piston and prompts the user to increase the external pressure on the gas with a slide bar while watching the gas equilibrate its pressure with the cylinder. Numbers for both internal and external pressure change as the external pressure is adjusted, and text boxes describe reversible and irreversible processes.

The drawbacks to the CD are relatively minor. The lack of a bibliography with specific references is a disservice. Many of the interactive graphs will suddenly "blank out" when the cursor is moved into the graphics area. Notable omissions to the material include chapters on statistical mechanics, macromolecules, symmetry, group theory, and spectroscopy. Perhaps the most surprising aspect was the level of difficulty of the material. Many of the chapters would seem more appropriate to the freshman or sophomore level than the junior level, when physical chemistry is usually taken. The mathematical support is somewhat light; little or nothing is done with the derivation of most equations, which would have been helpful for students struggling with the math. Despite the omissions, the interactive nature of the material as well as the clarity of the examples and explanations still make this CD a useful tool for a variety of undergraduate science majors.

—John A. Wass

Pharmacogenetics R&D, Abbott Laboratories, Abbott Park, IL 60064, USA. E-mail: John.Wass@abbott.com

AMRESCO
For more information
800-448-4442
www.amresco-inc.com
www.scienceproductlink.org

NUCLEASE WIPES

NucleasEliminator Wipes are a convenient way to remove ribonuclease and deoxyribonuclease contamination. The wipes are single-use, moist towelettes packaged in foil pouches. They contain a proprietary solution that can remove nuclease from any plastic and glassware surfaces. They are suitable for researchers performing polymerase chain reaction and delicate electrophoresis experiments.

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

CHEMILUMINESCENT KITS FOR WESTERN BLOT DETECTION

The Immun-Star line of chemiluminescent kits for western blot detection has been expanded to include the Immun-Star HRP kit for horseradish peroxidase (HRP) conjugated secondary antibodies. This highly sensitive, fast-acting alternative to isotopic detection can detect less than one picogram of sample, and the light signal lasts 6 to 8 hours after activation. Experiments can be run with small amounts of sample, and there's no need to rush into the darkroom after activation. Working solutions are stable at room temperature for 24 hours. Film exposures are as little as 30 s to 2 min on commonly used blotting supports.

FiberCell Systems
For more information
800-609-3427
www.fibercellsystems.com
www.scienceproductlink.org

HOLLOW FIBER CELL CULTURE SYSTEM

The SOLO Hollow Fiber Cell Culture System is a closed continuous flow bioreactor that can cost-effectively achieve cell densities of more than 10^8/ml and produce 100 mg to 2 g of protein. Various molecular weight cutoff hollow fiber cartridges can be used to maximize selection and yield of secreted proteins. Appropriate for both adherent and suspension cell lines, the SOLO system includes a single microprocessor-controlled pump that can produce flow rates from 2.5 to 80 ml/min and is designed to fit easily into most CO_2 incubators. The SOLO can support all types and sizes of hollow fiber cartridges from research to production scale.

In addition to monoclonal antibody production, applications include producing recombinant proteins, adenovirus vectors, lymphocytes, cytokines, and growth factors; endothelial cell culture; and artificial organ research.

PerkinElmer Life Sciences
For more information
800-551-2121
www.perkinelmer.com/lifesciences
www.scienceproductlink.org

AUTOMATED PROTEIN PURIFICATION

A platform for automating labor-intensive steps involved in protein purification features PerkinElmer's MultiProbe II EX Robotic Liquid Handler and Novagen's RoboPop Protein Purification Kits. The platform performs 96-well format purification of His-Tag and GST-Tag fusion proteins directly from E. coli cultures without mechanical lysis or centrifugation. Novagen's RoboPop System is suited for automated protein purification because it eliminates the need for centrifugation and enables the entire process from cell growth through purification to be performed in a single deep-well plate. The MultiProbe II EX system allows for complete walk-away automation of the magnetic affinity purification protocol.

CONTINUED ON PAGE 222

Greiner Bio-One
For more information
800-884-4703
www.greinerbiooneinc.com
www.scienceproductlink.org

FIBRONECTIN-COATED LABWARE

Dishes, flasks, and plates are available coated with fibronectin, a structural protein found in plasma and the extracellular matrix. Fibronectin promotes cell adhesion and affects cell morphology, differentiation, and migration in culture. Fibronectin's ability to bind growth factors affects the cell's growth rate. A variety of cell types produce fibronectin naturally, so it is a popular coating for in vitro cell culture work.

Ambion
For more information
800-888-8804
www.ambion.com
www.scienceproductlink.org

QUALITY RNA FROM BLOOD

Isolating intact RNA from blood is a challenge because only white blood cells, which compose 0.1% of all blood cells, contain appreciable amounts. The RiboPure-WBC RNA Isolation Kit provides a fast and easy method that yields up to 20 µg of high-quality RNA while simultaneously removing genomic DNA. The resulting RNA can be used for demanding downstream applications such as real-time reverse transcription–polymerase chain reaction.

Amaxa
For more information
+49 (0)221-99199-170
www.amaxa.com
www.scienceproductlink.org

NEURON AND DENDRITIC TRANSFECTION

New Nucleofector Kits provide a non-viral method of obtaining efficiently transfected and functional neurons. The kits, for primary chicken and mouse neurons, offer gene transfer efficiencies of up to 60%. The neurons are not only efficiently transfected, but they retain their basic functionality and characteristic morphology. The Human Dendritic Cell Nucleofector Kit I offers high-level transient transfection of up to 50% and the safety of a non-viral technique. The transfected cells maintain their immunological function.

BioSpec Products
For more information
800-617-3363
www.biospec.com
www.scienceproductlink.org

HIGH-CAPACITY CELL DISRUPTER

Designed for high-throughput analytical screening, the MiniBeadbeater-96 efficiently and safely disrupts up to 128 samples at a time of spores, microorganisms, plant tissue, animal tissue, and soil samples. One or two deep-well microtiter plates containing sample and a large number of tiny ceramic beads are violently shaken for 2 to 3 min to achieve greater than 90% cell disruption. The plates and beads are disposable, which makes the method suitable for polyacrylamide gel electrophoresis, polymerase chain reaction, and probe applications in which cross-contamination between samples must be avoided.

Retsch
For more information
866-473-8724
www.retsch.de
www.scienceproductlink.org

CUTTING MILL

The SM 100 cutting mill is a grinder suitable for processing biological samples such as bone, cellulose, and tissue. Other organic com-

pounds such as compost, silage, corn, cereals, grain, hay, alfalfa, sugar beets, tobacco, roots, wood, and coal can be easily ground to small particles. It can also be used to grind metals such as platinum or aluminum chips or to crush manufactured products such as textiles, rubber, foam rubber, and batteries. The SM 100 processes samples of up to 60 by 80 nm to a fineness below 1 mm, with batch sizes ranging from 5 to 30 liters. A wide selection of screens and hoppers allows for easy adaptation to individual applications.

Amersham Biosciences
For more information
732-457-8056
www.amershambiosciences.com
www.scienceproductlink.org

NITRIC OXIDE SYNTHASE SCREENING KIT

The Nitric Oxide Synthase Screening Kit is a homogeneous radiometric assay for measuring nitric oxide synthase activity in a high-throughput format. Nitric oxide (NO) is an important cell-signaling molecule that plays a key role in diverse cellular and tissue responses. Drug discovery efforts to identify inhibitors of NO synthase, for treating common disorders such as cardiovascular disease and inflammation-related tissue damage, may benefit from this rapid and easy-to-use technique.

Olympus Optical
For more information
+49 40 23773-326
www.olympus-europa.com
www.scienceproductlink.org

COLOR MICROSCOPE CAMERA

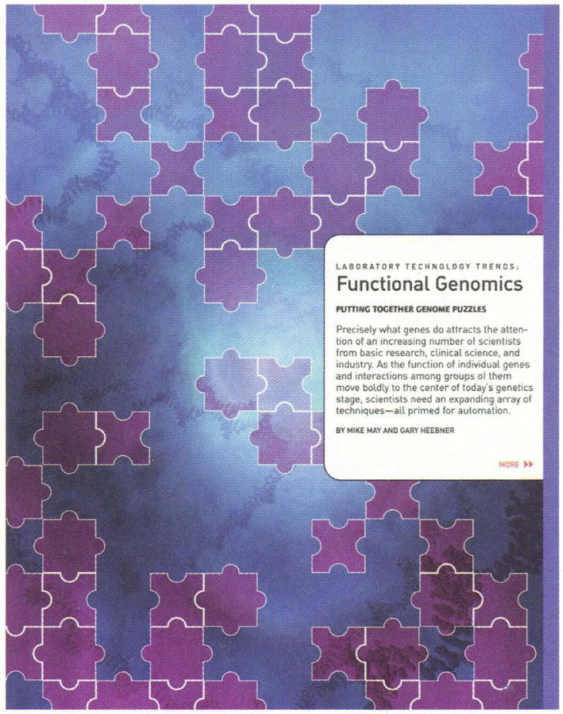
The MagnaFire combines the advantages of a color camera with those of a monochrome model. The technology of this new microscope camera is based on a monochrome charge-coupled device chip (1280 by 1024 pixels) in front of which a filter wheel is placed with dichroic glass filters. MagnaFire offers high-resolution capabilities, sensitivity, fast refresh rate, and true color. Recording, editing, and organizing the images is easy thanks to the camera's integration with image analysis software.

BD Biosciences
For more information
650-424-8222
www.bdbiosciences.com
www.scienceproductlink.org

ADENOVIRUS PURIFICATION KITS AND MARKER VIRUSES

The Adeno-X Virus Purification Kits provide a safe, easy, and rapid method for purifying and concentrating recombinant adenovirus. An alternative to cesium chloride density gradient centrifugation, there are no ultracentrifugation steps in the protocol. Instead, adenovirus is purified chromatographically using a membrane adsorbent that selectively binds adenoviral particles based on their distinctive surface properties. The protocol takes 2 to 3 hours from harvest to purification. Adeno-X Marker Viruses are replication-incompetent, first generation adenoviruses suitable as infection markers, encoding well-known reporter genes that can be measured by fluorescence microscopy or by direct colorimetric staining.

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



The following organizations have placed ads in the Special Advertising Section

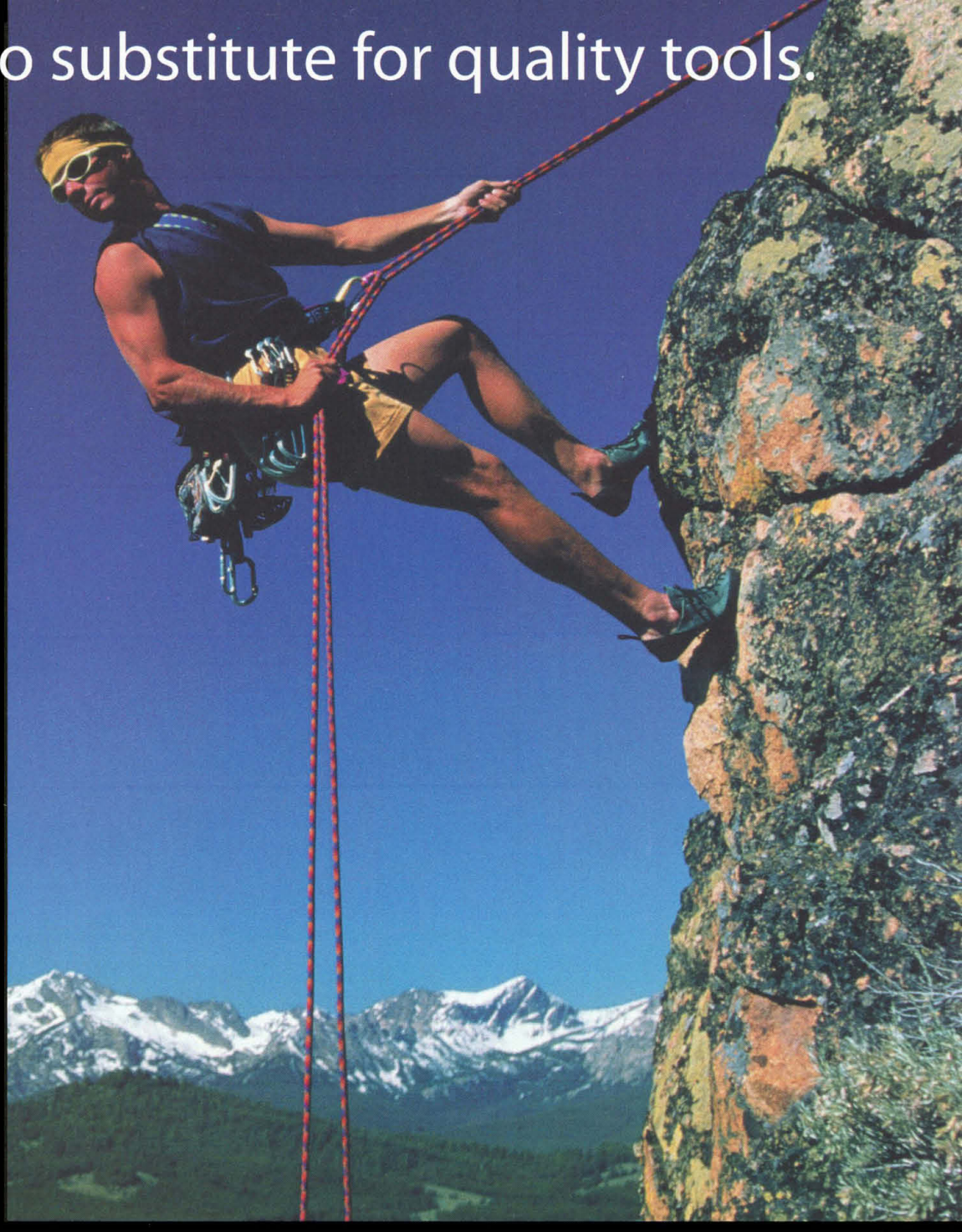
LABORATORY TECHNOLOGY TRENDS

Functional Genomics
PUTTING TOGETHER GENOMIC PUZZLES

Turn to page 231

Science
www.scienceonline.org

There is no substitute for quality tools.



We've got your genomics research covered.

When you can't afford to fail, use all the right tools to succeed. ATCC can help. We have an expanding selection of MGC and IMAGE clones and now offer media and reagents for the growth and selection of transformed *E. coli*.

MGC Clones, IMAGE Clones, Vectors, cDNA Libraries, Freeze Media, Terrific Broth, LB Broth, Antibiotics

Your **Discoveries**™ Begin with **Us.**

ATCC® bioproducts™

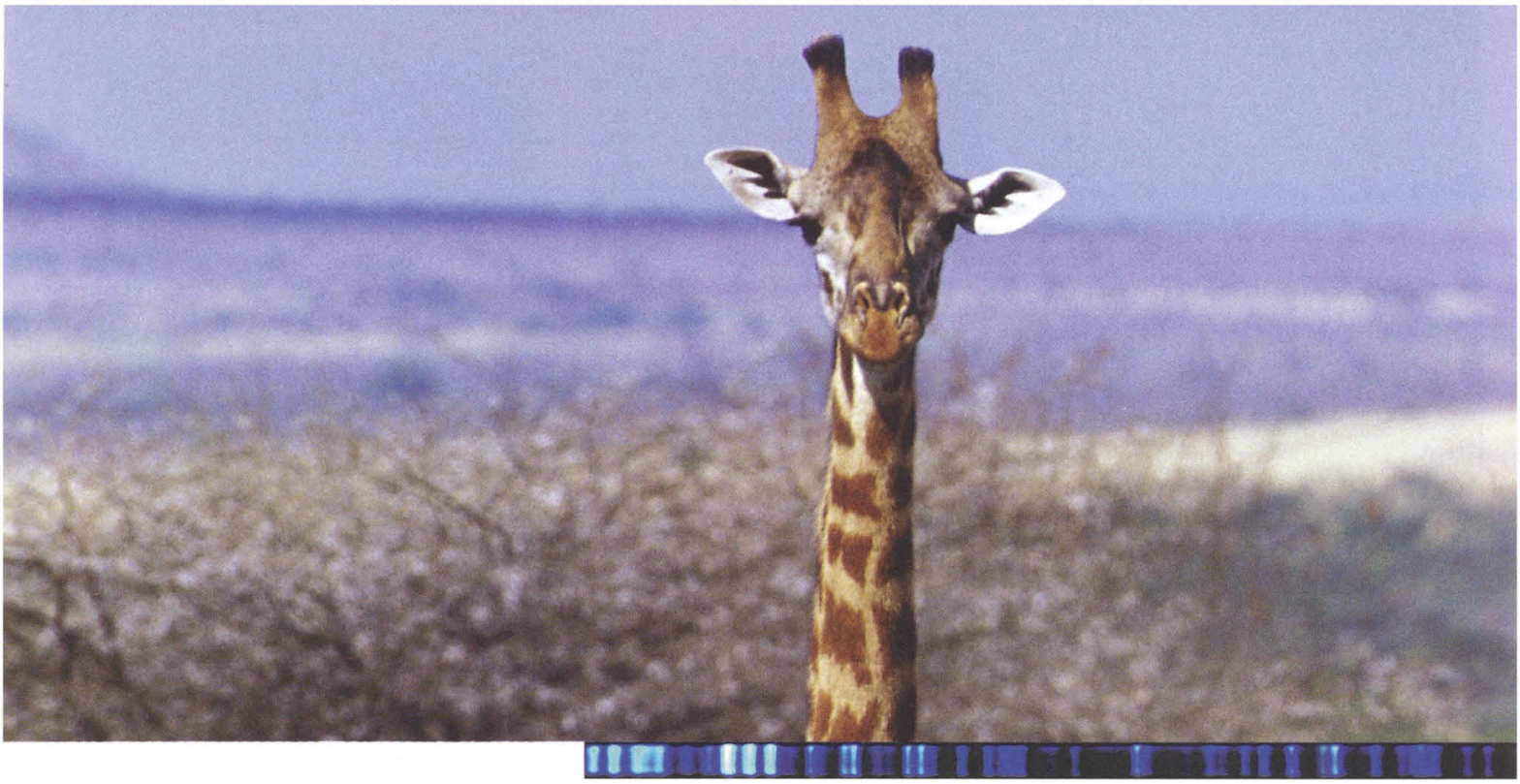
www.atcc.org

Manassas, VA
Tel: 800.638.6597 or 703.365.2700

If you're in the life sciences, there's a better way to get your job search off the ground. Go to ScienceCareers.org. Every week you'll find hundreds of new job postings, employer profiles, a resume/CV database and an e-mail alert service that will deliver jobs directly to you. With ScienceCareers.org you'll have all the tools you need to put yourself on the radar.

Science @ CAREERS

www.sciencecareers.org



Roche Applied Science

Expand High Fidelity^{PLUS} PCR System

Why Choose Between High Yields, Accuracy, and the Prevention of Carryover Contamination?

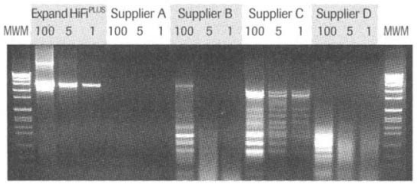


Figure 1: Obtain higher yields than with four other popular enzyme blends. Human genomic DNA template (100, 5, or 1 ng) was used to amplify a 4.8 kb fragment from the tissue plasminogen activator (tPA) gene under each manufacturer's conditions.

Select a single polymerase blend that gives you everything you need – the **new Expand High Fidelity^{PLUS} PCR System** from Roche Applied Science. Amplify fragments up to 5 kb with a next-generation blend combining our Taq DNA Polymerase with a novel protein that mediates proofreading activity but has no polymerase activity of its own.

- **Improve PCR yields:** Obtain more product from smaller amounts of template (Fig. 1).
- **Perform high-fidelity applications (*e.g.*, SNP analysis):** Achieve 6-fold greater accuracy than with Taq Polymerase alone.
- **Avoid false positives by preventing carryover contamination:** Incorporate dUTP during PCR (Fig. 2), then pre-treat subsequent reactions with Uracil-DNA Glycosylase to degrade any carried-over PCR product containing dUTP. Try doing that with any other high-fidelity blend or proofreading polymerase!

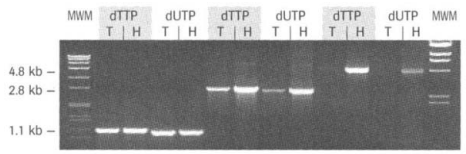


Figure 2: Amplify longer products with greater fidelity and yield when incorporating dUTP for subsequent prevention of carryover contamination. Reactions contain either Taq Polymerase (T) or Expand High Fidelity^{PLUS} PCR System (H) and either dTTP or dUTP.

Stop compromising your PCR!

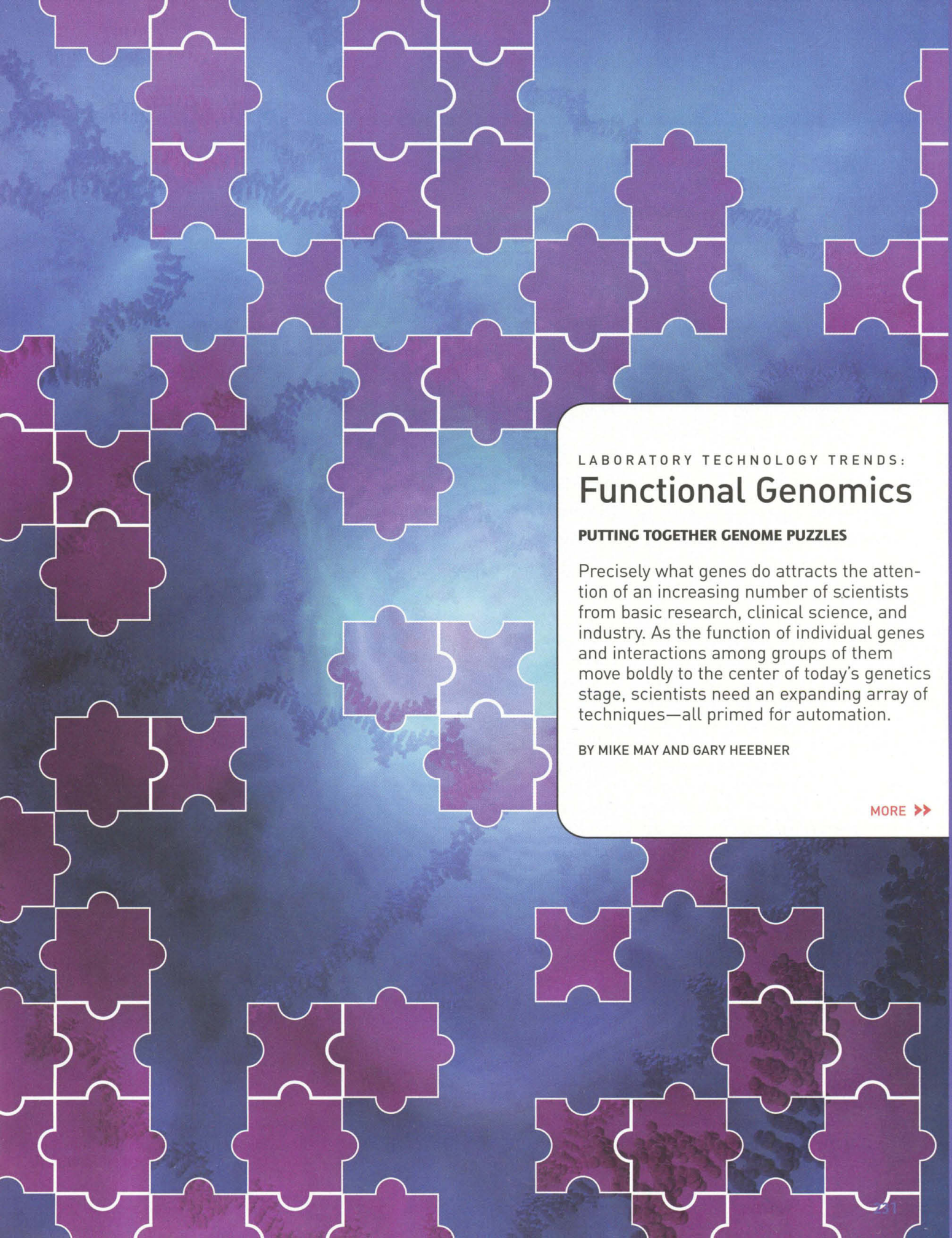
Get everything you need in a polymerase blend from Expand High Fidelity^{PLUS} PCR System. Learn more by visiting ***www.roche-applied-science.com/pcr*** today!

Expand High Fidelity^{PLUS} PCR System

Cat. No.	Pack Size
3 300 242	50 reactions
3 300 226	200 reactions
3 300 234	1000 reactions

Roche

Roche Diagnostics Corporation
Roche Applied Science
Indianapolis, Indiana



LABORATORY TECHNOLOGY TRENDS:

Functional Genomics

PUTTING TOGETHER GENOME PUZZLES

Precisely what genes do attracts the attention of an increasing number of scientists from basic research, clinical science, and industry. As the function of individual genes and interactions among groups of them move boldly to the center of today's genetics stage, scientists need an expanding array of techniques—all primed for automation.

BY MIKE MAY AND GARY HEEBNER

MORE >>

special advertising section

LABORATORY TECHNOLOGY TRENDS:

Functional Genomics

SECTIONS:

The companies in this article were selected at random. Their inclusion in this article does not indicate endorsement by either AAAS or Science, *nor is it meant to imply that their products or services are superior to those of other companies.*

Although functional genomics poses complicated challenges, it also promises potential payoffs beyond belief. If scientists can figure out the jobs of tens of thousands of genes in an organism's genome, that knowledge will provide a broad new perspective on basic biology and make way for a wide variety of applications. "The completion of major genome sequencing projects has put us in a position where we identify the function of individual genes and address biological questions, whether basic or applied," said Philip Batterham, a senior lecturer at the University of Melbourne and secretary general for the XIX International Congress of Genetics (see Linking Genes to Life below). He added: "Today's genetics is functional genomics."

Scientists in functional genomics keep pushing ahead on a seemingly daily basis. In fact, the technology in this field improves so fast that Stewart Wills, SCIENCE's online editor, created a website with daily updates (see Functional Genomics at SCIENCE Online below). These ongoing advances often depend on new techniques.

CONTINUAL CLONING

To study the function of a single gene, scientists clone its DNA. This involves isolating the gene and transferring it to another organism. The now transgenic organism replicates the transferred gene and produces many copies of it. Moreover, the transferred gene gets expressed and makes protein. Through this method, an investigator starts to examine what a gene does. Advances in products for cloning include the development of pre-tested kits—from **BD Biosciences Clontech**, **Epicentre**, **Invitrogen Corporation**, **Roche Applied Science**, and other molecular biology specialty companies—that contain the necessary reagents. These kits allow researchers with little molecular biology experience to clone DNA without optimizing their own home-brew systems.

Some scientists might consider cloning old hat, but Nicolas H. Roelofs, senior vice president of marketing and Asian sales at **Stratagene**, sees cloning as a vibrant area. He said, "Lots of people are resequencing species, and there are many other reasons for DNA cloning, as well." J. Craig Venter, president of **The Center for the Advancement of Genomics**, clearly agrees, because he recently announced that he will invest at least $20 million of his own money in a new sequencing center in Rockville, Maryland. Eventually, he hopes to make sequencing so inexpensive and fast that a doctor could use a patient's genome for personalized medicine.

Already in functional genomics, many scientists use cloning to express a specific protein, thereby trying to reveal a gene's job. In addition, an investigator might express a protein of interest to determine its effects on various signal transduction pathways. With no PCR-like technique to amplify proteins, scientists can clone a specific gene, insert it in a bacteria system, such as *E. coli*, and let it make the protein.

To make these tasks easier, Stratagene offers tools for clipping a gene of interest and putting it in a bacterial system. Roelofs said, "We are a research tool provider. We create tools that work for human research, but we also support work on *Arabidopsis*, rice, and other organisms. That's why tool kits are something that we are pretty passionate about." He added, "None of us should forget there are lots of academically interesting species—and maybe commercially interesting ones—that aren't sequenced yet."

MIXING IT UP WITH MICE

Mice make an ideal model system for studying the effects of altering gene function, because mice and humans share a fair amount of DNA. The human genome is about the same size as the one in a mouse, and these two organisms show over 90 percent sequence identity. Moreover, the genetic makeup of a mouse can be altered to study the roles of genes. In so-called knockout mice, scientists alter a particular sequence of DNA to keep it from being expressed. When investigators design a knockout that turns off the expression of a particular protein, they can see how that protein's absence affects a mouse. Several companies—including **Charles River Laboratories**, **Deltagen**, and **Taconic**—develop genetically altered strains of mice.

Investigators at Deltagen take an industrial approach to making knockout mice. William Matthews, chief executive officer and cofounder, said, "We do targeted gene knock-

MORE

Do you see a romantic candle-light dinner or a rich source of genomic data?

Methods of selective fish and crustacean breeding have attempted to combat major population reductions caused by disease. Advances in the genomics of aquatic wildlife are unraveling the genetic mechanisms for immunity in addition to those for acclimatization and sex determination.

LIBERATE YOUR GENIUS WITH THE POWERFUL NEW VECTOR FAMILY OF PRODUCTS ...

...the flexible, intuitive informatics solution of choice for over 32,000 life scientists who want to speed and simplify their data management and analysis – and leave more time for creative and groundbreaking research.

The new **Vector NTI Suite 8.0** features more than 100 enhancements developed by scientists. The new **GenomBench** provides reference genomic sequence analysis and annotation capability in an intuitive, integrated environment. The new **LabShare for Vector NTI** provides seamless, secure, sharing and storing of working data for workgroups of all sizes.

Vector NTI Suite 8.0
GenomBench
Vector NTI for Mac OS X
LabShare for Vector NTI
Vector Xpression
Vector PathBlazer

InforMax®
Reach the Future First

Call now for a free consultation and test drive. Let a scientist walk you through a free guided tour today and see for yourself how easy it is to use a powerful informatics solution. Purchase software and support by the end of October and get **6 months of live technical support and upgrades free!**

800-357-3114 ext 4174
+44 (0) 1865 784580

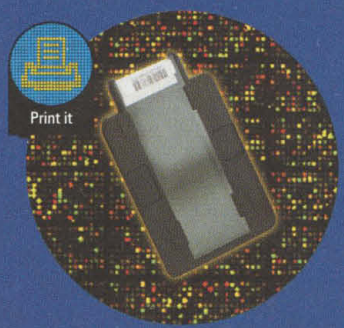
FREE SUPPORT

www.informaxinc.com/info1

SC

Awesome cDNA microarrays

Human 1, Human 2, Mouse and Rat are now available



www.agilent.com/chem/dna

u.s. and canada 1 800 227 9770
japan 0120 477 111
europe: marcom_center@agilent.com
global: dna_microarray@agilent.com

For a limited time only!
2 for 1 Agilent ready-to-hybridize, catalog microarray kits.

Screen with confidence
Precision printed microarrays with Agilent SurePrint technology deliver consistent results slide-to-slide and batch-to-batch.

Get a more complete solution
Each kit contains four printed microarrays, hybridization buffer, user protocol and a CD containing Incyte LifeSeq® Clone ID, name, GenBank accession number and UniGene Cluster ID.

Trusted cDNA gene content from Incyte Genomics	
Human 1 cDNA kit G4100A	12,814 clones
Human 2 cDNA kit G4101A	14,355 clones
Mouse cDNA kit G4104A	8,737 clones
Rat cDNA kit G4105A **NEW!**	14,815 clones

And after screening, refine your search with Agilent's custom 60-mer *in situ* oligonucleotide microarrays.

Agilent Technologies

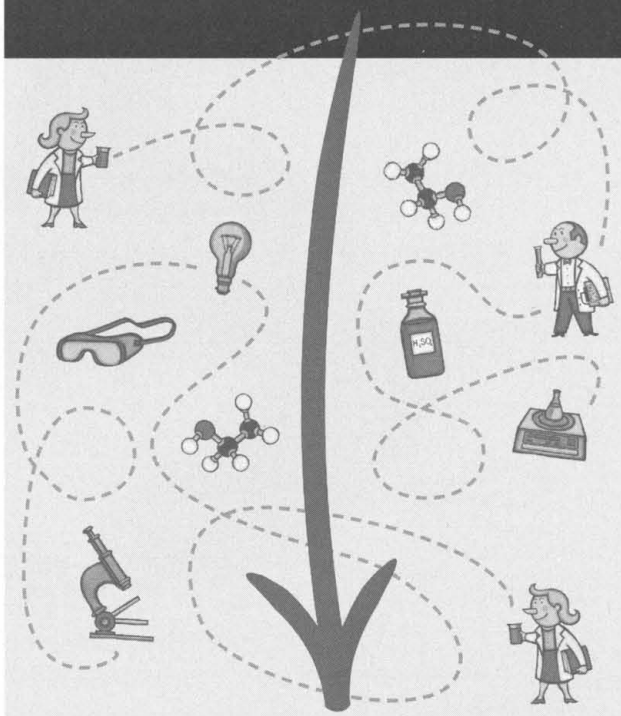
dreams made real

FUELED BY Incyte Gene Content — Better Content – Better Results

Lifeseq is a registered trademark of Incyte Genomics, Inc. in the U.S. and other countries

Program 4538

What's the shortest distance between two points?



www.scienceproductlink.org

Find out about products advertised in *Science* — instantly.

Science announces a great way to find out about new products advertised or featured in *Science* — instantly. *Science's* Product Link is a new online reader service program and online product information service that allows readers to search for products advertised or featured in *Science* by

- product category,
- company name,
- keyword, and
- page number.

You can look for product information in current and back issues. You can even link to advertisers' websites for more information.

If you prefer, you can request to have product information delivered via

- e-mail,
- regular mail,
- telephone, and
- fax.

What's the shortest distance between two points? *Science's* Product Link.

Science
Discover the Future

Flower power

Snapdragons could alert us to chemical spills

Agilent in Life Sciences

Genomics

Proteomics

Drug Discovery

Development

QA/QC

www.agilent.com

Soon, the phosphorescent glow of a flower could identify leaking PCBs and other toxic chemicals in the soil. From complex applications to everyday research, Agilent gene expression solutions enable scientists to analyze the expression profiles of thousands of genes at once, speeding the pace of discovery. Analytical tools from Agilent generate precise, reproducible results, helping you eliminate obstacles, acquire knowledge and move your science forward.

Agilent Technologies

dreams made real

Functional Genomics

outs." Specifically, this company goes after genes that might be good drug targets. They use multiple vectors to knock out a single gene and then screen the results for the best vector. As a result, they have created the capacity to make and characterize more than one thousand gene knockouts per year.

The information generated on small molecule targets goes in DeltaBase—a database of gene knockout information from mice—which could reveal drugable targets in the human genome. Matthews said, "Prior to sequencing the human genome, about 500 drugs targeted genes or proteins. Now, with the 30,000 genes—or whatever it ends up being—there can potentially be many more gene-targeted drugs."

With their industrial perspective, scientists at Deltagen always intended to apply their work to interesting diseases. Matthews said, "There is great conservation of the genes in the mouse genome to the human one, but mice are mice and humans are humans. So we focus our internal drug discovery efforts on places where data from a mouse can lead to human breakthroughs." That focus led them to explore diabetes, rheumatoid arthritis, and other diseases.

Functional Genomics Online

- Need to refer to this article?
- Want a friend or colleague to read it?
- Need information on Functional Genomics?
- Then visit Science Online's E-Marketplace site. E-Marketplace gives you access to this article as well as past special advertising sections. You can also obtain instant product information using Product Link on the E-Marketplace site.

scienceonline.org
[Click on **E-Marketplace,** then click on **Science Benchtop**]

ANOTHER SHUTDOWN

Nature shuts down genes through posttranscriptional gene silencing (PTGS). Just as the name implies, some cells turn off a gene after it gets transcribed. Moreover, PTGS provides a valuable tool for molecular biologists to knock out the expression of specific genes. Barton Slatko, a senior research scientist at **New England Biolabs**, said, "In some situations, PTGS relates to infection states, and there are some indications that a virus can turn on PTGS in plants. In some ways, it acts as a primitive immune system. PTGS also appears to be a general regulatory mechanism in eukaryotes to determine the level of transcription." A number of companies including **Ambion**, New England Biolabs, and **Novagen** supply PTGS tools.

Scientists can use PTGS through a technique called RNA interference (RNAi). This technique relies on a piece of double-stranded RNA that interferes with expression. George Tzertzinis, a senior research scientist at New England Biolabs, said, "Researchers can use RNAi to study a pathway where they know several genes are involved. You try to selectively decrease the expression of each gene and then look for the outcome at the next steps or intermediates. In other words, you can quickly do a temporary knockout and find out which gene is essential for each step." He added, "Also, if you suspect that a gene is involved in a particular process, you can decrease that gene's expression and see whether the process is affected."

New England Biolabs' HiScribe RNAi Transcription Kit is an in vitro transcription system for generating double-stranded RNA in a single tube. Tzertzinis said, "It is easy to generate large amounts of double-stranded RNA with this kit."

MAKING THE BEST OF MUTANTS

A mutated version of a gene can help scientists figure out what it normally does. A researcher turns off part of a system and then watches for changes. A variety of companies including **Amersham Biosciences**, BD Biosciences Clontech, and Stratagene offer mutagenesis kits that allow random and site-directed mutations to be introduced in a given sequence of DNA.

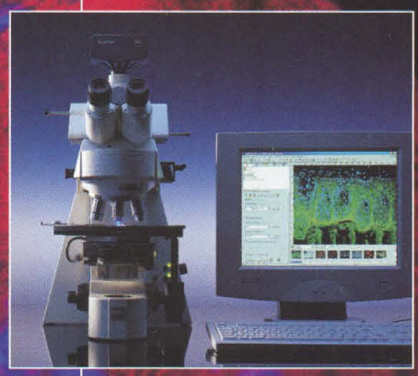
The BD Diversify Random Mutagenesis Kit from BD Biosciences Clontech lets investigators alter a protein's function by randomly mutating its DNA sequence. "A researcher could go through rounds of mutagenesis and select an enzyme with improved function, for example improved temperature stability," said Andrew Farmer, group leader for molecular biology applications at BD Biosciences Clontech. "By using multiple rounds of mutagenesis, a scientist can select for an enzyme with different activities from the naturally occurring enzyme." One of the most interesting applications of the BD Diversify Kit was the discovery of a novel fluorescent-timer protein.

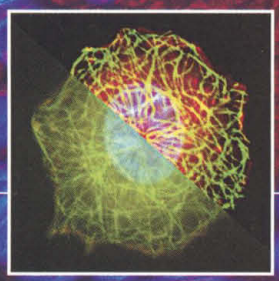
Using the BD Diversify Kit, researchers can select rates of several mutations per thousand base pairs of DNA by varying the amounts of two key reagents: manganese and dGTP. Raising manganese levels in the reaction mixture initially increases the mutation rate, but has no additional effect at higher levels. Raising the dGTP concentration triggers further increases in mutation rate. Even higher mutation rates can be achieved by performing additional rounds of PCR—a convenient option provided by PCR-based random mutagenesis.

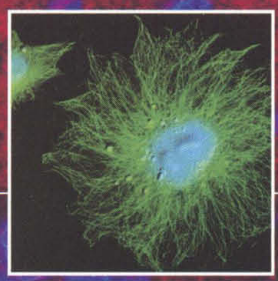
Moreover, the BD Transformer Site-Directed Mutagenesis Kit can be used to change a specific base. Farmer said, "Researchers use this kit when they believe that a particular residue is in the active site of an enzyme and they want to prove that by knocking it out." He added that a scientist could use this kit to replace a single amino acid in hopes of modifying a protein's binding site, which could enhance its drug-binding potential.

The Bar Has Been Raised

Axioplan 2 Research Microscope.







A digital microscope designed for the future, Zeiss Axioplan 2 Imaging is a marvel of modern engineering. With new optics of high light transmission, precision of its innovative components & infinite flexibility, Axioplan 2 is a reliable partner that meets the latest demanding requirements today & for the years to come. No wonder the Axioplan 2 Imaging has become the microscope of choice for research scientists in America!

For information about Zeiss products please call 800-233-2343 or visit us online: zeiss.com/micro.

Carl Zeiss MicroImaging, Inc. • Thornwood, NY 10594 • micro@zeiss.com

ZEISS

We make it visible.

LABORATORY TECHNOLOGY TRENDS:

Functional Genomics

In many cases, determining just what a gene does requires testing its expression in several vectors, which can be accomplished with the BD Creator Gene Expression Systems. "With this system, a scientist can transfer a gene into multiple expression systems overnight," Farmer said.

Stratagene also provides mutagenesis tools, including the GeneMorph PCR mutagenesis kit. In addition, Stratagene's QuikChange Multi kit provides site-directed mutagenesis that introduces up to five mutations in a single reaction. This technique can be used to create a collection of mutations at multiple sites to quickly optimize the activity of the protein of interest.

READY-TO-RUN ARRAYS

DNA microarrays or chips let researchers measure gene expression in many genes simultaneously and under virtually identical conditions. Investigators use DNA arrays to study gene expression or analyze single nucleotide polymorphisms (SNPs). **Affymetrix** emerged as an early innovator in this area by inventing a practical way to analyze gene function as a system. Affymetrix manufactures its commercial arrays using a masking technique originally developed for making semiconductors. With photolithography, technicians at Affymetrix produce a number of masks that direct the in situ synthesis of millions of oligonucleotides directly on a wafer and allow multiple arrays to be made at one time.

Stephen Fodor, founder and chief executive officer at Affymetrix, said, "Two guiding principles have come from the marketplace, both commercially and scientifically. First, scientists are demanding more and more information. Second, there's a strong commitment to whole-genome analysis and systems biology." Fodor also indicated that today's scientists expect microarrays to provide meaningful biological insights.

Affymetrix started seeing customers use its chips for gene expression around 1994. "Now, we see a real blossoming in expression," Fodor said. "For functional genomics, microarrays are really going mainstream. People are convinced that arrays are a fundamental part of any modern molecular biology program." As expected, this technique soon went beyond basic research. Today's clinical scientists often use microarrays as diagnostic tools to look for expression patterns that might be associated with a disease.

"Arrays are going to higher and higher density," Fodor said. Affymetrix's Human Genome U133 set follows that trend. It is a set of two GeneChip arrays that incorporate more than one million probes that interrogate all of the known transcripts—some 33,000 across the human genome.

Today's arrays will help scientists explore what Fodor calls "the dark matter of the human genome." For example, Affymetrix scientists recently examined chromosomes 21 and 22 at very high resolution and found that more of the sequence was involved in transcription than previously thought. Fodor said, "We found transcription all through the so-called junk DNA, and if you look over several different cell lines, it's differentially expressed."

OTHER ARRAYS

Some companies, including **NimbleGen Systems** and **Febit**, are developing fabricated microarrays that are produced using a micromirror based, maskless system. **Texas Instruments** developed the micromirrors that direct light onto specific areas of a grid to activate the DNA synthesis reaction and elongate oligonucleotide chains. This method allows quick changes to a microarray, because the mask is virtual and easily changed via computer programming.

Some investigators also use spotted arrays, which consist of samples of cDNA applied to treated glass slides or other flat surfaces, including nylon membranes. Making spotted arrays requires some sophisticated instruments including automated spotters, colony pickers, and the downstream detection and analytical instruments. **BioRobotics**, **Genetix**, **Genomic Solutions**, and others offer a wide range of products needed to manufacture arrays.

In addition, Stratagene provides the components that scientists need to make custom microarrays. Arrays reveal qualitative changes in expression, and Stratagene's QPCR quantifies it with a sensitivity down to a few copies of mRNA. Roelofs said, "This is the perfect complement to microarrays for functional genomics."

Investigators can also quantify gene expression with Invitrogen's new LUX Fluorogenic Primers, which can be used in real-time PCR. Although this methodology does not need a dual-labeled fluorogenic probe, it still detects as few as 100 copies of a target gene. That makes LUX directly comparable to the sensitivity of dual-labeled probe technology, but at much less cost.

A SAGE APPROACH

To get a complete picture of gene expression and a quantitative measure, researchers can also use serial analysis of gene expression (SAGE). Bert Vogelstein, Ken Kinzler, and their colleagues at **Johns Hopkins University** devel-

Linking Genes to Life

On July 6-11, 2003, Melbourne, Australia, will play host to a premier event in functional genomics: the XIX International Congress of Genetics. This Congress will celebrate the fiftieth anniversary of the discovery of the structure of DNA. Organized under the theme "Genomes – The Linkage to Life," this meeting will feature 54 symposia, including 280 invited speakers from around the world, and will cover clinical genetics, cancer genetics, mutation detection, gene silencing, gene networks, and much more. The organizers also expect about 1,500 posters. The meeting's secretary general Philip Batterham said, "The Congress covers the complete breadth of genetics: embryogenesis to evolution, agriculture to zoo populations, and medicine." For more information on this meeting, which attracted sponsorship from a variety of organizations and companies, including Applied Biosystems and *Science*, visit its website:

http://www.geneticscongress2003.com

Attendees might make a first stop in Brisbane from June 30 through July 3 for Intelligent Systems for Molecular Biology, which Batterham called "the most significant bioinformatics conference held in the world on an annual basis."

MORE ▶▶

Contamination. Downtime.

Controlled. None.

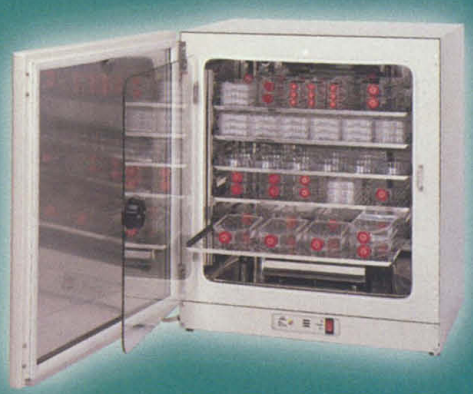
SANYO introduces the MCO-20AIC Cell Culture Incubator.

A CO_2 incubator so simple to operate, so sophisticated in design, and so efficient in its performance, it virtually eliminates chronic problems of in vitro contamination.

A stable environment where contamination control is a continuous process, not an inconvenience.

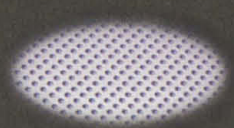
A safe place where your good work grows.
And bad things don't.

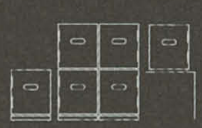
Learn more. Go to **www.sanyo-biomedical.co.jp**.



SANYO Model MCO-20AIC with patented SafeCell™ UV germicidal protection, InCuSaFe™ copper-enriched stainless steel interior and ceramic IR precision infrared CO_2 system.*

ΔT 5°C AMB ··50°C	↕0.25°C ←→0.1°C	CO_2 0-20% ←→0.1%	RH95%@37°C	195 liters 6.9 cu.ft.	RS485 1001110110100011001 RS232C	Direct Heat Air	CULTURE 24/7/365





Ozone Free UV Protection *In Vitro*

The SafeCell UV system gently circulates incubator air through a plenum for decontamination and humidification. Here, an isolated beam of high intensity UV light destroys contaminants in the air and water reservoir without exposing cell cultures.

Passive Resistance To Mycoplasma

InCuSaFe™ interior components and shelves are formed from a copper-enriched stainless steel alloy to resist corrosion, add germicidal protection and eliminate surfaces favorable for growth of mycoplasma, molds, yeasts, spores and fungi.

Lab Tested, Destroys Contamination

Test results on humidifying water source confirm the efficacy of SafeCell UV, even after 3 months. Contact SANYO for a report on continuous UV sterilization within the incubator environment.

One Design, Many Variations

Reinforced for stacking with a reversible door, the MCO-20AIC design permits an unlimited combination of benchtop or floor installations. An accessory mounting stand is available.

Easy To Use

The microprocessor PID controller simplifies operation and supervises all incubator functions including temperature, CO_2, UV performance, alarm/monitoring and communications. Data entry keys provide access to the full range of programmable options.

SANYO

safecell UV · inCu saFe · IR sensor · ISO 9001

*U.S. Patent No. 6255103

SANYO Electric, Japan

LABORATORY TECHNOLOGY TRENDS:

Functional Genomics

oped this technique and licensed it to **Genzyme Molecular Oncology**.

This intricate technique starts with a tissue sample. Investigators extract the sample's mRNA and use it to make cDNA captured on beads. Restriction enzymes then cut the cDNA and leave a fragment of it attached to the beads. A linker, which contains the recognition sequence for a second restriction enzyme, is added to the exposed ends of the retained cDNA fragments. The second enzyme liberates a short sequence of the original cDNA, which is14 base pairs in length and is called a SAGE tag. Tags are harvested, polymerized, and sequenced. The sequence of a SAGE tag can uniquely identify a transcript, and quantification techniques reveal how often a tag appears, which gives a measurement of a gene's expression.

The use of SAGE has expanded since the launch of Invitrogen's I-SAGE kit last year. Martin Gleeson, associate director of science at Invitrogen, said, "SAGE was an ideal candidate for kit development. It's a complicated technique and many people were having difficulty when using home-made reagents."

Genzyme teamed up with Invitrogen to produce a commercial kit for SAGE research. Bruce Roberts, vice president of applied genomics at Genzyme, said, "The results from this kit are quantitative. You get a hard number of the abundance." Gleeson added that this kit also gives a profile of everything expressed, so it can also be used as a discovery tool. Also Genzyme offers a SAGE service for customers who are interested in obtaining gene expression profiles for their organism and system, but do not want to perform the research in-house.

A SIGNAL AMPLIFYING ASSAY

In today's world of biological discovery, investigators depend on some kind of amplification to detect targets. So-called target amplification, including PCR, increases the number of copies of the target. With signal amplification, the number of targets in a sample remains unchanged, and highly sensitive methods provide detection and measurement. This approach—which includes ELISA assays, high performance signal amplification (HPSA), and other techniques—provides an integrated detection chemistry that allows direct comparisons of genomic and proteomic array data.

Chromagen's HPSA Gene Expression Assays and State Gene Expression Arrays measure mRNA without the need for target amplification. Michael Conrad, president and chief executive officer at Chromagen, said, "HPSA assays and State arrays employ powerful new fluorescent labels and enzyme substrates, including our StarBright fluorescent labels and fluorogenic substrates, that provide much lower limits of target detection, but much broader dynamic ranges of measurement than were possible with other methods of signal or target amplification."

This technology fits many applications and works well for repetitive expression profiling of gene families. State arrays can also be used to create highly accurate, time-dependent profiles of gene expression. HPSA assays also provide more detailed studies of the regulation of individual genes, which can enhance drug discovery. State arrays also provide cell profiling, which measures and compares gene expression profiles in different cultured and primary cell types.

AUTOMATING THE EXPERIMENTS

The amplification in data-collecting techniques keeps stirring up new needs for automation. For very large-scale work, various companies—including **Applied Biosystems**, **PerkinElmer**, **Qiagen**, and **Zymark Corporation**—manufacture automated work stations and robotic systems to fully automate routine laboratory procedures.

John West, vice president of DNA platforms at Applied Biosystems, said, "Customers have had trouble using the genome, so we are trying to make it more accessible." He added: "We are making the genome accessible on a wet level and on a computer level." This applies to the recently launched Assays-On-Demand SNP Genotyping and Gene Expression product line. Currently, this line includes 90,000 SNP genotyping assays for candidate gene association, candidate region association, linkage mapping, and linkage disequilibrium studies and approximately 7,000 quantitative gene expression assays for target identification, disease characterization and classification, pathway elucidation, drug metabolism, functional studies, and validation of microarray data.

Qiagen automates research with robotics. Joachim Schorr, vice president of research and development at Qiagen, said, "Functional genomics is a combination of discovery biology, including identifying genes, plus target identification and validation, as well as some lead drug identification. We provide higher throughput in such areas with automation in our BioRobots." These BioRobots can prepare DNA samples for sequencing, perform PCR, and run many other available protocols. Helge Bastian, vice president of strategic marketing at Qiagen, said, "The current format of the BioRobot can be used for high-throughput clinical research, and new versions will also provide medium and low throughput."

IMPROVING ANALYSIS

High throughput experiments encourage equal improvements in ways to analyze the data. (For an upcoming meeting on information technol-

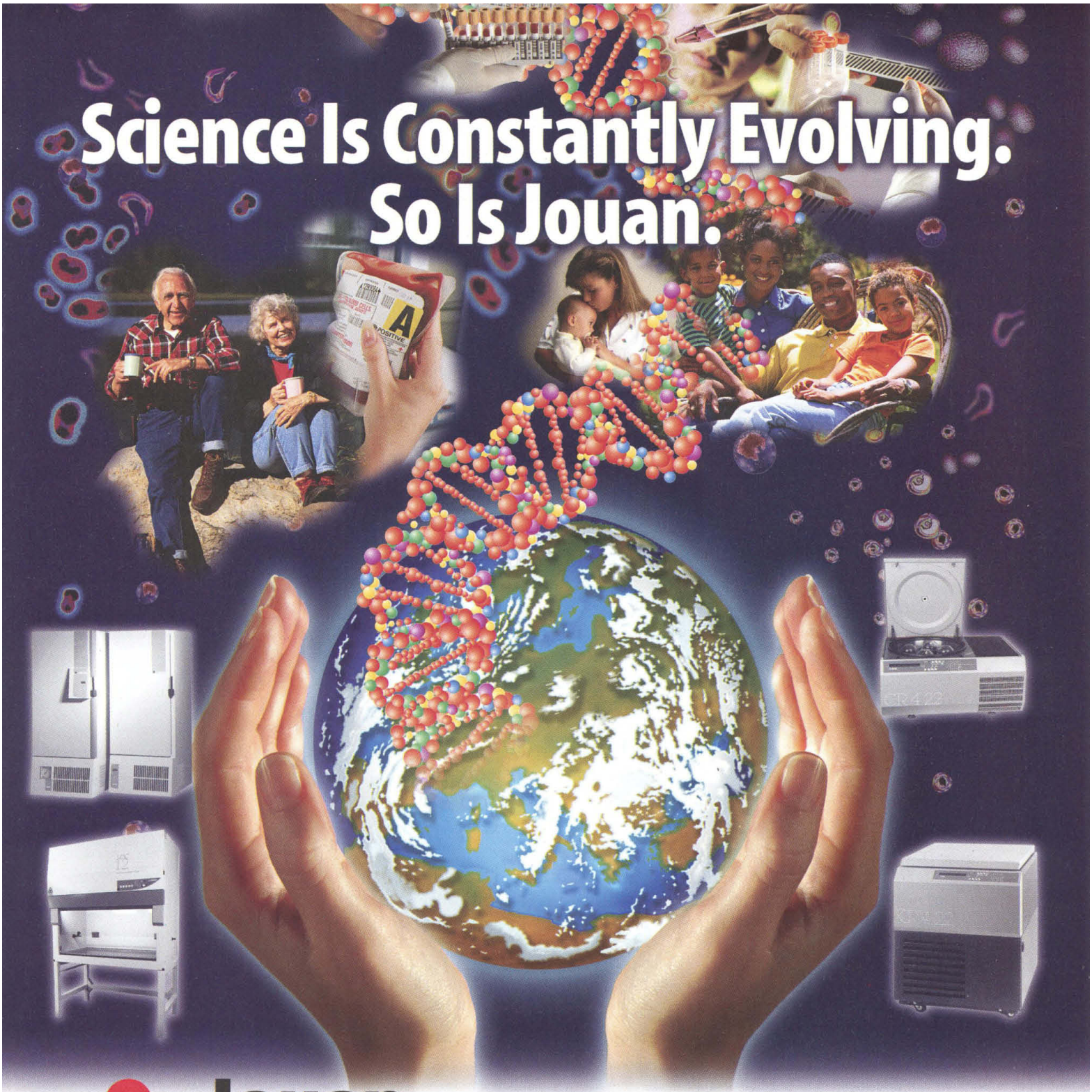
Functional Genomics at SCIENCE Online

"It is widely recognized that whole genome sequences are not an end in themselves, but only a beginning," said Stewart Wills, *Science*'s online editor. As a result, Wills and his colleagues created an online resource called Functional Genomics: news, research and resources on genomics and postgenomics, which can be found at:

http://www.sciencegenomics.org

This site provides what Wills called "a first-thing-in-the-morning view of what's going on in functional genomics" through headline news. It also includes sections on education and ethics, the human genome, research, which includes links to journal articles, and more. Over the next few months, this site will provide even more features, including a section on patent issues in biotechnology.

MORE >>



Jouan *Technology for Life*

From manufacturing to software, service and robotics, Jouan grows to meet your changing needs.

Science is rapidly changing. As the biological sciences look deeper and deeper into cell function, the tools they use to explore become more and more dependent on the latest technology. And evaluating the huge volume of data being generated by successes and discoveries requires new approaches in the form of software support and high-speed computing resources.

Jouan is changing, too, to provide the highest level of support to help scientists and researchers in their pursuit of knowledge. In the last year, Jouan has added a major robotics firm and a service company to its impressive manufacturing base. The result of these acquisitions – a solid base of capabilities that will help explorers meet the future head on, and push the edge of discovery a little farther every day.

For more information about Jouan's evolution and how it can help your efforts, visit our web site at www.jouaninc.com/info or call us at 1(800) 662-7477 today.

Jouan, Inc. 170 Marcel Drive Winchester, Virginia 22602

LABORATORY TECHNOLOGY TRENDS:

Functional Genomics

All About IT

On November 12-14, 2002, the BioITWorld Conference & Expo will take place in San Diego, California. According to Rob Scheschareg, vice president of sales, marketing, and product development for IDG: "This conference plans a pure focus on information technology tools and services for the life sciences." This meeting will include keynote addresses from Howard Asher, director of global life sciences at Sun Microsystems, and J. Craig Venter, president of The Center for the Advancement of Genomics, plus a variety of symposia and exhibitors. For more information, visit the conference website:

http://www.bioitworldexpo.com/bioitfall02/V31/index.cvn

ogy for life sciences, see All About IT below.) Scientists might want to make a variety of DNA-sequence comparisons: within a species, between populations of the same species, or even between different species. Such comparisons can help reveal a gene's job. Keeping track of so much data and making comparisons between different data sets require sophisticated bioinformatics software, which can be purchased from a variety of companies, including **Accelrys**, **DNAStar**, Genomic Solutions, and **MWG-Biotech**.

Tim Burland, vice president and general manager of DNAStar, said that his company's Lasergene sequence analysis software provides seven different applications. For functional genomics, Burland recommended several of these applications. For example, he said, "GeneQuest is a gene discovery tool that locates where a gene is on DNA. This is a logical first step for functional genomics." He also pointed out that an investigator can do a BLAST search from Lasergene to find related sequences in public databases. "GeneQuest will also predict splice sites by looking for statistical patterns that are like splice sites in your organism," Burland said.

Perhaps most important, a researcher decides where to start with Lasergene and works through the tools that seem most useful. For example, if a scientist finds something interesting in DNA and wants to explore it further, MegAlign can align DNA or protein sequences to look for similarities with other sequences.

APPLYING THE ANALYSIS

Many genome scientists concentrate on SNPs. The difference in SNPs between a healthy individual and someone with a particular disease might allow physicians to provide advanced health care. Instead of blockbuster drugs to treat the masses, SNP based diagnostics could divulge which drug will best suit a particular patient and what dose will be required. This potential pharmaceutical bonanza is attracting many companies to SNP analysis, including Affymetrix, **Myriad Genetics**, PerkinElmer, and **Third Wave Technology**.

PerkinElmer recently introduced the first commercially available reagent system that uses fluorescence polarization as a SNP detection method. Neil Cook, vice president of global research and development and chief scientific officer, said, "We must analyze population distributions of SNPs and their interrelationships, and that takes lots of data. With fluorescence polarization, we can scale to high volume." That will allow investigators to collect enough SNP data to make comparisons that could be used in pharmacogenomics.

Likewise, **BioVentures**, developed genetic variation screening (GVS), which facilitates detection and discovery of SNPs by permitting simultaneous interrogation of a region of DNA and its complementary strand for variation. GVS has already detected heterozygous changes in genomes where sequencing failed. Elliott Dawson, founder of BioVentures, said, "This technique was used to look at genes in 300 individuals with different ethnic backgrounds, and the results found interesting differences that were not in the literature, even though some of these genes had already been examined very closely." Dawson and his colleagues use this technique to look for genes that might be targets for new drugs, and they already have candidate genes in hypertension and pulmonary-function diseases.

FROM GENOMICS TO DRUG DISCOVERY

Most drug discovery companies are betting on functional genomics to help them discover new and better-targeted drugs in the future. Different companies are taking different approaches, but most are based on the genome and how it functions.

Arthur Sands, president and chief executive officer at **Lexicon Genetics**, said, "Our approach to drug discovery allows us to understand and discover the physiological function of the drug target before inventing a drug. That's a fundamental shift in the drug discovery strategy and it lets us increase the efficiency and success rate of our program." Sands and his team push ahead their system by using high throughput knockout technologies. Sands said, "We analyze the phenotype of knockout mice for medically relevant functions that could be drug targets."

To find drug targets, investigators at Lexicon Genetics rely on two technologies. High throughput gene trapping allowed Lexicon to knock out over 50 percent of the mouse genome. Gene targeting lets them focus in on one specific gene at a time. These technologies are combined in Genome 5000, a project in which Lexicon Genetics scientists plan to knock out 5,000 genes in five years. This project focuses on drugable gene families, including kinases, ion channels, secreted proteins, and so on. In addition, Sands and his colleagues subject each gene to a battery of medical tests. Sands said, "We're discovering targets that can be blocked to create a favorable medical profile and an opportunity to invent a new therapeutic."

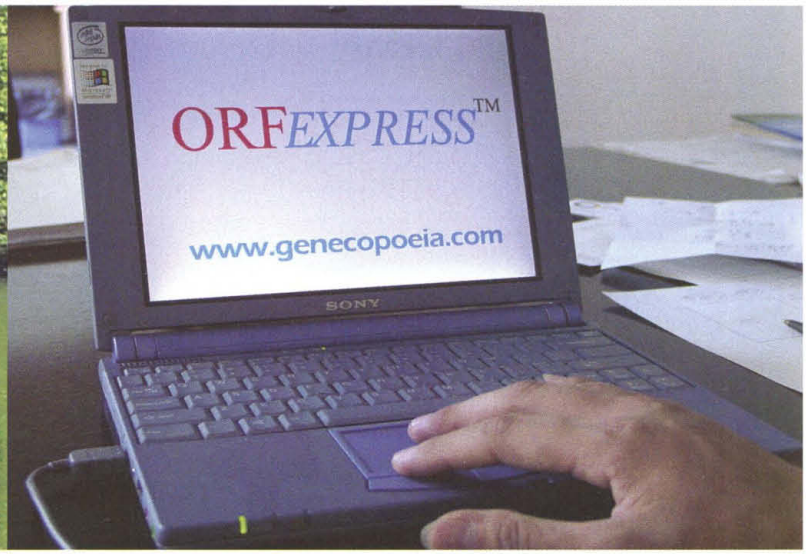
Overall, teams of scientists from biotechnology companies and big pharmaceutical operations hope to go from the genome to personalized medicine. Making that enormous leap, however, will depend on many tiny steps. The ongoing advances in functional genomics will push this science ahead gene by gene.

Mike May is a freelance writer based in Madison, Indiana, U.S.A. Gary Heebner is a marketing consultant serving the scientific industry, based in Foristell, Missouri, U.S.A.

MORE >>

Searching For Full Length Genes?

YOU CAN TRY FISHING OR SIMPLY CLICK AND ORDER!

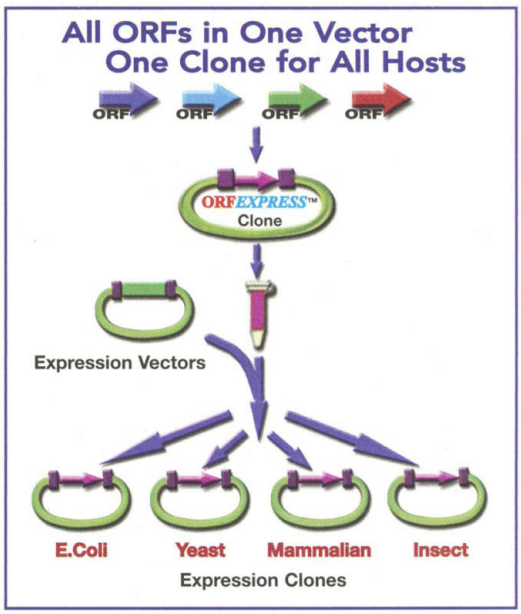


THE BEST SOURCE FOR COMPLETE ORFs OF FULL LENGTH GENES

ORF*EXPRESS*™-Clones were constructed by cloning the entire coding sequences (ORFs, from start to stop) from a collection of highly curated and verified full length genes from both public and private sources, into a unique vector system. In addition to being manufactured to be compatible with Invitrogen Corporation's **Gateway™** Technology, the ORF in Vector is flanked with multiple unique restriction enzyme sites, which makes it also compatible with classical cloning systems.

More than 10,000 unique ORFs of Human Genes

- **Manufactured to be compatible with Invitrogen Corporation's Gateway™ Technology**
  - Rapid, simple, parallel and automatable transfer of ORFs into multiple expression vectors
  - High cloning efficiencies
  - Time and cost savings from primer design and synthesis, PCR amplifications, and other traditional subcloning steps
- **Fully compatible with classical cloning systems**
- **Minimized amplification induced mutations**
- **Stringent in-process QA/QC procedures including sequence verification, and clone validation prior to shipping**



GeneCopoeia™
Expressway to Discovery
www.genecopoeia.com
Phone: (301) 360-9538 • Fax: (301) 360-9537

复能基因 FulenGen
www.fulengen.com
Phone: 011 86 20 82208286 • Fax: 011 86 20 82228177

THE BEST MINDS.
THE BIGGEST TOPICS.

A STRANGE AND ALLURING LAND.

SURELY, THE DNA FOR AN OUTSTANDING CONGRESS.

The world leaders in genetics, genomics and molecular biology will gather in Melbourne, Australia in July 2003 for the XIX International Congress of Genetics. You are invited to join them.

On the 50th anniversary of Watson and Crick's seminal paper on the structure of DNA, the XIX International Congress of Genetics will celebrate and debate all that has stemmed from it.

Under the theme, 'Genomes – the Linkage to Life', the Congress will cover genetics in all its contemporary depth and breadth and provide the pre-eminent world forum for the latest research findings.

Over 280 prominent international speakers including:

> Francis Collins,
National Human Genome Research Institute, USA
> Yoshihide Hayashizaki,
RIKEN Genome Sciences Centre, Japan
> Elliot M. Meyerowitz,
California Institute of Technology
> Eric Wieschaus, *(Nobel Laureate)*
Princeton University, USA

Special guests

> James D. Watson *(Nobel Laureate)*
> Seymour Benzer
> H. Gobind Khorana *(Nobel Laureate)*
> Charles Yanofsky

Supported by satellite conferences in Cairns and other exotic locations, with a range of exciting pre and post congress tours and held in one of the world's most liveable cities, this is one of the most keenly anticipated events on the genetics/genomics calendar in years. Mark it down on yours now.

Key dates

Register before 6 March, 2003 for an early bird rate of AUD $690 (AUD $345 for students).
Abstracts due 6 March, 2003.
For more information, visit our website or call +61 3 9417 0888.

REGISTER ONLINE NOW www.geneticscongress2003.com

JULY 6-11 > 2003 > VICTORIA > AUSTRALIA

Applied Biosystems

hp invent

Science
www.scienceonline.org

Benitec
LEADER IN GENE SILENCING TECHNOLOGY

Victoria
The Place To Be

GeneChip®
Human Genome U133 Set.
The first comprehensive view of the human genome on a two-array set.

Bring another powerful tool to your discovery process. The GeneChip® Human Genome U133 Set, representing more than 39,000 unique transcripts from approximately 33,000 well-substantiated genes, was created to expand your research potential. This unique, two-array set features today's most comprehensive microarray coverage of human sequence information in the public domain. We designed the Human Genome U133 Set based on rigorous scientific standards to give you unsurpassed data quality. With so much information packed on two arrays, global gene expression analysis is simpler than ever. Call us or visit our website and see how two compact arrays can mean infinite discovery. Only from Affymetrix. The Way Ahead.™

AFFYMETRIX®

The Way Ahead™

Tools to take you as far as your vision.™

www.affymetrix.com
1-888-DNA-CHIP (362-2447)
Europe: +44 (0) 1628 552550

LABORATORY TECHNOLOGY TRENDS:

Functional Genomics

FEATURED COMPANIES AND ORGANIZATIONS

Accelrys
bioinformatics software
www.accelrys.com

Affymetrix, Inc.
DNA microarrays
www.affymetrix.com

Ambion, Inc.
post-transcriptional gene silencing products
www.ambion.com

Amersham Biosciences
mutagenesis kits and reagents
www.amersham biosciences.com

Applied Biosystems Group
automated work stations
www.appliedbiosystems.com

BD Biosciences Clontech
cloning kits and reagents
www.clontech.com

BioRobotics, Ltd.
microarrayers, laboratory automation
www.biorobotics.com

BioVentures, Inc.
SNP analysis
www.bioventures.com

Charles River Laboratories
knockout mice
www.criver.com

Chromagen, Inc.
gene expression systems
www.chromagen.com

Deltagen, Inc.
knockout mice
www.deltagen.com

DNAStar
bioinformatics software
www.dnastar.com

Epicentre Technologies
cloning kits and reagents
www.epicentre.com

Febit AG
DNA microarrays
www.febit.com

Genetix, Ltd.
microarrayers, laboratory automation
www.genetix.com

Genomic Solutions, Inc.
microarrayers, laboratory automation
www.genomicsolutions.com

Genzyme Corporation
gene expression systems
www.genzyme.com

Invitrogen Corporation
cloning kits and reagents
www.invitrogen.com

Johns Hopkins University
university
www.jhu.edu

Lexicon Genetics, Inc.
drug discovery
www.lexgen.com

MWG Biotech AG
bioinformatics software
www.mwgdna.com

Myriad Genetics, Inc.
SNP analysis
www.myriad.com

New England Biolabs, Inc.
post-transcriptional gene silencing products
www.neb.com

NimbleGen Systems, Inc.
DNA microarrays
www.nimblegen.com

Novagen, Inc.
posttranscriptional gene silencing products
www.novagen.com

PerkinElmer Life Sciences
automated work stations
www.perkinelmer.com

Qiagen GmbH
automated work stations
www.qiagen.com

Roche Applied Science
cloning kits and reagents
www.biochem.roche.com

Stratagene
cloning kits and reagents
www.stratagene.com

Taconic
knockout mice
www.taconic.com

Texas Instruments
digital imaging products and technologies
www.texasinstruments.com

The Center for the Advancement of Genomics
scientific organization
www.tcag.org

Third Wave Technologies
SNP analysis
www.twt.com

Zymark Corporation
automated work stations
www.zymark.com

ADVERTISERS

Affymetrix, Inc.
DNA microarrays, based on the principles of semiconductor technology
408-731-5000 ▮ www.affymetrix.com

Agilent Technologies, Inc.
instrument systems for identification, quantification, analysis, and testing of the molecular, physical, and biological properties of substances and products
650-752-5000 ▮ www.agilent.com

Carl Zeiss
instruments and systems for imaging analysis, digital cameras
914-747-1800 ▮ www.zeiss.com/micro

GeneCopoeia
products, technologies, and services for gene discovery and product development
301-360-9538 ▮ www.genecopoeia.com

Genetix
laboratory automation products and services for microarrays and sequencing
+44 1425 624 600 ▮ www.genetix.com

InforMax, Inc.
bioinformatics software solutions for the analysis and interpretation of genomic, proteomic, and other biomolecular data
240-747-4000 ▮ www.informaxinc.com

Jouan, Inc.
manufacturers of constant temperature equipment, and laminar flow and safety hoods
540-869-8623 ▮ www.jouaninc.com

Roche Applied Science
kits and systems for genomics and proteomics research
317-845-2000 ▮ www.biochem.roche.com

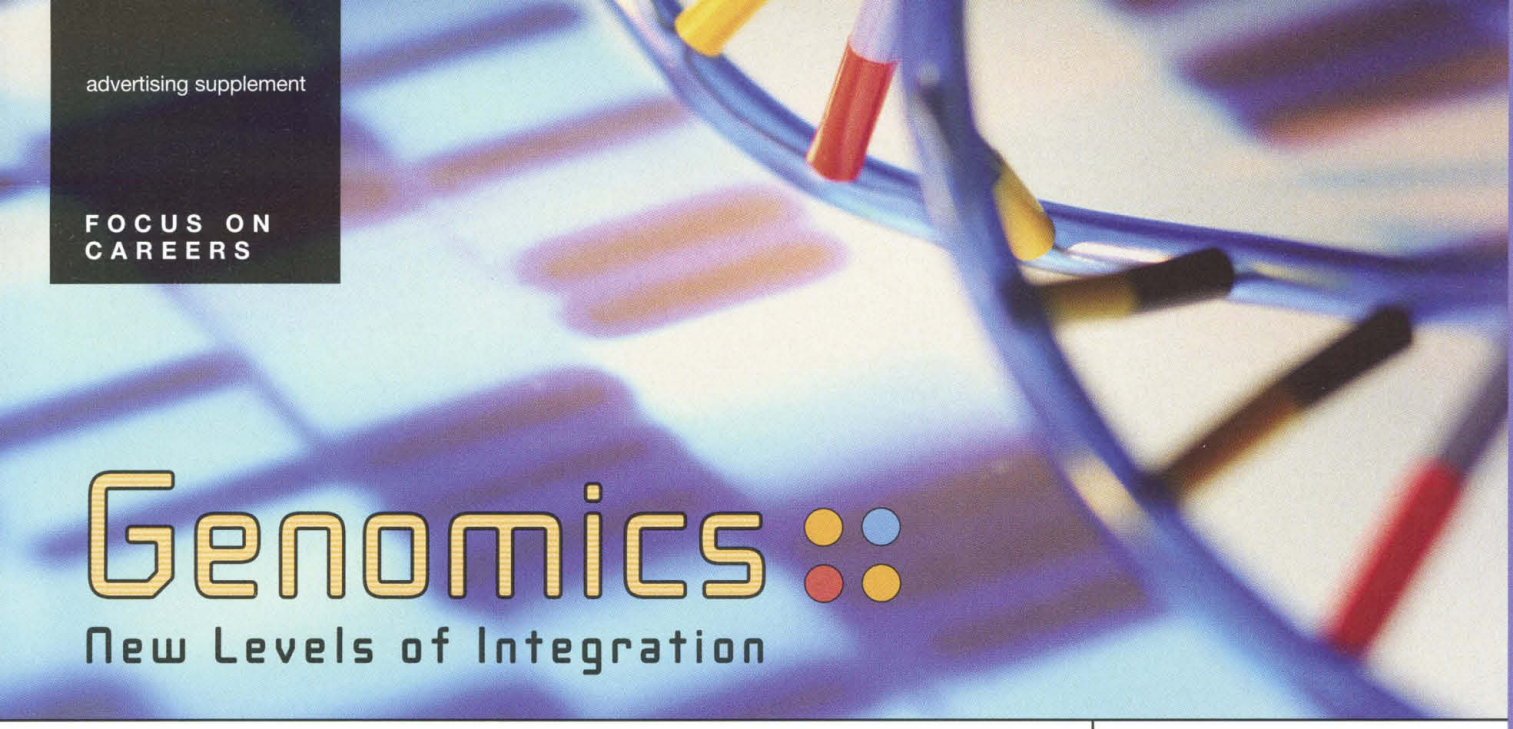
SANYO Sales & Marketing Corporation / SANYO Electric Biomedical Co., Ltd.
constant temperature equipment (incubators, ovens, refrigerators, and freezers)
www.sanyo-biomedical.co.jp

DIRECTOR
Department of Energy Joint Genome Institute

The Production Genomics Facility (PGF) is the operational site for the high throughput, large-scale genomic sequencing and genomic research of the Department of Energy's Joint Genome Institute, a consortium of scientists, engineers and support staff from the Berkeley, Livermore and Los Alamos national laboratories. These laboratories are operated by the University of California for the Department of Energy.

As the JGI Director, you will provide leadership and scientific guidance to all aspects of the JGI. You will ensure the highest quality operational effectiveness of large-scale functional genomic programs, develop JGI internal scientific programs and external collaborations, and oversee the production of sequence data and other high throughput data sets for the national biology community. You will also act as a principal advisor to the DOE biology programs, representing the JGI to various funding agencies and at national and international forums. In addition, you will be expected to maintain some or all of your research programs at the PGF. We require a PhD or equivalent experience in genetics, biology, biochemistry or computer science, proven management skills, and a significant record of accomplishment and funding in biological research. Your recognized leadership in the field of biology and worldwide reputation in various aspects of genomics have prepared you for this post directing large-scale scientific activities. Understanding of or prior participation in DOE, NIH and/or international genomic efforts desired.

For detailed information on this and other job opportunities, visit us at http://www.jgi.doe.gov/. For immediate consideration, please complete our online application at http://cjo.lbl.gov/. You may also send your resume to the attention of Dee Catino at jobs@cuba.jgi-psf.org (no attachments, please), or mail it to Joint Genome Institute, 2800 Mitchell Drive, Walnut Creek, CA 94598, or fax to (925) 296-5656. Reference Job #GN/015187/JS in your cover letter. EOE



Genomics

New Levels of Integration

THE YOUNG SCIENCE OF GENOMICS THRIVES WHEN A MULTIDISCIPLINARY GROUP COMES TOGETHER AS A RESEARCH TEAM. IN THIS ARTICLE, LEADERS FROM ACADEMICS AND INDUSTRY DESCRIBE THE STATE OF THIS FIELD AND POINT OUT A COLLECTION OF EXCITING JOB OPPORTUNITIES. BY MIKE MAY

Today's genomic techniques continually spread to new applications. Douglas Bassett, general manager of Rosetta Biosoftware, said, "We're seeing an increased application of genomic technology in direct ways to human health and life science research that can have an impact on patient care and the development of pharmaceuticals." He also pointed out, "The first wave of new drug submissions that involve gene expression technology are reaching the Food and Drug Administration."

The changes move so fast that even scientists in this field seem amazed at times. Bassett said, "Less than 10 years ago, this technology would have been looked upon as a dream or science fiction." Today, genomics is science fact. Moreover, this rapidly spreading field offers lots of opportunities for job seekers.

CLAES WAHLESTEDT

STOCKHOLM, Sweden: One of today's most crucial tasks in genomics involves figuring out what all of the genes do. "Elucidating the function of all the new genes is an enormous task," said Claes Wahlestedt, professor and chairman of the Center for Genomics and Bioinformatics at the Karolinska Institute. Wahlestedt believes that getting the most from genomics depends on putting together big teams of scientists from various fields and teaching them to work together. The young Center for Genomics and Bioinformatics looked for integration from the start.

The strong medical capabilities of the Karolinska Institute, however, encourage clinical work. "The most important integration here," Wahlestedt said, "is connecting the clinical with the research world." For example, Wahlestedt and his colleagues are building a unified biobank to store all of the information across this institute to help clinical labs interact with data created in the genomic ones. The clinical opportunities at the Karolinska Institute also make it strong in human genetics.

To create such broad, yet interactive, teams, Wahlestedt said, "The key is recruiting internationally, people with different backgrounds." He added, "We are constantly looking for postdocs. That's a key type of person, and a number of them stay on and become group leaders."

CRAIG BENHAM

DAVIS, California: Other institutions also see the value of building cohesive teams. The University of California at Davis, for example, is creating a Genome Center. A building to house the center is under construction and should be ready in 2004. Eventually, this group expects to reach 17 faculty and up to 150 employees. For now, this center will open in a temporary building. In considering the overall impact of genomics, Craig Benham, associate director of this center, said, "This is a permanent expansion of the methodology of biology. The availability of this global information opens the door on understanding organisms in ways that were not possible before." He also stated that a young scientist can easily make a lifetime career in this field.

Benham expects this new center to explore a wide range of biology. He said, "I view this as integrative systems biology." He expects his colleagues to explore a number of areas, including comparative genomics. "Scientists can mine sequences for comparative information, including phylogenic relationships, to see how systems and pathways might have evolved," Benham said. The breadth of exploration will be matched by

CONTINUED »

"Singapore gives life to new ideas."

Professor Yoshiaki Ito was bitten by the Singapore bug when he visited the tropical island as a guest speaker in a cancer symposium.

"I am very impressed with Singapore's focus on cancer research in Asia and this is why I took on the post as Director for Cancer Research at the Institute of Molecular and Cell Biology."

To Ito, moving to the city-state is a decision he has never looked back on. An alumnus of the elite Kyoto University and Duke University, he established himself as a leading authority in cancer research with the most prestigious laboratories in the US and UK.

Professor Ito is delighted by Singapore's commitment to building a world-class biotech hub. The rich talent pool, strong research capabilities and ample funding all pave the way for biomedical science to flourish and accelerate the discovery of new cures.

If you want to be at the forefront of biomedical research, visit www.contactsingapore.org.sg/science today. It could be another major breakthrough in your career.

Singapore. Your world of possibilities.

Contact Singapore

OFFICES: BOSTON • CHICAGO • SAN FRANCISCO • LONDON
SYDNEY • CHENNAI • HONG KONG • SHANGHAI • SINGAPORE

Research Opportunities

VIRGINIA BIOINFORMATICS INSTITUTE AT VIRGINIA TECH

Virginia Bioinformatics Institute (VBI) has built an internationally recognized scientific program with significant extramural funding. VBI is assembling a large team of highly motivated faculty (assistant, associate, or full) and researchers.

Key components to VBI s unique structure are its cost-service centers: the Core Computational Facility (CCF) and Core Laboratory Facility (CLF). VBI is seeking expertise in the management of and participation in research programs associated with its core facilities in the following areas:

CCF MANAGER
Serves as information technology manager for VBI. Represents VBI at university and collaborator meetings requiring technical expertise. Responsible for overall system design, support, security, and recovery. Build cohesive and effective support team. Develop CCF as self-supporting service center with internal and external clients. Work collaboratively in academe to develop and manage research projects including supervision and mentoring of technical staff. Ref: SCF500CCF

CLF GENE EXPRESSION
Pursuing fundamental biological research questions using microarray and/or gene chip technology in animal, microbial, or plant systems, especially host-pathogen interactions. Work with technology platforms on evaluation and deployment of new tools for expression profiling and analysis encouraged. Must be comfortable with high throughput environment and collaborating with multidisciplinary research team. Ref: SCF100GE

CLF PROTEOMICS
Experience in mass spectrometry techniques as applied to proteins and small molecules to address basic biological questions; experience in 2-D gels a plus. Experience leading a research group and/or insight in setting up and maintaining high throughput facilities are advantageous. Ref: SCF200P

VBI research staff is expected to work collaboratively with principal investigators to successfully meet research objectives. Positions require advanced degrees and demonstrated research experience. VBI seeks research staff with expertise in the following areas:

Senior Research Associates and Post-Doctoral Candidates

GENE REGULATORY NETWORK MODELING
Position to model gene regulatory networks. Demonstrated experience in mathematics and/or biology. Ph.D. in mathematics, computer science, biology, or related field. Ref: SCS100GRN

BIOINFORMATICS and COMPUTATIONAL BIOLOGIST
Develop and implement methods to better understand gene function in Arabidopsis as part of NSF-funded SeedGenes database (www.seedgenes.org). Design and analysis of gene-chip experiments expected. Ph.D., and experience in both modern molecular laboratory techniques and computational biology desired. Ref: SCD200BCB

MOLECULAR OR CELL BIOLOGIST
Study relationship between tobacco use and mechanisms of DNA repair using functional genomics. New lines of research development encouraged, as is seeking independent funding. Demonstrated experience in DNA repair. Ph.D. in molecular biology, biochemistry, cell biology, or related field. Ref: SCD400MCB

METABOLOMICS
Develop and validate methods for high throughput mixture analyses of metabolites involved in oxidative stress response using more of the following technologies required: solid phase extraction, HPLC and capillary LC, GC-MS, or LC-MS. Ph.D. or equivalent degree in chemistry, biochemistry, or related field and relevant laboratory experience in organic or inorganic chemistry. Ref: SCD300MET

MOLECULAR BIOLOGIST / BIOCHEMIST / LAB MANAGER
Working knowledge of transformation vector construction and design, high throughput plant transformation, gene expression analysis and bioinformatics tools. Experience with Arabidopsis a plus. Design and interpretation of microarray and proteome analysis experiments expected. Ph.D. or equivalent degree in molecular biology, biochemistry, microbiology, or related discipline. Relevant laboratory experience in molecular biology and biochemistry. Ref: SCD300MBM

PLANT / MICROBIAL MOLECULAR BIOLOGIST
Phytophthora functional genomicist to develop methods to test gene function in Phytophthora plant pathogens using DNA-mediated transformation. Apply methods to identify genes involved in plant infection. Ph.D. in plant or microbial molecular biology; experience in fungal or oomycete transformation a plus. Ref: SCD400MMB

MOLECULAR BIOLOGIST
Microbial comparative genomicist to develop and test novel approaches for inferring gene function by comparing sequence and expression of genes and gene sets in eukaryotic microbes across wide taxonomic boundaries, e.g., fungi, oomycetes, and apicomplexans. Ph.D. in microbial molecular genetics or related field; experience in functional genomics, microarrays and/or bioinformatics a plus. Ref: SCD500MB

Research Associates

DATABASE ADMINISTRATOR / CURATOR
Install, customize, and maintain database for community annotation of genome sequence data. M.S. in computer science or equivalent experience in database programming; experience with DNA sequence databases a plus. Training or experience in biology advantageous. Ref: SCR100DBA

RESEARCH ASSOCIATE (MICROARRAY TECHNICIAN) OR SENIOR RESEARCH ASSOCIATE (MICROARRAY TEAM LEADER)
Technician position requires M.S. in molecular biology or equivalent field and related experience. Direct experience with cDNA microarrays is highly desirable. Team leader requires Ph.D. and postdoctoral experience in molecular biology including direct experience with cDNA microarrays. Experience in plant or fungal molecular biology and/or bioinformatics a plus. Ref: SCR200MIC

CONTACT INFORMATION:

Exceptional candidates should submit CV and statement of research, including reference number, to Virginia Bioinformatics Institute, Human Resources at hr@vbi.vt.edu, or mail to VBI Human Resources and Hiring ATTN: Debi Darnell 1880 Pratt Dr., Bldg XV, Virginia Tech, Blacksburg, VA 24061-0477.

An Equal Opportunity / Affirmative Action Institution

For a closer look, please visit us at: www.vbi.vt.edu

NITD NOVARTIS INSTITUTE FOR TROPICAL DISEASES

NITD INAUGURAL SYMPOSIUM ON DENGUE FEVER AND TUBERCULOSIS

22 January 2003 Singapore

Drug Discovery for Tropical Diseases

This Inaugural Symposium welcomes all those with an interest in dengue fever and tuberculosis including researchers, policy-makers, public health officials, clinicians, and academics in the scientific and medical community.

The Novartis Institute for Tropical Diseases aims to discover novel treatments and prevention methods for major tropical diseases. In those countries where diseases are endemic, the Novartis Group intends to make treatments readily available and without profit. The discovery technology is state-of-the-art and the scope of the activities range from target discovery through to screen development and compound optimization. The Institute is looking to recruit the best scientists in the world, and as a major center of excellence, will offer exceptional teaching and training opportunities for post-doctoral fellows and graduate students.

Organizers:

Professor Paul Herrling
Head of Novartis Corporate Research

Professor Rolf Zinkernagel
Head of the Institute of Experimental Immunology, Zurich, Switzerland

Professor Marcel Tanner
Director of the Swiss Tropical Institute, Basel, Switzerland

Key Speakers:

Dr Clifton E. Barry
Laboratory of Host Defenses, Rockville, USA

Dr John D. Clemens
The International Vaccine Institute, Seoul, South Korea

Dr Duane J. Gubler
Centers for Disease Control and Prevention, Fort Collins, USA

Prof Stefan H. E. Kaufmann
Max Planck Institute for Infection Biology, Berlin, Germany

Prof Lam Sai Kit
University of Malaya, Kuala Lumpur, Malaysia (to be confirmed)

Prof Mary A. Lansang
University of the Philippines, Manila, Philippines (to be confirmed)

Dr Mark Perkins
World Health Organization, Geneva, Switzerland

Dr Subhash G. Vasudevan
James Cook University, Townsville, Australia

To register and for more information on the NITD Inaugural Symposium, please visit www.novartis.com
Registration deadline: 13 December 2002.

NOVARTIS

EPIDEMIOLOGIST, BIOSTATISTICS/BIOINFORMATICS, AND POSTDOCTORAL FACULTY POSITIONS
Center for Alaska Native Health Research

EPIDEMIOLOGIST

The University of Alaska Fairbanks (UAF) announces a tenure track position in Epidemiology at the Assistant, Associate, or Professor level. The tenure track appointment will reside in either the Department of Biology and Wildlife (**http://mercury.bio.uaf.edu/**) or the Psychology Department (**http://www.uaf.edu/psych/**) and will have a teaching workload of 1-2 courses per year. A 50% research appointment will reside within the Institute of Arctic Biology (IAB). The successful applicant will be expected to initiate a strong independent research program related to our National Center for Research Resources (NCRR) funded Center for Alaska Native Health Research (CANHR), as well as teach and advise undergraduate and graduate students. The research focus of the Center is health disparities among Alaska Natives with particular emphasis on genetic, behavioral, and nutritional aspects of obesity. Qualifications include an MD (with an MPH) or a PhD in epidemiology or related field in health behavior and a record of peer-reviewed publications. Interest and/or research experience in cross-cultural contexts is required.

Our research is conducted in rural community settings. It involves community organization and capacity building strategies, as well as establishing strong and productive relationships with regional health organizations, the Alaska Native Medical Research Center, the Institute for Circumpolar Health Studies in Anchorage, and individuals living in rural villages. Current health-related projects at the University of Alaska Fairbanks include studies of obesity, related health disparities, alcoholism, and drug abuse. These diverse population-based projects involve nutritional, molecular, genetic, social, and environmental factors. Available resources include a mechanism for population-based research, facilities for storage and processing of biologic specimens, and a well-developed core laboratory for molecular genetic analyses (**http://mercury.bio.uaf.edu/core/index.html**). For additional information, please email **Bert Boyer, Chair, Epidemiologist Search Committee, ffbbb@uaf.edu, or call (907) 474-7733.**

Applicants must submit a UAF Applicant Form (**http://www.uaf.edu/uafhr/jobs/**), along with curriculum vitae, statements of teaching philosophy and of research interest, representative reprints, and solicit at least three letters of recommendation to be sent to the **Epidemiology Search Chair, Institute of Arctic Biology, C/O UAF Human Resources, P.O. Box 757860, Room 118 Administrative Center, 3295 College Road, University of Alaska Fairbanks, Fairbanks, AK 99775-7860. Website: http://www.uaf.edu/uafhr/jobs, Fax (907) 474-5859**.

BIOSTATISTICS/BIOINFORMATICS

The Institute of Arctic Biology, the Department of Biology and Wildlife, and the Department of Psychology announce a tenure track Assistant/Associate/Full Professor position in Biostatistics and Bioinformatics available immediately. The position will primarily conduct and develop research associated with the National Center for Research Resources (NCRR) funded Center for Alaska Native Health Research (CANHR), as well as teach undergraduate and graduate students and supervise graduate students. The focus of the Center is research associated with health disparities among Alaska Natives. The successful candidate will join a multidisciplinary team of researchers conducting NIH funded research to understand the genetic, behavioral, and nutritional aspects of obesity and their relationship to the etiology and prevention of obesity, diabetes and cardiovascular disease among Alaska Natives. S/he will plan, conduct, and collaborate in designing and analyzing multifactorial studies. Candidates with research expertise in the following areas are encouraged to apply:

- Genetic, behavioral, or nutritional aspects of obesity
- Epidemiological approaches and methods
- Psychometrics and measurement development
- Statistical Genetics/Statistical Genomics.

We are seeking an individual who can work collaboratively to solve complex bio-behavioral problems and with expertise in analyzing multivariate data that includes nutritional, behavioral, and genetic data sets. Ability and interest in teaching undergraduate and graduate students is required as well as an interest in mentoring graduate students and potentially post-doctoral fellows. A Ph.D. in Statistics, Quantitative Psychology or Biology or related field is required. Preference is for individuals with experience or interest in working within cross-cultural contexts, having university teaching experience and health research experience. The successful candidate will have an opportunity to work with both the CANHR researchers and a group of faculty who are part of a developing Bioinformatics Program at the University. Available facilities include the Arctic Region Supercomputing Center (**http://www.arsc.edu/**) and the Core Facility for Nucleic Acid Research (**http://mercury.bio.uaf.edu/core/index.html**). For additional information, please email **Gerald V. Mohatt, Chair, Biostatistics Search Committee, ffgvm@uaf.edu, or call (907) 474-6415.**

Applicants must submit a UAF Applicant Form (**http://www.uaf.edu/uafhr/jobs/**), along with curriculum vitae, statements of teaching philosophy and research interest, representative reprints, and solicit at least three letters of recommendation to be sent to: **Biostatistics Search Chair at UAF, Institute of Arctic Biology, C/O UAF Human Resources, P.O. Box 757860, University of Alaska Fairbanks, Fairbanks, AK 99775-7860. Fax (907) 474-5859, e-mail: fyjobs@uaf.edu**.

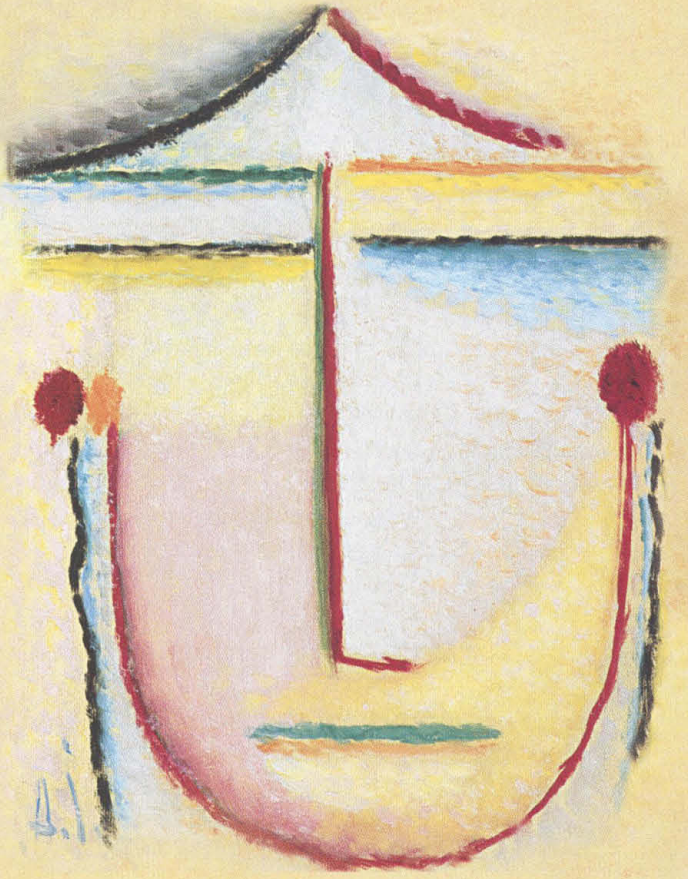
POSTDOCTORAL POSITIONS: GENETICS OF OBESITY AND COMPARATIVE GENOMICS

Postdoctoral positions are available immediately to participate in research on the genetics of obesity and associated conditions in Alaska Natives. Additional postdoctoral positions are available to study the comparative genomics of hibernation and metabolic suppression in ground squirrels and bears. Applicants should have a strong background in molecular genetics, genomics, or molecular biology. Candidates will have the opportunity to collaborate with faculty members at the Institute of Arctic Biology and our research partners at the Institute for Systems Biology, Columbia University, and the University of Alabama Birmingham. Appointments range from 2-4 years and may begin immediately. See our web site for more details on these positions (**http://mercury.bio.uaf.edu/~bert_boyer/**).

Applicants must submit a UAF Applicant Form (**http://www.uaf.edu/uafhr/jobs/**), letter of interest, curriculum vitae, and three letters of reference to the **Postdoctoral Positions: Genetics Search Chair, Institute of Arctic Biology, C/O UAF Human Resources, P.O. Box 757860, Room 118 Administrative Center, 3295 College Road, University of Alaska Fairbanks, Fairbanks, AK 99775-7860. Fax (907) 474-5859**.

Further information about the University and these positions is available at: **http://mercury.bio.uaf.edu/** and **http://www.alaska.edu/canhr**.

Persons hired by the University of Alaska Fairbanks must comply with the provisions of the Federal Immigration Reporting and Control Act of 1986 and must possess a valid social security card. All Nonresident Aliens must provide proof of eligibility to work. The University of Alaska is an Equal Employment Opportunity/Affirmative Action employer and educational institution. Your application for employment with the University of Alaska is subject to public disclosure under the Alaska Public Records Act. Women and minorities are encouraged to apply.



Human Genome Sciences

The Face of Future Pharmaceuticals

DEDICATED TO DISCOVERY FOR HEALTH

Employment Opportunities

SR. SCIENTIST – ANALYTICAL DEVELOPMENT
Develop and validate separation methods (capillary/gel electrophoresis, capillary IEF, ion exchange chromatography, etc.) for product characterization, in-process monitoring and release testing. **Job ID: 265**

SR. SCIENTIST – PROCESS DEVELOPMENT
Manage and develop scale-up cell culture activities within the Fermentation/Recovery Area for producing materials for clinical trials and preparing for transfer to manufacturing. **Job ID: 767**

SCIENTIST – MANUFACTURING QUALITY CONTROL
Work with team on product development for recombinant proteins and optimize existing methods and validation. **Job ID: 98**

SCIENTIST – DRUG FORMULATION & DELIVERY
Develop and optimize formulations for protein pharmaceuticals utilizing analytical techniques to characterize liquid and lyophilized proteins (HPLC, SDS-PAGE MS, DSC, FTIR, CD). **Job ID: 743**

SCIENTIST – PRECLINICAL DEVELOPMENT/ PHARMACOLOGY
Evaluate novel protein and antibody therapeutic drug candidates using *in vivo* animal models in blood cell development, oncology, and vascular biology. **Job ID: 622**

SCIENTIST – ANTIBODY DEVELOPMENT
Characterize and validate novel proteins as therapeutic drug targets using cellular and biochemical techniques. **Job ID: 674**

Our Scientist opportunities require a PhD and 2 years of industry experience. Our Sr. Scientist positions require a PhD and 5 years industry experience, including managerial experience. Visit our website to learn more about these and other key opportunities for **Research Associates, Bioprocess Engineers/Associates,** and **Engineering Supervisors.**

Come see us on October 15th at the Job Fair during the NIH Research Festival.

As a leader in the field of genomics, we offer exciting opportunities for future growth, competitive salaries and excellent benefits. Apply online by visiting our website at www.hgsi.com. Human Genome Sciences, Human Resources, 9410 Key West Avenue, Rockville, MD 20850. Equal Opportunity Employer.

www.hgsi.com

Genomics

New Levels of Integration

the diversity of organisms explored. "Our genome center must not play taxonomic favorites," Benham said. "We cover the taxonomic spectrum in data, which makes opportunities in comparative genomics here very unique." He even anticipates that colleagues who study wine making will investigate the genomics of grapes.

Covering these different questions will demand a variety of approaches. This center will run a variety of core facilities, including a collection of mass spectrometers. Consequently, employees will have backgrounds in biology, computer science, mathematics, physical chemistry, and physics. The hiring will cover people from Bachelor's level through experienced professors.

CHRISTIAN FRITZ

MICHAEL FOLEY

BOSTON, Massachusetts: Scientists are just learning how to really use genomics. Christian Fritz, director of molecular and cellular biology at Infinity Pharmaceuticals, said, "Genomics is incredibly valuable for everything we do, but in the end it's only a tool, a tool to find new drug targets, for example." He added, "In drug discovery, one can only reap the genomic revolution's benefits if you can match the biological diversity with an equivalent chemical diversity." In other words, genomics must be paired with chemistry to push ahead pharmaceuticals.

Michael Foley, Infinity's vice president of chemical technology, said, "Nature is a chiral entity, but few of the molecules that become drugs possess chirality as a feature." Foley and his colleagues hope to change that by making a collection of chemicals in which chirality is controlled. He said, "It wasn't possible to pay attention to chirality until the past 10 years, and only now are we able to do so in an industrially relevant manner for drug discovery."

Investigators at Infinity use two general approaches. First, they use small molecules with phenotypic screens in a forward chemical genetic approach. "In these experiments," Fritz said, "we add specific compounds to cellular models of disease to identify those compounds that influence a disease phenotype in the right way." Second, Fritz and his colleagues use compound microarrays to rapidly find potent and specific binders to proteins of interest, and in the process create a large database that maps Infinity's compounds to specific classes and subclasses of proteins.

This type of work creates a variety of open positions at Infinity. Fritz pointed to current openings in assay development, high throughput protein processing, and target identification proteomics. In thinking about applicants, Fritz said, "We need biologists and chemists to work together in a new way. Chemists really tend to speak a different language and think differently about problems."

DOUGLAS BASSETT

KIRKLAND, Washington: Some of the languages of genomics go beyond biology and chemistry to computing. This language can expose new findings that no one ever imagined. Bassett explained that the latest major release of Rosetta's Resolver software includes a Bayesian classifier algorithm, which was developed in collaboration with investigators at the Netherlands Cancer Institute (Het Nederlands Kanker Instituut or NKI). Bassett said, "Rosetta and NKI researchers worked with breast cancer patients who had been tracked over a decade to see how the disease progressed and specifically which patients had a good prognosis and which ones had a poor prognosis. In using this new algorithm in our product, researchers were able to make strong predictions about which patients were most in need of chemotherapy and who could be effectively treated by removing the tumor without requiring the patient to endure chemotherapeutic treatment."

Such work at Rosetta Biosoftware makes room for scientists with many backgrounds. Bassett said that this company hires scientists with an interest in business or research and development. On the business side, he said, "We are interested in scientists with genomics knowledge who want to apply it on the business side, like marketing, product management, or sales." On the research and development side, Bassett and his colleagues need people who want to blend a computational background—in computing, math, or statistics—with biological analysis. "We build software for specific biological applications," Bassett said. "Many members of our project teams are cross-trained and knowledgeable in biology, statistics, and commercial software development methodology."

As genomics keeps expanding its breadth, scientists in this field will continue to see integration across disciplines and larger teams attacking problems together. "There's no limit to what you can accomplish in industry as a top caliber scientist," Bassett said, "if there's the willingness and desire to work in a team environment."

Mike May is a freelance writer based in Madison, Indiana, U.S.A.

AFFYMETRIX®

daring | visionary | impatient

Win an Affymetrix® Pioneer Fellowship and move your out-of-the-box ideas into reality. Now, your spirit and vision could earn you a position alongside the inventors of microarray technologies at Affymetrix. You'll collaborate with some of the brightest genomic minds to bring your radical, worthy ideas to life, using next-generation technologies available only at Affymetrix. Pioneer Fellowships will be awarded to life science researchers who demonstrate vision, thought leadership, and a passion to advance the frontiers of science. Eligible candidates hold a postdoctorate degree in biology, chemistry, mathematics or physical science. For more information and to submit your CV, point your browser to www.affymetrix.com/fellowship. The Pioneer Fellowship. Only from Affymetrix. The Way Ahead.™

The Way Ahead™

Tools to take you as far as your vision.™

www.affymetrix.com
1-888-DNA-CHIP (362-2447)
Europe: +44 (0) 1628 552550

Department of Microbiology & Molecular Genetics Seeks Assistant Professor

The Department of Microbiology & Molecular Genetics at The University of Texas Medical School at Houston seeks an exceptional scientist for a tenure track position at the Assistant Professor level. The successful candidate should have a Ph.D. and/or M.D., and several years postdoctoral experience. Excellence in fundamental research is of greater significance than the particular area of research; however, the Department is especially interested in research areas involving molecular bases of eukaryotic and prokaryotic pathogenesis. Other areas of equal importance are microbial molecular genetics, molecular virology, physiology and genomics. The successful candidate will join a department with strengths in the area of cell signaling, signal transduction and the molecular genetics of prokaryotes and eukaryotic microbes involving a diversity of microbial systems. The successful candidate will receive a competitive salary and start-up package and will be expected to participate in teaching graduate students and medical students. Applicants should submit a curriculum vitae, the names of at least three references and a statement of research goals and interests, including a description of how the research program reflects the future directions of microbiology. For full consideration, completed applications should be submitted by **December 1, 2002**.

Applications should be submitted to:

Samuel Kaplan, Ph.D.
Microbiology & Molecular Genetics
The University of Texas Medical School
PO Box 20708
Houston TX 77225
(713) 500-5502
Fax: (713) 500-5499
E-mail: Samuel.Kaplan@uth.tmc.edu
Web Address: mmg.uth.tmc.edu

The University of Texas Health Science Center-Houston is an Equal Opportunity Employer. Women and Minorities are encouraged to apply.

Faculty Position – Molecular Genetics The Ohio State University

The Department of Molecular Genetics at The Ohio State University is searching for a tenure track faculty member at the Assistant Professor level. Candidates with exceptional qualifications may also be considered at the Associate or Full Professor level. We are interested in applicants who are using molecular genetic approaches (including functional genomics, proteomics and bioinformatics) to study important topics in molecular, cell and developmental biology of eukaryotic organisms as well as the application of these approaches to cancer and other diseases. A highly competitive recruiting package is available, which includes generous, newly renovated laboratory space, substantial funds for equipment and initial operating expenses as well as strong departmental and interdisciplinary graduate programs.

The Ohio State University is undergoing a major expansion in the molecular life sciences. The Department of Molecular Genetics is a young, vigorous department that is playing a central role in this expansion. The Ohio State University is the flagship institution of the state's higher education system. It is located in the state capital, Columbus, which is a growing, yet highly affordable, metropolitan area of about 1.5 million people. Columbus has been ranked as one of the country's best places to live and work. Information about our Department and University can be obtained by contacting our web site: **http://www.biosci.ohio-state.edu/~molgen/molgen.html**.

Applications should include a detailed curriculum vitae, a description of research experience and the planned independent research program. Applicants should also have at least three recommendation letters sent to the department. Application materials should be sent to: **Faculty Search Committee, Department of Molecular Genetics, The Ohio State University, 484 West 12th Ave., Columbus, Ohio 43210**.

OSU is an Equal Opportunity/Affirmative Action Employer.

WASHINGTON STATE UNIVERSITY
SENIOR FACULTY POSITION IN
MOLECULAR BIOSCIENCES

The School of Molecular Biosciences seeks to fill a tenure-track position to begin August 2003 or later, at the Associate or Full Professor level. The position includes a competitive salary, excellent laboratory facilities, access to state-of-the-art equipment, and excellent quality of life. For this position we are looking for a highly qualified colleague to complement and enhance our current strengths in the study of plant, animal, and microbial systems in areas such as protein biotechnology, reproductive biology, physiology, pathogenesis, metabolism, enzymology, structural biology, biophysics, developmental biology, chromosome dynamics and repair, gene regulation and expression (see **http://molecular.biosciences.wsu.edu**.). The School offers undergraduate and graduate degrees in biochemistry, microbiology, cell biology, and genetics. The successful candidate will be expected to develop and maintain a vigorous research program supported by extramural funding, train graduate students, and participate in graduate and undergraduate teaching. Candidates must have a Ph.D. in a discipline related to molecular biosciences, the ability to communicate effectively with students and colleagues, and a record indicating outstanding ability and accomplishment in research and teaching. Preference will be given to established investigators who have a strong record of scientific accomplishments and external research funding in an area of molecular biosciences. The position may include an endowed professorship and/or the opportunity for an administrative role in the School. Screening of applicants will begin November 1, 2002, and continue until the position is filled.

First, send immediately as an e-mail attachment your most recent NIH Biographical Sketch to **Debbie Waite (dwaite@wsu.edu)**. Follow up the e-mail message with a letter of application; full curriculum vitae; a statement of current and long-term research interests; and three letters of reference addressing research accomplishments, teaching, and communication skills. Send to: **Dr. Keith Dunker, Search Committee Chair, School of Molecular Biosciences, Washington State University, Pullman, WA 99164-4660**. More information can be found at **http://www.chr.wsu.edu**.

Washington State University employs only U.S. citizens and lawfully authorized non-U.S. citizens. Washington State University is an Equal Opportunity/Affirmative Action Educator and Employer. Members of ethnic minorities, women, Vietnam-era or disabled veterans, persons of disability, and/or persons age 40 or over are encouraged to apply.

Center for Human Genetics
UT Southwestern Medical Center at Dallas

Opportunities in Genetics and Genomics

The Center for Human Genetics at the University of Texas Southwestern Medical Center at Dallas invites applications for two (2) tenure track faculty positions. We seek individuals who use molecular genetic, genomic, or proteomic approaches to answer fundamental questions about human physiology and disease. Successful candidates will participate in developing an internationally recognized research program bridging genomics, genetics, and human disease. Faculty members will have access to state-of-the-art core genomics research facilities and small-animal capabilities in the Center. Priority will be given to candidates at the Assistant or Associate level.

The positions require an M.D., Ph.D., or equivalent and will remain open until filled. Applicants are encouraged to file before January 1, 2003. Applicants should send a curriculum vitae, up to three representative reprints, a synopsis of research interests and plans, a summary of teaching experience/philosophy and should arrange for three to five letters of reference to be sent to:

Helen H. Hobbs, M.D.
Professor and Director
McDermott Center for
Human Growth and Development
UT Southwestern Medical Center at Dallas
5323 Harry Hines Boulevard
Dallas, Texas 75390-8591

UTSW is an Equal Opportunity Employer

The University of Texas at Austin

Assistant Professor
Molecular Genetics and Microbiology

The Section of Molecular Genetics and Microbiology at the University of Texas at Austin invites applicants for a tenure-track faculty position at the Assistant Professor level. The Section has a scientifically diverse faculty and is especially interested in applicants in the areas of chromatin remodeling and eukaryotic transcription. Outstanding applicants in other areas will also be considered. The successful candidate will be eligible for membership in the Institute for Cellular and Molecular Biology, and will have the opportunity to participate in several graduate programs. The position offers excellent start-up funds, salary and laboratory space in a dynamic, highly interactive research environment. Applications received prior to December 2, 2002 will receive top priority.

Austin, located in the Texas Hill Country, is widely recognized as one of America's most attractive and liveable cities.

Please send curriculum vitae, list of publications, a short (1-2 page) research plan, and three letters of recommendation to:

Dr. Phil Tucker
The University of Texas at Austin
Molecular Genetics and Microbiology
1 University Station, A5000
Austin, Texas 78712-0162

Homepages • http://www.biosci.utexas.edu/mgm/
http://www.icmb.utexas.edu

The University of Texas at Austin is an Equal Opportunity Employer
Qualified women and minorities are encouraged to apply

University of Alberta Edmonton

Medical Genetics

The Department of Medical Genetics at the University of Alberta invites applications from outstanding scientists investigating any aspect of molecular genetics or molecular biology related to inherited disease or relevant animal models, for tenure track positions. The study of chromosomal structure, complex traits, membrane transport, and developmental pathways are among the areas of interest. Applicants must have a PhD or PhD/MD, with postdoctoral training, and be able to establish a strong independent research program and assist in genetic teaching. Appointments are expected primarily at the level of Assistant Professor, but more senior positions are possible, in accordance with qualifications and experience of the candidates. Department information is available on **www.medgen.med.ualberta.ca** All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. The closing date for applications is December 15, 2002, or until positions are filled.

Candidates are invited to submit a resume, research plan, and names of three references to:

Diane W. Cox, Professor and Chair
Department of Medical Genetics
8-39 Medical Sciences Building, University of Alberta
Edmonton, Alberta, Canada T6G 2H7

The University of Alberta hires on the basis of merit. We are committed to the principle of equity in employment. We welcome diversity and encourage applications from all qualified women and men, including persons with disabilities, members of visible minorities, and Aboriginal persons.

GenomeCanada

Genome Canada is the primary funding and information resource relating to genomics and proteomics research in Canada. This not-for-profit corporation dedicated to developing and implementing a national strategy in genomics and proteomics research for the benefit of Canadians has to date invested more than $290 million in 56 innovative genomics and proteomics research projects.

Vice President, Scientific Development

Reporting to the President and Chief Executive Officer, the Vice President, Scientific Development, will be the "Voice of Genomics Research in Canada" and will be recognized nationally and internationally for a proud record of achievement in research and the clarity and soundness of insights and advice offered. As "Chief Scientist" for Genome Canada, he/she will have a national mandate to help shape Canadian genomics and proteomics research into world leadership in some key areas of this exciting field. The successful candidate will work closely with other members of the management team of Genome Canada and of the Genome Centres and will communicate Genome Canada's objectives and programs to a wide variety of public and private organizations, and to the science community across Canada and internationally.

The successful candidate will be a recognized scientist who shares a passion for developing Canada's opportunities in genomics and proteomics. Qualifications will include:

- An advanced University degree in a related scientific field.
- Clear academic recognition, with a history of peer reviewed support from national research funding agencies.
- A widely respected history of discoveries, publications, awards and citations that need not necessarily be focused solely on genomics/proteomics or other related fields.
- A reputation as a scientifically demanding leader, mentor, visionary and builder of multi-disciplined, high-performing research teams.
- A broad personal and professional network of domestic and/or international relationships among thought leaders and executives in diverse academic, industry and/or government settings.
- Knowledge and experience in the area of Intellectual Property and commercialization, as well as experience working with economic development partners would be definite assets.
- A reputation and personal presence as a visionary, facilitator, communicator and consensus builder who can bring value added focus to peer review, applications for research funding, collaborative and partnership processes and decision making.
- Bilingualism (French and English) would be a definite asset.

The position will require some travel.

Director, Science and Technology Platforms

Reporting to the Vice President, National Genomics Program, the Director, Science and Technology Platforms will facilitate the coordination and access to all of the Science and Technology (S&T) platforms receiving funding from Genome Canada. This position is responsible for ensuring that Genome Canada's investment in a distributed national platform program results in a seamless and integrated program.

The successful candidate will monitor the needs of the scientific community and international trends in platform management. In collaboration with the Genome Centres, the platform managers, research funding agencies and the research community, he or she will develop an access plan for the S&T platforms.

The successful candidate will possess a relevant University degree in the field of science and a successful and relevant track record in running core science and technology facilities. The ideal candidate will have relevant experience in project management and will be known to the Canadian scientific and research communities. Ideally, the candidate will possess relevant knowledge and experience in intellectual property. This position requires a mature and creative person who possesses excellent leadership and communication skills. Bilingualism (French and English) would be a definite asset.

The position will require some travel.

*For more information about Genome Canada, visit **www.genomecanada.ca**.*
To explore these opportunities in confidence, please respond by e-mail or fax to:

***Robert C. Nadeau**, c/o Spencer Stuart,*
with a detailed resume, referring to project #19787.
*E-mail: **rnadeau@spencerstuart.com** – Fax: **(514) 288-4626**.*

SpencerStuart

VERTEX

Small Molecules. Huge Discoveries.

Vertex Pharmaceuticals Incorporated is leading the way in small molecule drug discovery. By pioneering a new and innovative, faster approach to drug discovery, with a focus on chemogenomics, our goal is to set the standard for pharmaceutical research and development in the 21st century. Our HIV protease inhibitor, Agenerase®, is currently marketed in partnership with GlaxoSmithKline. And we have a broad array of promising drug candidates expected to launch in the coming years. It's a pipeline packed with huge potential. And it's only at Vertex.

RESEARCH PHARMACOLOGY

Assistant/Associate Scientist, Immunohistochemist

Inflammation
Investigator

Oncology
Investigator/Staff Investigator

Immunology/Inflammation
Sr. Staff Investigator

CELL BIOLOGY

Signal Transduction Specialist, Principal Investigator

HTS/ENZYMOLOGY

Investigator/Staff Investigator

For more information about these and other opportunities at our Cambridge, MA headquarters, please visit:

www.vertexcareers.com

We are an equal opportunity employer who makes diversity the foundation of all success.

VERTEX

We Enjoy a Big Lead in Small Molecules.

Genomics INITIATIVE

CORNELL

The Genomics Initiative forms the major portion of a $500 million New Life Sciences Initiative at Cornell University. This is a broad based initiative to recruit faculty and provide resources that foster a multidisciplinary study of biology in the post-genomics era. Since its inception, the Genomics Initiative has fostered interdisciplinary research, recruited 25 faculty to all colleges engaged in Life Sciences, developed key core facilities, and initiated educational programs at the graduate and undergraduate level. As part of the second phase of the Genomics Initiative, the University has begun several major building projects, initiated a new campus wide graduate fellowship program and will recruit up to 100 new tenure track faculty. New faculty are expected to participate actively in this new university-wide initiative. For more information on the Genomics Initiative and detailed job descriptions, see *www.genomics.cornell.edu.* Review of applications will begin October 15, 2002.

Computational, Statistical and Evolutionary Genomics

Statistical and Computational Genomics. The Department of Biological Statistics and Computational Biology is a new department that focuses on biological statistics, statistical and computational genomics, and computational and mathematical modeling of biological systems. Multiple assistant professor faculty positions will be filled over the next few years. Applicants should have research interests in statistical methodology, with a demonstrated expertise in applications involving statistical and computational genomics. Appointees will be expected to participate in campus-wide interdisciplinary programs such as the Cornell Genomics and the Biocomplexity initiatives.

Bioinformatics. Applications are invited for a tenure track, assistant professor position in the use and development of databases in biology. Applicants should have a Ph.D. in mathematical sciences, computer science, biology, or engineering. The position bridges different disciplines, and the successful candidate must demonstrate research accomplishments at the highest level in the field. The position is a part of the genomics initiative at Cornell-Ithaca and Tri-institutional Research Program (Rockefeller, Sloan-Kettering, and Cornell/Weill Medical College) in Computational Biology and Medicine. The departmental home of the Cornell position is open and will be decided based on the interests and qualifications of the successful candidate.

Computer Science and Computational Biology. Applicants at all ranks are sought for an interdisciplinary tenure track position in computational biology. The applicant should have a very strong background in computer science, and should also have a strong background and research interest in computational aspects of biology. Research may include such topics as development of genomic databases, bioinformatics and structural biology. We are looking for candidates with outstanding research accomplishments and who are committed to excellence in teaching computer science. This position will be in the Department of Computer Science.

Population Genetics and Comparative Genomics. Applications are sought for a tenure-track faculty position in the molecular and quantitative aspects of population genetics and comparative and evolutionary genomics. Appointment level is open, and outstanding junior candidates are encouraged to apply. Individuals who will contribute to campus-wide programs in evolutionary, comparative, mammalian, and/or computational genomics are of particular interest. The successful candidate is expected to participate in undergraduate and graduate teaching in population genetics, comparative genomics or evolutionary genomics. The likely departmental home is the Department of Molecular Biology and Genetics.

Human Population Genetics/Epidemiology. Candidates should have expertise in human genetics, human population genetics and/or epidemiology and an interest in investigating: gene-nutrient interactions in health and disease, the effects of single nucleotide polymorphisms on nutritional requirements, the relationships between nutrition and human genetic diversity or other metabolic questions with nutritional implications. This position is open at the assistant professor level in the Division of Nutritional Sciences.

Insect Genomics. We invite applications for the position of assistant professor in Insect Genomics at Cornell University. Areas of interest include comparative insect genomics, insect population genomics, or genomic analysis of interactions between insects and plants, parasitoids, microbes, or predators, although candidates with related interests are also encouraged to apply. The successful candidate is expected to develop a well-funded program that will gain national and international recognition, to participate in undergraduate and graduate teaching, and to contribute to the development of genomics and life sciences across campus. The likely departmental home is the Department of Entomology.

Mammalian Functional and Comparative Genomics

Cornell University is soliciting applications for a series of faculty positions from outstanding candidates who have expertise and research interests in mammalian functional and comparative genomics. The mammalian genomics program bridges biological science departments on the main campus of Cornell University.

Functional Genomics. Faculty searches for positions at assistant, associate, and full professor primarily seek individuals with expertise in murine model systems who will contribute to an expanding, university-wide interdisciplinary mouse program. Research areas include developmental and cell biology, neurobiology and behavior, germ cell biology, the genetic/molecular basis of disease, gene-nutrient interactions, and epigenetics. Individuals who use genome-wide methods to elucidate gene function and are applying novel strategies to the study of the genetic and molecular basis of development, normal and abnormal cell function, and animal-environment interactions are particularly encouraged to apply. Faculty positions are available in the departments of Biomedical Sciences, Microbiology and Immunology, Molecular Biology and Genetics, Molecular Medicine, Neurobiology and Behavior, and Nutritional Sciences.

Comparative Genomics. Research areas include quantitative and polygenetic traits, gene-environment interactions, disease pathogenesis, disease resistance, nutrition, development, and behavior. Individuals who use comparative and genome-wide research strategies on mammalian species are particularly encouraged to apply. Faculty positions are available in the departments of Animal Science, Biomedical Sciences, Clinical Sciences, Nutritional Sciences, Population Medicine and Diagnostic Science, and the Baker Institute for Animal Health.

Applicants should send a cover letter stating the position(s) for which they wish to be considered, curriculum vitae, a concise statement of research and teaching interests, and the names of at least three references to: **Cornell Genomics Search Committee, Cornell University, 249 Emerson Hall, Ithaca, NY 14853-1901 (cugenomics@cornell.edu; phone 607-254-7261; fax 607-255-6683).**

genomics INITIATIVE

CORNELL

Physical and Engineering Sciences/ Life Sciences Interface

The spectacular complexity in biology highlighted by the genomics era will make it necessary to take advantage of the newest developments in the physical, chemical and engineering sciences. We seek candidates who use innovative approaches to address biological questions or who engineer novel systems based on biological principles. Key areas of interest include, but are not limited to:

The Study of Molecular Events, Interactions, and Dynamics in Living Cells by Advanced and Newly Developed Physical and Chemical Tools. Examples include: the use of state of the art imaging techniques combined with genetic engineering to monitor the dynamics of molecular and genetic networks; the application of spectroscopic and fluorescence methods to monitor protein folding or protein-protein interactions; and the application of chemical synthesis to control or monitor macromolecular reactivity and interactions.

New Approaches to Probing Molecular Structure and Properties. Examples include: the study and manipulation of single molecules by laser tweezers, atomic force microscopy, or electron microscopy; innovative uses of synchrotron radiation to probe structure and dynamics; and the application of protein design to understanding macromolecular interactions.

The Generation of Advanced Materials and Systems Integrating, Mimicking or Expressing Biological Functionality. Examples include: the development, study, and/or use of new technologies in the areas of microfluidics, polymers and biomaterials; the design of novel catalysts; and the establishment of new ways to redirect cellular activities by altering enzymatic or transport functions in plants, microbes, or animals.

The Development of New Computational Models and Algorithms to Better Understand Biological Complexity and to Complement and Enhance Experimental Observation. Examples include: understanding the nonlinear dynamics of gene expression and signal transduction, system-wide analyses of transcription and translation, and the use of bioinformatics or statistical mechanics to advance mathematical biology, genomic analysis, and structural biology.

Potential home departments will be determined during the interview process according to the background and interests of the candidates, but may include departments in the physical, engineering, or biological sciences.

Metabolic Engineering/Assistant Professor. Applications are invited from candidates interested in analysis of integrated metabolic networks and their directed improvement especially through use of molecular/genomic technology. Topics may include the use of genomics and proteomics to understand the regulation of metabolic pathways, quantitative analysis of metabolic fluxes and the regulatory systems controlling them (metabolic flux analysis and control analysis), advanced methodology for measurement of metabolic fluxes, or techniques for optimizing flux distribution in a metabolic network. Of particular interest are emerging areas such as integration of designed biocatalysts with novel chemical functionality into overall cellular metabolism, or applications of metabolic engineering to processes in multicellular organisms, e.g. tuberization, wound healing, or bone remodeling. A Ph.D. or equivalent degree in an appropriate discipline with a solid foundation in both engineering and biological sciences is required. The position is offered in the Department of Biological & Environmental Engineering.

Microbial Genomics

Genomics of Plant Pathogenic Fungi. Research in fungal pathogenicity is expanding rapidly in response to worldwide genomic projects and the development of more sophisticated genetic tools. Applications are invited from candidates interested in applying genomic approaches to understanding evolution and mechanisms underlying important processes related to fungal plant pathogenicity. The position is offered at the assistant professor level in the Department of Plant Pathology.

Plant Genomics

Plant Developmental Biology. Applications are sought from candidates whose research focuses on the molecular genetic analysis of plant developmental processes, preferably from an evolutionary perspective. The successful candidate will be based in the Department of Plant Biology, preferably at the assistant professor level and is expected to contribute to teaching in the area of plant developmental biology.

Plant Molecular Genetics/Assistant Professor. Applications are sought for a molecular geneticist working with either maize or *Medicago truncatula*. The successful candidate will be based in the Department of Plant Breeding and is expected to develop an active basic research program with potential long-term applications to crop species. Preference will be given to candidates interested in forming interactive networks with other researchers working in either grasses or legumes. Responsibilities include teaching a course in plant genetics/genomics/molecular biology.

Genomics of Abiotic Stress/Assistant Professor. Applications are sought from candidates whose research focuses on molecular aspects of environmental stresses, such as freezing, drought, salinity, mineral nutrient deprivation, hypoxia, soil compaction, soil acidity, and soil metal toxicity with long-term applications to agronomic crops. This may include the identification of regulatory genes, the use of genomic/proteomic approaches or metabolic profiling, and the development of transgenic lines and mutants that might provide rational approaches for the improvement of the freezing, drought or root-zone stress tolerance of crop species. Experience in stress physiology is desirable though not essential. The successful candidate will be based in the Department of Crop and Soil Sciences.

Plant Molecular Biology/Genomics. *The USDA-ARS Center for Health-Based Crop Genomics* on the Cornell University campus is soliciting applications for a scientist using genomic approaches to study aspects of plant metabolism/biochemistry/abiotic stress that impact human health and nutrition. The successful candidate will be expected to develop a strong research program utilizing both intramural and extramural funding, form collaborations with others in the Center and the broader Cornell Genomics Initiative, and will be offered an adjunct faculty position in an appropriate Cornell University department. Candidates must have U.S. citizenship and a Ph.D. in an appropriate discipline. The salary range is $54,275 to $83,902 per annum. To obtain additional information and application forms, call Drs. Leon Kochian (607) 255-2454 or Jim Giovannoni (607) 255-1414 or visit http://www.afm.ars.usda.gov/divisions/hrd/hrdhomepage/empopp.htm. Applications must include the Vacancy Announcement Number ARS-X2E-2193 and be postmarked by October 28, 2002.

Applicants should send a cover letter stating the position(s) for which they wish to be considered, curriculum vitae, a concise statement of research and teaching interests, and the names of at least three references to: **Cornell Genomics Search Committee, Cornell University, 249 Emerson Hall, Ithaca, NY 14853-1901 (cugenomics@cornell.edu; phone 607-254-7261; fax 607-255-6683).**

ASSISTANT PROFESSOR/ HEAD OF LABORATORY

COMPUTATIONAL BIOLOGY

The Rockefeller University seeks applications for a tenure track Assistant Professor/Head of Laboratory appointment in any area of computational biology including population genetics and evolution: functional, structural, or comparative genomics; computational chemistry; and analysis of high throughput experiments. The preferred candidate will have a professional degree in one of the quantitative sciences and demonstrated skill in solving biological problems. Appointments at other ranks will be considered in exceptional circumstances.

Applicants should submit a Curriculum Vitae (with publication list), a statement of current and future research interests (no longer than three pages), and arrange for 3-5 letters of reference to be sent directly to: **Ms. Tonya Lester, The Rockefeller University, Office of the President, 1230 York Ave, Box 257, New York, NY 10021 USA. The closing date for applications, including letters of reference, is December 15, 2002.**

The Rockefeller University is an Affirmative Action/Equal Opportunity Employer. Further information about the research and educational programs of The Rockefeller University can be found on the Internet at http://www.rockefeller.edu/

University of California Davis
School of Medicine
Opportunities in Immunology and Genomics

The UC Davis School of Medicine, Department of Medical Microbiology and Immunology invites applications from highly (Ph.D., M.D./Ph.D. or M.D.) qualified individuals for two (2) tenure-track faculty positions at the **ASSISTANT** or **ASSOCIATE/FULL PROFESSOR** level to develop research programs in (i) immunology and (ii) genomics of host-pathogen interactions and pathogenesis. The successful applicants will have relevant post-doctoral experience, high quality peer reviewed publications and will be expected to establish and maintain a high quality, extramurally funded research program. We seek individuals who use molecular genetics, genomics, proteomics, molecular and cellular immunology to answer fundamental questions about molecular and cellular aspects of host-pathogen interactions and pathogenesis. Applicants with expertise or interest in mucosal immunology are particularly desirable. Successful candidates will participate in establishing research programs bridging immunology, microbiology, genomics and emerging infectious diseases. The positions offer competitive start-up funds and access to core facilities for genomics, immunology and microbiology research, and the National Primate Research Center.

The positions will be open until filled, but no later than March 1, 2003. Priority will be given to candidates whose records of innovative research and commitment to teaching demonstrate their potential as leaders in their fields. Candidates will be expected to participate in teaching immunology and/or molecular biology courses to medical, graduate, and undergraduate students. Applicants should send a curriculum vitae, up to three representative reprints, a brief statement of research interests and should arrange for three to five letters of reference to be sent to: **Dr. Satya Dandekar, Chair, Department of Medical Microbiology & Immunology, School of Medicine, University of California, One Shields Avenue, Davis, CA 95616-8645.**

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

SCIENTIFIC CURATOR

The Zebrafish model organism database, ZFIN, seeks several scientific curators to join our dynamic, interactive team of biologists and computer scientists at the University of Oregon in Eugene. Responsibilities include the curation and integration of the emerging zebrafish whole-genome sequence with genetic and biological data available in ZFIN; the acquisition, evaluation, and analysis of information about zebrafish gene structures, expression patterns, and mutant phenotypes; and the participation in database and interface design by providing biological perspectives to new database content and display concepts. Applicants should have a Ph.D. in molecular biology or genetics with experience in molecular genetics and, preferably, zebrafish biology. For more information on **ZFIN see http://zfin.org/zf_info/news/curator.html**.

Send curriculum vitae and references to: **E. McCumsey, ZFIN Curator Search, Institute of Neuroscience, University of Oregon, Eugene, OR 97403-1254 or fax (541)346-4548.**

AA/EO/ADA institution committed to cultural diversity.

UNIVERSITY OF CALIFORNIA BERKELEY SCHOOL OF PUBLIC HEALTH DIVISION OF EPIDEMIOLOGY
A Faculty Position in Genetic Epidemiology

A faculty position in Genetic Epidemiology in the Division of Epidemiology of the School of Public Health at the University of California, Berkeley is available in the Fall, 2003. Applications are invited for this new faculty position at the assistant professor level (tenure-track). Candidates should possess a research interest and expertise in the design, implementation, and interpretation of epidemiologic studies of the genetic bases of human health and disease. The position offers an opportunity to collaborate with epidemiologists, biostatisticians, geneticists, and faculty from other disciplines at the University of California, Berkeley (UCB), the University of California, San Francisco (UCSF), the Lawrence Berkeley National Laboratory, Division of Research at Kaiser Permanente, and biotechnology companies in the San Francisco Bay area. Duties include developing and teaching upper division and graduate level courses in genetic epidemiology and epidemiologic methods, in addition to mentoring masters and doctoral degree students in this area. An MD, PhD, or equivalent degree in epidemiology, genetic epidemiology, human genetics, or a related discipline is required. Applications and related materials must be received by December 13, 2002. Send a letter of interest, curriculum vitae, list of publications, and the names, addresses, and telephone numbers of three references to: **Patricia Buffler, PhD, Chair, Search Committee, c/o Ronald Jeremicz, Division of Epidemiology, School of Public Health, University of California, Berkeley, 140 Warren Hall, MC # 7360, Berkeley, CA 94720-7360.**

PRE- and POSTDOCTORAL TRAINING IN MAMMALIAN GENETICS

The Jackson Laboratory, a non-profit research center, provides a unique research environment with unparalleled resources for training in animal models of development and disease.

Areas of expertise include:
Cancer, Developmental Biology, Aging, Genetics of Complex Traits, Genomics, Immunology/Hematology, Metabolic Diseases, Neurobiology, Bioinformatics/ Statistical Genetics, Cryopreservation/ Assisted Reproduction

Letters of application should include: Curriculum vitae, statement of research interests, list of publications, and names of three references. Predoctoral program is in conjunction with the University of Maine and is limited to US citizens or permanent residents.

To apply contact:
Suzanne Serreze
Box 116-S
The Jackson Laboratory
600 Main Street
Bar Harbor, ME 04609
Phone: 207-288-6420
FAX: 207-288-6079
email: sbs@jax.org
(Please reference code "SC" when you apply)
http://www.jax.org

EO/AA Employer

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

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

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

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

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

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

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

---

Dow AgroSciences™

MOLECULAR BIOLOGISTS and BIOINFORMATIC SCIENTISTS

Dow AgroSciences LLC, a global leader in providing pest management, agricultural and biotechnology products, located in Indianapolis, Indiana, is seeking highly motivated research scientists to fill the following positions in Discovery Molecular Biology.

Plant Molecular Physiologist (Job Code 0200670): Will be responsible for the development and implementation of research approaches to characterize various yield-related parameters. A Ph.D. in Plant Physiology or a related discipline is required with at least 2 years hands-on experience and thorough understanding of whole plant physiology and source-sink interactions.

Plant Molecular Geneticist (Job Code 0200672): Will be responsible for the development and implementation of research approaches to enhance oil yield. A Ph.D. in Plant Molecular Genetics or a related discipline is required with at least 2 years of experience in oil metabolism.

Molecular Biologist (Job Code 0200674): Will be responsible for the development and implementation of research approaches to discover and evaluate output-related traits. A Ph.D. in Molecular Biology or related discipline is required with at least 2 years experience in characterizing genes and proteins.

Molecular Biologist (Job Code 0200671): Will be part of a group to discover and evaluate output-related traits. A Masters Degree in Molecular Biology or related discipline is required. A Bachelors Degree with 3 years experience will be considered.

Bioinformatics Scientist (Job Code 0200678): Will lead and implement bioinformatics projects to develop and integrate sequence and expression databases and data mining tools. A Ph.D. in Bioinformatics, Molecular Biology or other related field is required with 3-5 years experience in development and use of bioinformatics databases and data mining tools.

Apply on-line by October 31, 2002, at **www.dowagro.com/careers/index.htm** and refer to job title and code.

Dow AgroSciences is an Equal Opportunity Employer offering excellent career opportunities, as well as competitive compensation and benefits package.

FACULTY POSITIONS IN THE DEPARTMENT OF PLANT BIOLOGY UNIVERSITY OF MINNESOTA, TWIN CITIES

The Department of Plant Biology is participating in the University of Minnesota's interdisciplinary initiatives in Molecular and Cellular Biology and in Evolutionary Biology. Our current faculty of 24 includes 10 recent hires in areas of genomics, development, evolution, and systematics. The community of developmental biologists at the University includes world-class scientists studying plants, worms, flies, zebrafish and mice, among other organisms, and provides a supportive environment. Genomics hires will join a large group of colleagues working on genomics of crops and plant model systems (including Arabidopsis, Chlamydomonas and Medicago), as well as growing bioinformatics and microbial genomics communities. In addition, a new building housing scientists working in plant and microbial genomics will be completed in early 2003. All new hires will be considered for inclusion in the Plant Molecular Genetics Institute and/or the Center for Microbial and Plant Genomics, allowing a broader base for interaction at the University.

Positions in Plant Development and Genomics: We seek broadly trained individuals for two to three positions in plant development and genomics. The Department is accepting applications for tenure-track positions at the level of Assistant Professor, and will also consider outstanding senior scientists at the Associate/Full Professor level. All positions are 100% time, academic-year appointments. Candidates' research should investigate mechanisms of development or address questions in genome structure, function, or evolution. Applications are especially encouraged from individuals whose research emphasizes evolutionary approaches to understanding development or comparative genomics. Successful candidates will be expected to develop a strong, externally funded research program; contribute to the teaching programs of the Department; and participate in professional service. Qualifications include a Ph.D. or international equivalent in a biological discipline and a demonstrated research emphasis in plant developmental biology or genomics. Required background includes completion of two years of post-doctoral training prior to assuming the position and a strong publication record. Successful candidates will receive a substantial start-up package and a salary commensurate with their experience.

Please send curriculum vitae, statement of research and teaching interests, and three letters of recommendation to: **Dr. Neil Olszewski, Chair, Plant Development/Genomics Search Committee, Department of Plant Biology, University of Minnesota, 220 BioScience Center, 1445 Gortner Ave., St. Paul, MN 55108.** Review of applications will begin on November 8, 2002. Expected start date is on or after July 1, 2003. For more information concerning the Department of Plant Biology and the positions, please consult: **http://biosci.cbs.umn.edu/plantbio/pbio.**

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

Faculty Positions for 2003 Department of Biochemistry and Molecular Genetics University of Alabama at Birmingham Schools of Medicine and Dentistry

Tenure track junior faculty positions and tenured senior faculty positions are available for investigators focused on modern areas of biochemistry and molecular genetics. Areas of special emphasis include, but are not limited to, functional genomics, proteomics, adult and embryonic stem cell reprogramming, chromosome remodeling, and gene regulation in humans and in model organisms. Biochemists and structural biologists interested in protein-protein or protein-nucleic acid interactions are encouraged to apply. Nationally competitive salaries, start-up packages and space allocations will be offered to successful candidates. UAB is a highly interactive environment with strong basic and clinical sciences. Birmingham is a beautiful and affordable city with many cultural attractions. Applicants should send a C.V., a summary of research interests and the names of three references before December 15, 2002 to:

Dr. Tim M. Townes
Chairman, Department of Biochemistry and Molecular Genetics
University of Alabama at Birmingham
Kaul Genetics Building, Room 502
720 20th Street South
Birmingham, AL 35294-0024
Email: ttownes@uab.edu

UAB is an Equal Opportunity/ Affirmative Action Employer

Invitrogen

Where dynamic growth creates multiple R&D opportunities

Invitrogen Corporation, headquartered in Carlsbad, CA, has outstanding opportunities for specialists in Molecular Biology, Cell Culture, Genomics, Proteomics, and Cell Biology to maintain our leadership in the fast paced biotech industry. Some of our many current openings include:

SCIENTIST - Protein & Proteomics
Join our R&D team as we extend our product line by facilitating analysis of complex protein mixtures. Ph.D. in Biochemistry with experience in the preparation and analysis of proteins from diverse biological sources. Knowledge of electrophoretic techniques preferred. Job# 02-C1645

RESEARCH ASSOCIATE III - Enzymes
In our Amplification division, you'll conduct cloning and expression of genes, purification and characterization of proteins, and design and develop QC assays. M.S. in Biochemistry or Molecular Biology with 3 years R&D experience or B.S with 6 years. Hands on experience with column chromatography and biochemical techniques required. Job#02-C1422

RESEARCH ASSOCIATES II - Organic Chemistry
Opportunities in our newly formed organic chemistry area. M.S./B.S in Organic Chemistry with 2-5 years laboratory experience in the synthesis of organic molecules. Knowledge of TLC, HPLC required; LC-MS preferred. Job# 02-C1052

We are looking for motivated individuals who are eager to join an exciting, growing company. Please e-mail your resume to: Attn:(Insert Job #), **resumes@Invitrogen.com or mail/fax to: Invitrogen Corporation, HR, 1600 Faraday Ave., Carlsbad, CA 92008. Fax: 760-602-6600.**(Job # must be referenced for consideration.) EOE/M/F/D/V.

Invitrogen™
life technologies

Proteomics/ Protein Biochemist

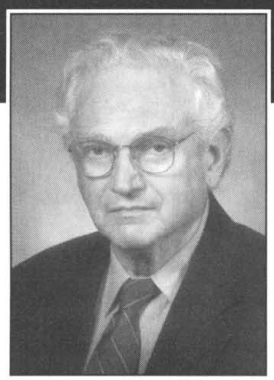
Tenure track assistant professor position to start June 2003. Research should employ computational approaches to studying protein families, interactions, folding or evolution. Work with computer scientists in leading a Howard Hughes Medical Institute undergraduate education program in computational molecular biology. Review of applications begins November 1, 2002, continuing until position is filled.

Send letter of application, teaching statement, research plans, up to three reprints, and three letters of recommendation to:

Robert P. Donaldson
Department of Biological Sciences
2023 G Street, NW
Lisner Hall 340
The George Washington University
e-mail: biology@gwu.edu
http://www.gwu.edu/~biology

SYMPOSIA

A Symposium in Functional Genomics



In Honor of Marshall Nirenberg

"The Genetic Code Revisited: The Impact of Functional Genomics in Medical Research"

December 16, 2002
8:30am - 5:30pm
Natcher Center, National Institutes of Health, Bethesda, Maryland

Symposium Topics
"The Genetic Code and the Biology of the Cell"
"Strategic Uses of Functional Genomics"
"Therapeutic Advances Through Genomics"

Program Participants
Bruce Alberts
Sydney Brenner
Thomas Caskey
Francis Collins
Joseph Goldstein
Leroy Hood
Eric Lander
Philip Leder
Claude Lenfant
Sidney Pestka
Edward Scolnick
Craig Venter
Elias Zerhouni

Symposium Co-Chairs
Dolph Hatfield, National Cancer Institute
Judith Levin, National Institute of Child Health and Human Development
Samuel Wilson, National Institute of Environmental Health Sciences

Sponsored by:
Department of Health and Human Services
National Heart, Lung, and Blood Institute
National Institutes of Health

Registration required. Limited seating available. Registration, an agenda and additional information:
http://www.niehs.nih.gov/sfg/home.htm

ROSLIN INSTITUTE

Roslin Institute is a world-renowned centre for research in genetics, molecular biology and developmental biology.

The Institute is located within minutes of the centre of the beautiful and historic city of Edinburgh, the cultural capital of Scotland and has good access to transportation links, shopping and cultural amenities.

Research into human and animal Prion diseases

3 Positions available

Prion diseases such as BSE and vCJD are transmissible neurodegenerative diseases characterized by a long asymptomatic incubation period followed by a short clinical phase. Our research efforts are aimed at elucidating the molecular events underlying the asymptomatic period in order, (1) to understand the mechanisms involved in disease progression, and (2) to identify potential diagnostic markers for these diseases. The Prion biology group has brought extensive experience in the latest molecular biology and proteomics techniques to this research. Until recently, the only molecular evidence of disease outside the CNS was the presence of very low levels of the disease-associated isoform of the Prion protein (PrP^{SC}). However, we have recently demonstrated that Prion disease causes a down-regulation of an erythroid-specific protein (EDRF) (Nature Medicine 7, 361-364, 2001). This was the first identification of a non-PrP^{SC} molecular marker of Prion diseases outwith the CNS and the first demonstration of the involvement of the erythroid cell lineage in these diseases. Interest in this area has now intensified with reports by others that blood harbours infectivity and that Prion disease can be transmitted by blood transfusion (Hunter et al, J. Gen. Virol, July 2002, e-pub).

2 Postdoctoral positions (ref no. RI 25/02) and 1 Research post (ref no. RI 26/02) are available; to investigate the role of the haematopoietic system in Prion disease, to investigate the specific role of EDRF, to assess the diagnostic potential of EDRF in human and animal Prion diseases, and to screen for further molecular markers for these diseases.

While knowledge of Prion diseases or experience in molecular biology procedures would be advantageous, training in all the necessary procedures is available and, motivation and integrity will be the prime considerations. Positions are suitable for both recently qualified and experienced post-docs, and for applicants from all areas of biological sciences.

Interested candidates are invited to contact Dr Michael Clinton (Michael.Clinton@bbsrc.ac.uk) informally for further information.

This research is funded by the Department of Health, the Medical Research Council and the Food Standards Agency and the successful candidates will join a group of seven scientists with access to excellent facilities and resources, and with world-wide collaborations.

These positions involve collaboration with the Institute of Animal Health and with the Scottish and National Blood Services, and are available immediately.

Salary will be commensurate with experience.

Benefits include a non contributory pension scheme and 25 annual leave days.

Information pack and application forms can be obtained from the Human Resources Office, Roslin Institute, Roslin, Midlothian, EH25 9PS. Tel 0131-527 4481 or e-mail jane.anderson@bbsrc.ac.uk. Please quote the appropriate ref no. Closing date 31 October 2002.

Roslin Institute is an equal opportunities employer

SGPP

Structural Genomics of Pathogenic Protozoa
URL: http://www.sgpp.org

SGPP is an NIH-funded research consortium conducting an innovative research program in Structural Genomics at the University of Washington, Seattle, and five partner institutions: University of Rochester, NY; Hauptman-Woodward MRI, Buffalo, NY; Lawrence Berkeley Lab, CA; Stanford Synchrotron Radiation Laboratory, CA; and Seattle Biomedical Research Institute, Seattle.

The following positions are immediately available to develop and apply high-throughput techniques of X-ray crystallography to determine the structure of a large fraction of the genomic proteins from tropical protozoa targeting proteins from organisms causing malaria, sleeping sickness, Chagas' disease, and leishmaniasis.

Scientific Programmers: Experienced programmers with knowledge of X-ray crystallography, bioinformatics, or other relevant research fields to support the SGPP project.

Protein Crystallographers: PhD-level scientists with experience in determining and refining protein structures are needed to carry out the central SGPP mission.

Data Base Specialist: Data base specialists for developing, maintaining and mining of the Target Selection and Experimental SGPP Data Bases. Goals are optimal capture and evaluation of the internal process flow and clear external electronic presentation of SGPP results.

Robotics Specialist: Research scientist/engineer with experience in the use of robotics and informatics to be applied to the growth of protein crystals with existing robots as well as for the development of a new type of crystallization robot. Experience with crystal imaging and image analysis is welcome.

Interested candidates may view information and employment criteria on the SGPP website at **http://www.sgpp.org** > Job Opportunities. For additional information about these positions and SGPP, contact **Ethan Merritt, PhD**, Seattle Consortium, at **merritt@u.washington.edu** or **Wim Hol, PhD**, Director of SGPP, at **hol@gouda.bmsc.washington.edu**.

DIRECTOR AND 7 FACULTY POSITIONS
Center for Bioinformatics and Computational Biology
University of Maryland, College Park

The University of Maryland invites faculty applications at the assistant, associate, and full professor level for the newly established Center for Bioinformatics and Computational Biology. The campus has committed resources to recruit up to eight new faculty in the Center, including a Director. It is anticipated that the primary specialization areas of the faculty will collectively span fields of computer science, mathematics and statistics, biology, and biochemistry. Their primary responsibility will be to lead a nationally visible research program in selected areas of computational genomics, proteomics, molecular evolution and phylogenetics, complementing existing strengths at the University of Maryland. Candidates for the Director position are expected to be senior researchers with prominent recognition in these areas. All other applicants are expected to have publications and research experience beyond the Ph.D. degree with strong components of biological science and computing. Experience in interdisciplinary collaboration is an asset. The faculty will be housed in contiguous space set aside for the Center and will have access to significant high-end computing infrastructure through the University of Maryland Institute for Advanced Computer Studies. Each faculty member will also be affiliated with at least one other campus academic unit appropriate to her/his interests. There is ample potential for collaboration with other outstanding bioinformatics research groups nearby, in organizations such as NIH, Celera, TIGR, the Maryland Biotechnology Institute, and the Smithsonian Institution.

To apply, send a letter of application, curriculum vitae, letters of recommendation, and URL for additional information to the search committee, in care of the appropriate departmental representative. See **http://www.umiacs.umd.edu/centers/bio.htm** for more information about the Center and the application procedure. Applications completed by **November 30, 2002** will receive full consideration.

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

CAREERS IN GENOMICS

illumina™

Accelerate the pace of scientific discovery in San Diego.

With our proprietary BeadArray™ and Oligator™ technologies, Illumina is accelerating genomic research and drawing closer to the ultimate goal of personalized medicine. We offer a tremendous opportunity to join the team that is raising the threshold of scientific achievement and discovery.

Illumina is positioned for exceptional growth in the realm of discovery science, and you can contribute. We offer an extraordinary environment of great people, flex hours, and competitive salaries and benefits, including medical/dental, stock options, 4 weeks' paid time off, employee stock purchase plan, EAP, 401(k), tuition reimbursement and more.

Some of our openings are:

- **Chemist/Scientist (DNA)**
- **Content Collaboration Scientist**
- **Product Manager (Genomics)**
- **Director of Tech/Customer Service**
- **Applications Scientist**
- **District Sales Manager (Midwest)**

For the full story, visit our Web site at: **www.illumina.com**. Then, e-mail your resume to: **jobs@illumina.com**. Mailing address: **Illumina, 9885 Towne Center Drive, San Diego, CA 92121; Fax: 858-202-4545**

EOE

www.illumina.com

Assistant Professor

Proteomics Facility

A tenure track assistant professorship is open immediately in the Proteomics Facility at The University of Texas M. D. Anderson Cancer Center. The appointee will be responsible for development and improvement of tools for computational analysis of proteomics data, including compilation and maintenance of a local database for cancer-related proteins and development of reliable scoring methods. The focus will be on organizing a data library in order to facilitate protein identification and posttranslational modification analysis using mass spectrometry. These applications are used to find novel markers for early diagnosis and drug targets, as well as indicators of drug resistance or metastasis. As a member of the Proteomics Facility, (s)he will be integrated into collaborations encompassing both basic and clinical cancer research. This bioinformatics assistant professor will be housed at the Biostatistics Department.

The candidate should have a Ph.D. in computational science (bioinformatics, statistics, mathematics, or computer science) with 1-2 years of postdoctoral experience. Working knowledge of genome databases is required. Experience with analysis of complex biological systems and some experience with mass spectrometry is preferred.

Interested candidates should send their C.V. containing research interests and three letters of recommendation to: **Ryuji Kobayashi, Ph.D., Professor, Dept. of Molecular Pathology, UT M. D. Anderson Cancer Center, 1515 Holcombe Blvd., Unit 0089, Houston, TX 77030. E-mail: rkobayas@mdanderson.org**

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

M. D. Anderson Cancer Center is an EOE employer and does not discriminate on the basis of race, color, national origin, gender, sexual orientation, age, religion, disability or veteran status, except where such distinction is required by law. All positions at The University of Texas M. D. Anderson Cancer Center are security-sensitive and subject to Texas Education Code 51.215, which authorizes the employer to obtain criminal history record information. Smoke-free environment.

CAREERS IN GENOMICS

MRC Dunn Human Nutrition Unit, Cambridge

Human Geneticist

The MRC Dunn Human Nutrition Unit wishes to appoint an independent scientist to lead a new programme of research on the influence of functional genetic variants associated with nutritional risk factors on a complex disease, such as cardiovascular disease, cancer or depression. The appointment would be either at Career or Career Track level. Scientists of international standing in human genetics with proven leadership ability and scientists at an earlier stage of development of their careers who wish to set up an independent research group, are invited to apply.

The post holder would establish new studies of populations with biobanked samples in whom disease end points and environmental exposure, especially diet, have been characterised. There is also the opportunity to collaborate with existing prospective and intervention studies in the Unit.

The salary is in the range of £30,488 to £36,586 for a Career Track candidate, £45,000 to £50,000 and up for a Career appointment candidate with exceptional experience.

For further information please contact John Walker tel. (01223) 252703, fax (01223) 252705 or e-mail: walker@mrc-dunn.cam.ac.uk.

Applications should include a full CV and the contact details of two professional referees who can be approached prior to interview. Please quote job reference Dunn/902/3 and e-mail to recruit@mrc-lmb.cam.ac.uk or post to Kelly Andrews, Personnel Assistant, MRC Centre, Hills Road, Cambridge, CB2 2QH.

Closing date: 31 October 2002

The MRC is an equal opportunities employer. 'Leading Science for Better Health'

MRC
Medical Research Council

DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH
NATIONAL EYE INSTITUTE

Job Opportunities

With nation-wide responsibility for improving the health and well being of all Americans, the Department of Health and Human Services oversees the biomedical research programs of the National Institutes of Health and those of NIH's research Institutes.The National Eye Institute Intramural Program at the NIH campus, Bethesda, MD., is seeking highly qualified Postdoctoral Fellows, Research Associates and Staff Scientists in the following areas:

- **Molecular Biology**
- **Cell Biology**
- **Immunology**
- **Psychophysics**
- **Biochemistry**
- **Genetics**

Salaries range from $30,800 to $125,700 per annum, based on experience and type of appointment.

NEI offers an extensive benefits package that you may be eligible for, depending on the appointment mechanisms: Health Benefits, Life Insurance, Retirement Benefits, Annual and Sick Leave, Formal Training Program, Recruitment Bonus, Retention Allowance, Relocation Allowance, Loan Repayment Program, and Travel Benefits. Candidates interested in specific job opportunities at the NEI may visit the NEI web site at **http://www.nei.nih.gov/** listing the most current positions available.

NIH/NEI is an Equal Opportunity Employer

CAREERS IN GENOMICS

THE UNIVERSITY OF MICHIGAN MEDICAL SCHOOL
Mental Health Research Institute
Assistant or Associate Professor

The Mental Health Research Institute (MHRI) at the University of Michigan Medical School is seeking applications for a tenure-track faculty opening at the Assistant or Associate Professor level. The MHRI represents a major focus for interdisciplinary neuroscience research at the University of Michigan and currently has twenty-one faculty with vigorous research programs employing state of the art anatomical, behavioral, neuroimaging, genetic and molecular techniques to study fundamental neural mechanisms that may underlie diseases of the nervous system. The Institute and the University of Michigan offer a stimulating and supportive environment for neuroscience research. Additional information can be found at **http://www.med.umich.edu/mhri**.

Ideal candidates will have demonstrated the potential to develop an internationally recognized and independently funded research program in the molecular and genetic aspects of neuroplasticity, preferably in a vertebrate experimental model. A competitive salary, newly renovated laboratory space and generous start-up funds are available for this position. Interested individuals should send a brief statement of research interests and future plans, curriculum vitae and three letters of reference to: **Neuroplasticity Search Committee, Mental Health Research Institute, University of Michigan, 205 Zina Pitcher Place, Ann Arbor, MI 48109-0720**. Deadline: **December 1, 2002**. *The University of Michigan is an Equal Opportunity/Affirmative Action Employer and specifically encourages applications from qualified women and minorities.*

PHYLOGENOMICS/COMPARATIVE GENOMICS
UNIVERSITY OF CALIFORNIA, DAVIS

The Division of Biological Sciences, University of California, Davis, invites applications and nominations for a position in the Section of Evolution and Ecology at the tenure-track **ASSISTANT PROFESSOR** level. A Ph.D. or equivalent in biological sciences or a related field is required. We seek an evolutionary biologist utilizing modern genomic approaches, especially those exploiting bioinformatics databases and/or novel algorithms and methods, to study one or both of the following problems: (i) phylogenetic history of a diverse clade of life, such as eukaryotes, metazoans, fungi, or green plants; (ii) genome evolution at a similarly broad phylogenetic scale. Teaching requirements include participation in undergraduate courses in genomics, bioinformatics, or organismal diversity and graduate courses in specialized topics. Applicants should submit (1) a curriculum vitae, (2) copies of significant publications, (3) a research statement, and (4) a summary of teaching interests and experience. Applicants should also arrange to have three letters of recommendation sent to **Michael Sanderson, Chair, Phylogenomics Search Committee, Section of Evolution and Ecology, One Shields Ave., University of California, Davis, CA 95616-8755**. Closing date: Open until filled, but all application materials, including letters of recommendation, must be postmarked by **December 16, 2002,** to be assured full consideration.

The University of California is an Equal Opportunity/Affirmative Action Employer with a strong institutional commitment to the development of a climate that supports equality of opportunity and respect for diversity.

Global Opportunities with a World Leader in Drug Development

Stand at discovery's edge, dive in, extend your reach, go deeper, beyond what others can even fathom, touch the goal first, rise to the top fast. As one of the world's largest and most comprehensive drug development companies, Covance, Inc. will enable you to play a full part in exciting, diverse and important research projects.

The results? The chance for you to play a meaningful role in realizing the Miracles of Medicine and be part of a dynamic team partnering with pharmaceutical, biotech and medical device organizations worldwide — including the top 50 global pharmaceutical companies.

If you are ambitious, driven, enjoy challenge and the chance to work over a wide range of therapeutic areas — gaining experience that is truly unique, while working alongside some of the best minds in the industry — we would very much like to hear from you.

We are currently advertising for a variety of positions, including, but not limited to:

- **Laboratory Scientists**
- **Clinical Research Associates**
- **Project Managers**
- **Statistical Consultancy**
- **Data Management**
- **Research Nurses**
- **Sales**

For further details please visit our **Career Opportunities** section on our website — **www.covance.com**. If you do not find a suitable role on this occasion, please revisit the site, which is updated regularly with new opportunities worldwide.

We offer an attractive compensation package, as well as every opportunity to develop personally and professionally, in a company focused on the development of its people. Covance is committed to diversity in the workplace and is an equal opportunity employer. M/F/D/V.

• Early Development • Central Laboratory Services • Clinical Trial Management • Commercialization

Help bring miracles to market sooner.

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

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

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

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

The National Institutes of Health is an Equal Opportunity Employer.

Tenure Track Faculty Positions in Biomedical Engineering

The College of Engineering at UC Davis invites applications from qualified candidates for two tenured or tenure-track faculty positions in the area of biomedical engineering. The Department of Biomedical Engineering has received a Leadership-Development Award from the Whitaker Foundation and will add eight new faculty members over the next four years. Senior candidates should have an outstanding international research reputation in biomedical engineering and a track record of interdisciplinary collaboration. Junior candidates should have outstanding research potential. A Ph.D. degree in biomedical engineering or a related discipline is required. Particular areas of interest include cellular engineering, computational bioengineering, and the development of new therapeutics. BME will be located in a new facility with a Genomics Center and Center for Molecular Medicine. Therefore, candidates whose research impacts functional genomics are particularly encouraged to apply. Applicants must be able to teach core undergraduate and graduate courses, and be willing to help establish an innovative multidisciplinary curriculum in the field of biomedical engineering.

The Davis campus is the third largest in the University of California system. UC Davis ranks among the nation's top 20 universities in research funding and has been rated as one of the top five "up and coming" universities in the country. Davis is a pleasant, family-oriented community in a college-town setting with excellent public schools and a mild climate. Davis is ideally located for many recreational, cultural, and professional activities. It is just 15 miles from California's capital city of Sacramento and is within easy driving distance of the Sierra Nevada Mountains, San Francisco, Berkeley, Silicon Valley, wine country, and the Pacific Coastal areas.

Interested individuals should forward their resume, a summary of teaching and research plans, and the names of at least five professional references to: **Professor Katherine W. Ferrara, Chair, Department of Biomedical Engineering, University of California, One Shields Avenue, Davis, CA 95616-5294; http://www.bme.ucdavis.edu.**

The positions will remain open until filled, however, to ensure consideration, applications should be submitted by December 1, 2002. *The UC Davis College of Engineering is committed to building a diverse faculty, staff, and student body as it responds to the changing population and educational needs of California and the nation. The University of California is an Affirmative Action/Equal Opportunity Employer.*

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS
NEWARK

Director
Center for Cellular Biodynamics

Rutgers University is undertaking a major new multi-disciplinary initiative in cellular biodynamics at its Newark campus. We seek a nationally recognized, well-funded, interdisciplinary senior scientist as Director who will spearhead the establishment of a highly interactive, interdisciplinary research center working on the molecular cell biology of dynamic cellular processes. The Director will be charged with recruiting several new tenure-track faculty appointees into the Department of Biological Sciences, as well as play a major role in recruiting faculty with complementary interests into other science departments. A new research building is currently being designed and will serve as the home base for the Center. Significant resources will be provided, including state-of-the-art instrumentation, excellent state-funded salaries, staff support, and competitive start-up allowances for new hires. The Department of Biological Sciences serves Rutgers University and the New Jersey Institute of Technology (NJIT) and includes faculty from both institutions. Rutgers University-Newark and NJIT are part of a cluster of adjacent institutions in University Heights, including the University of Medicine and Dentistry of New Jersey and the Public Health Research Institute, committed to research in the life sciences. Review of applications will begin on November 15, 2002.

Interested individuals are encouraged to submit a letter of interest, curriculum vitae, names of 3 references, and a statement of research interests to: **Cellular Biodynamics Search Committee, Office of the Dean, Faculty of Arts and Sciences, Rutgers University, 325 Hill Hall, University Heights, Newark, New Jersey 07102 USA. E-mail inquiries: cbsearch@andromeda.rutgers.edu.**

Rutgers University is an Affirmative Action/ Equal Opportunity Employer.

Replidyne

Enzymology, Biophysics
Positions Open

Replidyne is dedicated to discovering anti-infective agents with a novel mechanism of action-blocking DNA replication. Our initial focus is on the discovery and development of novel antibacterial drugs. We have recently completed a significant round of venture funding and are committed to becoming the leading biotechnology company in the world conducting investigations of DNA replication. We are searching for motivated scientists who want to grow professionally while conducting state-of-the-art research on the mechanisms of DNA replication and discovering novel agents to cure human disease. We are creating a stimulating goal-driven, academic atmosphere where publication of quality work will be supported and encouraged. Replidyne offers competitive salaries, stock options, benefits and an attractive working environment. A state-of-the-art facility has recently been completed in the scenic high-technology corridor between Boulder and Denver on the front range of the Rocky Mountains.

Scientists and Senior Scientists-Enzymology of DNA Replication. Candidates should have a Ph.D. and significant experience in enzyme purification and characterization. Preference will be given to candidates with experience in complex multi-protein systems, directing studies based on functional reconstitution assays. Successful applicants will work on developing full multi-protein DNA replication systems from targeted pathogens.

Scientists and Senior Scientists-Assay Development and Characterization of Macromolecular Interactions. Candidates should have a Ph.D. and significant experience in biophysics and studies of protein-protein, protein-nucleic acid and protein-small molecule interactions. The successful applicant will participate in the exciting task of deconvoluting a complex biochemical target to identify targets of inhibitor action and in developing new assays for inhibitor optimization.

Professional Research Assistants. Candidates should have a B.S., M.S. or equivalent degrees in Chemistry, Biochemistry, Microbiology or related disciplines. Research experience is preferred.

Specifying the position applied for, applicants should sent their curriculum vitae, list of 3 or more references, and a description of their research experience and career objectives to: **Replidyne, Inc.; Personnel Dept.; 1450 Infinite Drive; Louisville CO 80027.** Please see our webpage at **www.replidyne.com** for additional information or instructions for electronic application submission.

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

POSTDOCTORAL POSITIONS AVAILABLE AT ST. JUDE CHILDREN'S RESEARCH HOSPITAL

SIGNAL TRANSDUCTION AND CANCER BIOLOGY

DEPARTMENT OF BIOCHEMISTRY

The Biochemistry Department specializes in generating and the analysis of eukaryotic models, with a focus on the molecular and cellular biology of signal transduction, hematopoiesis, chromosome segregation and cancer. The Department's research programs offer recent Ph.D. or M.D. graduates a highly interactive environment for training in a large variety of contemporary molecular and biochemical techniques.

Current research programs within the Department include:

Paul K. Brindle: The study of transcriptional coactivators using mouse knock-in and conditional knock-out mutants. *Mol Cell Biol 19:764 (1999); Mol Cell Biol 19:5601 (1999); Nature (in press)*

John L. Cleveland: Regulation of apoptosis in hematopoiesis and leukemia; c-Myc function in development, apoptosis, and cancer. *Genes and Dev. 13:2658 (1999); Genes and Dev. 16: (in press, 2002) Mol Cell Biol 21:278 (2001); Mol Cell Biol 21:5063 (2001); Mol Cell Biol 21:6549 (2001); Mol Cell Biol 21:7653 (2001).*

James N. Ihle: Positive and negative regulation of cytokine signal transduction pathways. *Embo J. (in press, 2001); Immunity 13:25 (2000); Cell 98:609 (1999); Cell 98:617 (1999).*

Paul A. Ney: Mechanisms of erythroid cell development, proliferation, and differentiation. *Nat. Genet. 23:159 (1999); EMBO 20:3156 (2001).*

Janet Partridge: Studying the role of heterochromatin in chromosome segregation in fission yeast and mammals. *Nature 410:120 (2001); Genes and Dev. 14:783 (2000); Current Biology 10:517 (2000).*

Jeffery T. Sample: Mechanisms of Epstein-Barr virus transformation, gene regulation and persistence. *MCB 19:1651 (1999); PNAS 96:7508 (1999); J. Virol. 74:10223 (2000).*

Clare Sample: Regulation of transcription by Epstein-Barr virus transformation-associated proteins. *J.Virol. 75:90 (2001); J.Virol. 74:5151 (2000).*

Gerard P. Zambetti: Characterization of regulators and mediators of the p53 tumor suppressor pathway. *MCB 18:3735 (2000); Genes & Dev. 14:2358 (2000); PNAS 98:9330 (2001).*

SJCRH is located in Memphis, Tennessee, a city with diverse and rich history and culture, especially in theatre and music, and beautiful nature preserves. Housing and other living expenses are extremely affordable. Appointees will receive highly competitive salaries, outstanding employee benefits, health care benefits, and relocation expenses. Positions are available immediately and include the Martin Morrison Endowed Postdoctoral Fellowship.

Applicants should submit a brief statement of research interests, curriculum vitae, and names of three references to: Biochemistry Departmental Fellowships, Department of Biochemistry, St. Jude Children's Research Hospital, 332 N. Lauderdale, Memphis, TN 38105. http://www.stjude.org/departments/d-biochem.htm

MOLECULAR PHARMACOLOGY

TOR kinase signaling and DNA Damage

A postdoctoral position is available to investigate the function of the conserved TOR kinase in regulating cellular responses to DNA damage. A novel class of *TAH* genes have been defined in yeast that mediate cell sensitivity to the DNA topoisomerase I poison, camptothecin, by regulating cell cycle progression and/or cellular responses to S-phase induced DNA damage. Several *tah* mutants also enhance cell sensitivity to rapamycin, a macrocyclic lactone that inhibits the TOR kinase. TOR has emerged as a central regulator of cellular responses to mitogenic stimuli, survival signals and nutrient deprivation. Our studies of yeast *tah* mutants suggests similar functions dictate cellular responses to the inhibition of TOR and poisoning of DNA topoisomerase I by camptothecin. Candidates with a recent Ph.D. or M.D. degree interested in using yeast genetics and siRNA technology in NIH-funded studies of TOR signaling in DNA replication and in response to DNA damage are encouraged to apply. REQ #1567

Cellular Responses to DNA Damage

A postdoctoral position is available to study cellular responses to DNA damage induced by DNA topoisomerase I-targeted antitumor agents, such as camptothecin. These NIH supported studies focus on genetic and biochemical analyses of alterations in DNA topoisomerase I function and the role of DNA damage checkpoints and repair in regulating cell sensitivity to DNA lesions induced by this enzyme *(PNAS 96:11440-5, 1999; J. Biol. Chem. 275:15246-53, 2000; J. Biol. Chem. 277:3813-22, 2002).* Candidates with a recent Ph.D. or M.D. degree interested in using yeast genetics or siRNA technology in human cell systems to investigate how alterations in cell cycle progression and DNA replication modulate the cytotoxic activity of drugs that poison DNA topoisomerase I are encouraged to apply. REQ #1556

St. Jude Children's Research Hospital (Danny Thomas, Founder) is an outstanding biomedical research center and provides an exceptional training environment for scientific endeavors and career development. Stipends and benefits are highly competitive.

Applicants should submit a letter of interest, curriculum vitae and the names of three references, indicating REQ #, to: Dr. Mary-Ann Bjornsti, Molecular Pharmacology, St. Jude Children's Research Hospital, 332 N. Lauderdale, Memphis TN 38105. E-mail: Mary-Ann.Bjornsti@stjude.org

DEAN, NATURAL SCIENCES AND MATHEMATICS (NS&M)
THE UNIVERSITY OF ALABAMA AT BIRMINGHAM (UAB)

The University of Alabama at Birmingham (UAB) seeks applications and nominations for the Dean of the School of Natural Sciences and Mathematics. The school consists of doctoral degree granting departments of biology, chemistry, computer and information sciences, mathematics, and physics. The school is a dynamic academic organization and provides an environment that encourages professional development among its faculty, student attainment of academic and professional success, and strong partnerships with private and public sector organizations. It employs 85 faculty and currently enrolls approximately 1,400 undergraduate student majors and 200 students in graduate study. The school has undergone explosive growth in research capabilities in the past decade. During this time, a number of interdisciplinary research centers have been established and extramural research funding has tripled. Exceptional opportunities exist for building university-wide collaborations in research and education. Additional information on the School of Natural Sciences & Mathematics can be found at the UAB Web page (**www.uab.edu**) under "Schools."

THE UNIVERSITY: UAB is a comprehensive, urban university and Medical Center enrolling 16,500 students in 12 schools on its 80-block campus. UAB has grown rapidly in its 30-year history. It is a Carnegie Doctoral Research Extensive institution with active grants and contracts exceeding $700 million. The university is the largest employer in the state with more than 15,000 employees and a $1.2 billion budget. Through the UAB Research Foundation, a technology business incubator, and the UAB Research Park, the university has developed comprehensive and successful programs to support technology transfer and economic development.

RESPONSIBILITIES: The Dean is the chief academic, administrative, and financial officer for the school, and reports directly to the Provost. The Dean provides leadership for all of the instructional, research, development, and service programs of the school; interacts with students and prospective students; provides direction to and recommendations from appropriate school committees charged with curriculum and personnel responsibilities; and develops and administers the school budget.

QUALIFICATIONS: Qualifications include proven administrative and leadership skills in higher education; the ability to articulate a vision for the future of a School of Natural Sciences and Mathematics in a top-ranked research institution; and a demonstrated capacity to work effectively with faculty, staff, students and community leaders. The ability to develop and maintain effective fund-raising strategies for the school and a proven track record of extramural funding development are essential. Qualifications must also include a terminal degree and distinguished academic credentials meriting appointment to the rank of Professor in the school.

APPLICATION PROCEDURE: For full consideration, nominations and applications should be received before December 1, 2002, however, nominations and applications will be accepted until the position is filled. Applications should include a letter of interest, current curriculum vitae and a list of references.

Address correspondence to:

Dr. Linda C. Lucas,
Chair, Search Committee for Dean of Natural Sciences and Mathematics
University of Alabama at Birmingham
HOEN 100
1530 3rd Avenue South
Birmingham, AL 35294 - 4440
llucas@eng.uab.edu

The University of Alabama at Birmingham is an Equal Opportunity/Affirmative Action Employer. Women and minority candidates are encouraged to apply.

Postdoctoral and Predoctoral Positions

CENTER FOR TROPICAL DISEASE RESEARCH AND TRAINING

Department of Biological Sciences

University Of Notre Dame

The University of Notre Dame has openings for Postdoctoral Scientists and Predoctoral Students with interests in the biology of human parasitic and bacterial pathogens and arthropod vectors of human diseases. Research opportunities range from molecular and cell biology, to genomics, to population genetics and field epidemiology. Positions are available through the Center's National Institutes of Health training grant, "Experimental Parasitology and Vector Biology," as well as through research grants held by individual faculty. Some postdoctoral positions and all training grant positions are restricted to US citizens or permanent residents. A list of the faculty with their research interests is shown below.

Program Faculty

John H. Adams, PhD - Molecular and Cell Biology of Malaria Parasites

Nora J. Besansky, PhD - Evolutionary and Population Genetics of Mosquitoes, Genetics of Malaria Vectors

Frank H. Collins, PhD - *Anopheles gambiae* Genomics, Genetics of Malaria Vectors, Mosquito/Parasite Interactions

Michael T. Ferdig, PhD - Genetics and Genomics of *Plasmodium*, Gene Discovery and Evolution of Drug Resistance and Virulence Traits

Malcolm J. Fraser, PhD - Transposon-mediated Germ-line Transformation of Insects, and Transposon Biology

Holly V. Goodson, PhD - Cytoskeleton and Molecular Evolution of *Giardia lamblia*

Paul R. Grimstad, PhD - Vector-Borne Disease Ecology and Epidemiology, Mosquito-transmitted Viruses

Kristin Hager, PhD - Genetics and Cell Biology of Membrane Trafficking in Parasitic Protozoa

Ronald A. Hellenthal, PhD Systematics of Ectoparasites, Computing and Informatics in Biology

Paul Helquist, PhD - Design and Synthesis of Potential Drugs for Treatment of Tropical and Rare Diseases

Mary Ann McDowell, PhD - Vertebrate Immune Responses to *Leishmania* and Other Parasites

Marvin J. Miller, PhD - Drug Design and Syntheses

Jeff S. Schorey, PhD - Immunology and Cell Biology of *Mycobacterium*-Host Cell Interactions

David W. Severson, PhD - Quantitative and Population Genetics of Mosquitoes, Mechanisms of Mosquito Refractoriness to Parasites, *Aedes aegypti* Genomics

Thomas G. Streit, PhD - Epidemiology and Control of Mosquito-transmitted Filarial and Viral Pathogens

For postdoctoral positions, contact faculty member(s) of interest by email. For predoctoral positions, send statement of interests, transcripts, and names of three references. All material should be mailed to: **Mrs. Kathleen (Merz) Cybulski, Department of Biological Sciences, P.O. Box 369, University of Notre Dame, Notre Dame, IN 46556-0369**. Faculty email addresses and a more detailed description of the Center for Tropical Disease Research and Training web site can be accessed at: **http://www.science.nd.edu/biology/programs/CTDRT**

UNIVERSITY OF MINNESOTA

Department of Biochemistry, Molecular Biology, and Biophysics
Tenure-Track Assistant Professor Positions

In conjunction with the completion of the new Molecular and Cellular Biology Building, and as part of campuswide initiatives in genomics and proteomics, the Department of Biochemistry, Molecular Biology, and Biophysics invites applications for three full-time, tenure-track Assistant Professor positions to begin on or around July 1, 2003. We seek candidates whose expertise complements existing strength in signal transduction, proteomics, genome expression, and dynamics, but investigators in all areas are encouraged to apply. For more details about the Department please consult: **http://cbs.umn.edu/BMBB/**. Successful candidates will be expected to develop strong, externally funded research programs and contribute to the undergraduate, graduate, and professional teaching programs of the department. The ability to interact collaboratively among a variety of disciplines will be strongly encouraged. All candidates must have a PhD and/or MD degree. Desired experience includes at least two years of postdoctoral experience and a strong publication record. Successful candidates will receive a substantial start-up package to establish their laboratories and a salary commensurate with education and experience. We will begin reviewing applications on October 1 and applications will be accepted until the positions are filled.

Please send curriculum vitae, a two page statement of current and future research, and three letters of recommendation that consider both research and teaching potential to the **Faculty Search Committee, c/o Ms. Ann Johnson, Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota, 6-155 Jackson Hall, 321 Church Street S.E., Minneapolis, MN 55455** or as an attachment to **swans143@umn.edu**.

The University of Minnesota is an Equal Opportunity Educator and Employer.

NICHOLAS SCHOOL OF THE ENVIRONMENT AND EARTH SCIENCES
DUKE UNIVERSITY

Nicholas Chair in Global Change

The Nicholas School of the Environment and Earth Sciences at Duke University announces a search to fill a new Nicholas chaired professorship in Global Change. We have a preference for candidates with interdisciplinary interests in one of the following areas: Biogeosciences, Climate, Ecosystem Science, Coastal Processes, Environmental Health, or Environmental Policy and Economics. Outstanding candidates from other areas will also be considered.

Please send a curriculum vitae, cover letter, and list of four references to: **Thomas J. Crowley, Chair, Search Committee, Division of Earth and Ocean Sciences, Nicholas School of the Environment and Earth Sciences, Box 90230, Duke University, Durham, NC 27708**.

The deadline for application is **January 10, 2003**. Late applications may be accepted on a case-by-case basis.

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

City of Hope

BECKMAN FELLOWS PROGRAM

Postdoctoral Research Fellowships
Beckman Research Institute of the City of Hope

The prestigious Beckman Fellows program, established by the Arnold and Mabel Beckman Foundation, provides support and resources for postdoctoral fellows to develop rapidly into independent investigators. The fellowship is designed for beginning or advanced postdoctoral fellows with strong records of accomplishment, who have a clear sense of direction and/or a novel idea they wish to develop in collaboration with one or more City of Hope investigators.

Two fellows will be selected in the current competition. Each will be provided a **salary of $55,000 per year** and a **research allowance of $55,000 per year** for supplies, equipment, travel and/or technical support. Fellowships are renewable for three years.

For applications and eligibility requirements please visit
the Beckman Fellows Web site:
http://beckmanfellows.coh.org.
For a list of potential mentors and their research interests, please visit:
http://bricoh.coh.org and go to Divisions and Programs.

Application Deadline: October 15, 2002

City of Hope is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans and disabled persons are encouraged to apply.

FACULTY POSITION
Assistant/Associate Professor
Department of Pharmacology
University of North Carolina at Chapel Hill
Post-translational Modification of Signal Transduction Proteins/ Molecular Specificity of Therapeutic Agents/ Chemical Biology

The Department of Pharmacology at the University of North Carolina at Chapel Hill invites applications for a tenure-track faculty position at the Assistant or Associate Professor level. Applicants should have a Ph.D., M.D., or M.D./Ph.D. We seek an individual who will establish a dynamic, contemporary research program in the general area of signal transduction. Strongest consideration will be given to candidates whose field of interest include the application of modern methods of mass spectrometry or other technologies to study post-translational modification of proteins, molecular specificity of therapeutic agents or the emerging field of chemical biology. The successful candidate will join a vibrant collegial department and contribute to the development of a new departmental initiative in chemical biology. Incoming faculty will be expected to establish a research program supported by extramural funding, participate in our graduate training program and teach professional students. An excellent start-up package as well as access to state of the art equipment and core facilities will be provided. Candidates should submit a curriculum vitae, statement of current and future research plans, selected recent publications and names of four references to:

Chair, Faculty Search Committee,
Department of Pharmacology,
University of North Carolina at Chapel Hill,
1106 Mary Ellen Jones Bldg.,
Chapel Hill, North Carolina 27599-7365

Application deadline is **December 15, 2002**.

The University of North Carolina at Chapel Hill is an Equal Opportunity/ADA Employer.

Create Without Bounds.

Infinity Pharmaceuticals, Inc. is an early-stage drug discovery company developing unique approaches and capabilities in diversity-oriented synthetic chemistry, state-of-the-art informatics and cutting-edge biological screening. Located in Boston and Cambridge, Massachusetts, Infinity has established access to renowned scientists, prominent entrepreneurs and business executives, leaving us poised to transform the drug discovery process. Join us in harnessing the power of science and building an exceptional culture and dare to create without bounds!

We currently have opportunities for the following:

Director of Technology Development, Biological Technologies
Head of Small Molecule Microarray Development
Small Molecule Microarray Assay Development Scientist
Systems/Process Engineer
Protein Conjugation Biochemist
Protein Biochemist, Target ID
Biochemist/Enzymologist
Director of High Throughput Screening

In addition to a company culture based on innovation, team orientation and a passion for science, Infinity Pharmaceuticals offers an exceptional benefits package, including stock options, relocation/homebuyer's assistance and 401(k). To view job descriptions and apply online for these positions and additional opportunities for **Scientists** and **Scientific Technologists**, please visit our website at www.ipi.com.

Infinity PHARMACEUTICALS

www.ipi.com

JOHNS HOPKINS BLOOMBERG SCHOOL of PUBLIC HEALTH

FACULTY POSITIONS
Johns Hopkins University
Bloomberg School of Public Health
Department of Environmental Health Sciences

The Department seeks individuals to fill two positions at the tenure track Assistant and Associate Professor levels in the Division of Toxicological Sciences. Individuals should have a strong interest in Environmental Health related issues and should be employing molecular, biochemical and/or cell biological approaches to understanding mechanisms of toxicity. Successful candidates are expected to complement the research interests of current faculty that includes mechanism-based studies of metal and oxygen radical toxicity, carcinogenesis and chemoprevention, and toxicities of xenobiotics of the nervous, pulmonary and hematopoietic systems. A broad spectrum of mechanistic toxicology candidates are encouraged to apply, although it is expected that the Associate Professor position will be filled by an individual whose research addresses aspects of xenobiotic metabolism. Review of applicants will begin December 1, 2002.

Send complete curriculum vitae, statement of research interests and a list of three references who may be contacted when appropriate to: **Ms. Kay Castleberry, Senior Grants and Administrative Coordinator, Department of Environmental Health Sciences, 615 North Wolfe Street, Room E7527, Johns Hopkins University, Bloomberg School of Public Health, Baltimore, MD 21205 or email at kcastleb@jhsph.edu.**

JHU is an Equal Opportunity Employer, and encourages interest from women and minorities and is an Affirmative Action/ Equal Opportunity Employer.

UNC LINEBERGER COMPREHENSIVE CANCER CENTER

FACULTY POSITIONS

The UNC Lineberger Comprehensive Cancer Center is searching for individuals with promising or established research programs in the broad areas of bioinformatics, cancer biology, genetics, immunology, proteomics, therapeutics and virology.

Candidates should have a Ph.D. or M.D. with a strong record of recent accomplishments as a postdoctoral fellow or sustained productivity as an established faculty member. Candidates chosen will be placed in tenure-track positions at The University of North Carolina at Chapel Hill. Primary department and rank will be determined by the applicant's qualifications. The search will be coordinated by Albert Baldwin, Ph.D., Associate Director, Basic Science.

Areas of interest include but are not limited to: bioinformatics and computational biology, stroma/tumor cell interaction, developmental and stem cell biology, angiogenesis, metastasis, tumor immunology, DNA recombination and repair, cell cycle, control of gene expression, steroid hormone receptors, molecular therapeutics, carcinogenesis, animal models of cancer, genetics of cancer predisposition and virology.

Applicants should send a curriculum vitae, a description of research plans, and three letters of reference to:

Ms. E. Melissa Stroud
UNC Lineberger Comprehensive Cancer Center, CB# 7295
University of North Carolina at Chapel Hill
Chapel Hill, NC 27599-7295

The committee will begin reviewing applications December 1, 2002.

The University of North Carolina at Chapel Hill is an equal opportunity/ ADA employer. Women and minorities are encouraged to apply.

THE OFFICE OF NAVAL RESEARCH

We are seeking qualified individuals to develop and manage sponsored basic/applied research and advanced technology programs/projects in the following areas:

PROGRAM OFFICER—CONDENSED MATTER PHYSICS
Identify emerging concepts and develop integrated programs in: fundamental physics and interactions of particles in condensed phases; magnetic, electronic, optical, structural and thermal properties and their propagation in condensed matter; engineered materials and structures; and phase transitions and equilibria processes.

PROGRAM OFFICER—ELECTRO-OPTICS, LASERS AND QUANTUM PHYSICS
Develop and manage programs in: quantum coherence and entanglement; atom interferometry; electromagnetically induced transparency; magnetometry, high energy lasers, novel photon transfer methods, and/or sub-shot noise detection.

PROGRAM OFFICER—ENGINEER, PHYSICAL SCIENCE
Develop innovative mechanical, electromechanical, electrical, and/or optical engineering programs leading to the implementation of new physical concepts, nano- and micro-structures, and/or new materials into functional components or systems.

Program officers in these areas will have the unique opportunity to foster science and technology programs to impact future Naval interests in novel power sources and energy transfer, navigation and timekeeping, and environmentally compliant technologies, and science and technology for the future electric Navy. In addition, ONR program officers shape future Naval Forces by identifying new technology options emerging from diverse scientific communities.

A diverse, talented workforce is ONR's most important resource. We place emphasis on attracting, enabling and retaining talent. ONR considers all employees to be leaders within their area of expertise. Program officers are encouraged to enhance individual expertise through team activities. ONR offers competitive salaries, metro transit subsidy and an excellent benefits package. Our Headquarters is located in Arlington, Virginia. Intangible benefits at ONR include such amenities as convenient parking, a fitness center, and close proximity to day care, shopping, restaurants, and museums.

Positions are Federal Civil Service GS-13, 14, or 15 ($66,229-$119,682). To apply, view our job postings at http://www.onr.navy.mil/hr. For technical information contact Dr. John Pazik at (703) 696-4404.

U.S. CITIZENSHIP REQUIRED AN EQUAL OPPORTUNITY EMPLOYER

Norris Cotton Cancer Center
Dartmouth Medical School

Cancer Research Scientists

The Cancer Center at Dartmouth, one of 40 NCI-designated comprehensive cancer centers, invites applications for tenure track faculty positions at the level of Assistant Professor. Construction of a new multidisciplinary cancer research center with laboratories and clinical facilities is underway, and is slated for completion in the summer of 2003. We seek interactive scientists with research interests in any area of the basic and translational sciences relevant to the study of cancer. In addition to an appointment in the Cancer Center, recruited faculty will receive primary appointments in an appropriate department of Dartmouth Medical School, and will have teaching, clinical, and administrative opportunities and responsibilities that reflect their interests and institutional needs.

Interested applicants should submit a letter of application with a statement of career goals and a curriculum vitae to: **Dr. Mark Israel, Director, Norris Cotton Cancer Center, One Medical Center Drive, Lebanon, NH, 03756**. Letters of recommendation from three individuals should be sent to the same address. Review of applications will commence on November 1, 2002.

Dartmouth Medical School is an EO/AA employer and encourages women and minority candidates to apply.

Faculty Positions In Cellular Biochemistry & Biophysics

We seek candidates for a tenure-track faculty position in the Cellular Biochemistry & Biophysics Program. Applications are invited from candidates with an outstanding record of research achievements in structural biology. The applicant's research program may involve any area of structural biology including x-ray crystallography and NMR spectroscopy. The Program faculty includes cell biologists, biochemists and structural biologists with interest in diverse areas of biology such as intracellular transport, cell adhesion, signaling pathways in cell growth and differentiation and nucleic acid structure and function.

Applicants should submit by October 15, 2002, a curriculum vitae, a summary of research interests, and should arrange to have three letters of recommendation sent to: **Fran Berman, Cellular Biochemistry & Biophysics Program, Box 135, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021.** EOE/AA

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

Faculty Positions Department of Biology

The Biology Department of Case Western Reserve University is seeking to fill two positions at the Assistant Professor level. One position is in the area of **Ecophysiology** (floral or faunal systems). Applicant interests for the second position must include application of **Computational** or **Mathematical** methods to problems in one of our three primary focus areas, Ecology, Neuromechanics and Neurobiology, and Tissue Engineering and Developmental Biology.

Successful candidates will be expected to lead a strong independent extramurally funded research program as well as develop and teach courses at the undergraduate and graduate level.

Applicants should send a current curriculum vitae and have three letters of recommendation sent directly to the Biology Department. Applicants should also submit a letter that describes their research and teaching interests. Applications should be received by October 25, 2002 to receive full consideration. Searches will remain open until the positions are filled. Availability of candidates could alter planned hiring priorities. Applications, nominations, and inquiries should be directed to:

CWRU

Joseph F. Koonce
Chair Department of Biology
Case Western Reserve University
Cleveland, OH 44106-7080
Phone: 216-368-3557, Fax: 216-368-4672
E-mail: jfk7@po.cwru.edu.

In employment as in education, CWRU is committed to affirmative action and equal opportunity.

The Kids Cancer Care Foundation Chair in Pediatric Oncology

UNIVERSITY OF CALGARY

Creating the future of health.

The **Faculty of Medicine** invites applications and nominations for The Kids Cancer Care Foundation Chair in Pediatric Oncology. This Chair has been made possible with endowed support from the Alberta Cancer Foundation and the Alberta Children's Hospital Foundation – through gifts received from the Kids Care Cancer Foundation, Burlington Resources Canada Ltd., and the Steve Fonyo Fund.

The successful candidate will be a senior clinical or basic science investigator with a distinguished international reputation in childhood cancer research and proven leadership in the field. The selected candidate will provide leadership in the development and maintenance of an international calibre research program in Pediatric Oncology; attract and maintain peer reviewed funding; promote interdisciplinary care and collaborative research; and attract outstanding students, research associates, and faculty interested in cancer care and research pertaining to children and adolescents.

Calgary is a vibrant, multicultural city of ~1,000,000 near the Rocky Mountains, Banff National Park and Lake Louise. The Faculty is in the process of building a major new research facility, and the Calgary Health Region plans to open a new world-class pediatric health care facility by 2005. This new facility will link the Alberta Children's Hospital with the research and teaching strengths of the University of Calgary and the technology and medical expertise of the Foothills Hospital and Tom Baker Cancer Centre.

Please submit a curriculum vitae, a statement of research interests and goals, and the names of three referees by **December 6, 2002**, to:

Dr. D.G. Gall, Dean, Faculty of Medicine, Chair, Selection Committee, 3330 Hospital Drive N.W., Calgary, Alberta, Canada T2N 4N1

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.
The University of Calgary respects, appreciates and encourages diversity.

www.ucalgary.ca

MICROBIOLOGY
Professorship, Georgia Institute of Technology

The School of Biology at Georgia Tech has entered a growth phase that has created extraordinary opportunities. An Endowed Chair is expected in microbiology. Applications and nominations are invited for candidates who have achieved international prominence in areas such as microbial genetics, microbial ecology or microbial physiology. Candidates employing genomic or proteomic approaches are particularly encouraged to apply. The individual selected will be expected to maintain a vigorous research program, provide leadership in faculty recruitment and participate in undergraduate and graduate educational programs.

Applicants should provide a curriculum vitae and a statement of research and teaching interests and arrange to have three letters of reference sent to:

Dr. Thomas J. DiChristina, Chair, Search Committee
Professorship in Microbiology
School of Biology
Georgia Institute of Technology
310 Ferst Drive
Atlanta, Georgia 30332-0230

For further information refer to the School of Biology web page at **http://www.biology.gatech.edu** or contact the Search Committee Chair by e-mail (**thomas.dichristina@biology.gatech.edu**) or phone (**404-894-8419**). The search will begin immediately and continue until the position is filled.

Georgia Tech is a unit of the University System of Georgia and an Affirmative Action/Equal Opportunity Employer.

New Research Initiative at NIH Endocrine Pancreas / Beta Cells - Tenure Track Positions

With nation-wide responsibility for improving the health and well being of all Americans, the Department of Health and Human Services oversees the biomedical research programs of the National Institutes of Health and those of NIH's research Institutes. The Diabetes Branch of the National Institutes of Diabetes, Digestive and Kidney Diseases (NIDDK), National Institutes of Health (NIH) invites applications for tenure track positions for scientists interested in research involving the endocrine pancreas/beta cells of the Islets of Langerhans. Specific areas of research interest include: pancreatic islet stem/progenitor cells; beta cell development; regulation of beta cell gene expression; and beta cell signaling. Priority will be given to applicants at the Assistant Professor level at traditional universities or those finishing their post-doctoral positions. The applicant must have a proven record of accomplishments and will be expected to propose and pursue an independent research program in one of these fields. The position offers unparalleled opportunities for interdisciplinary collaboration within NIDDK and throughout NIH.

The Diabetes Branch of NIDDK is located on the main intramural campus of the NIH in Bethesda, Maryland, a suburb of Washington, D.C.

Interested applicants should send a Curriculum Vitae and list of publications, copies of three major publications, a summary of research accomplishment, a plan for future research and three letters of recommendations to Dr. Jurrien Dean, Chair, Search Committee, Laboratory of Cellular and Developmental Biology, NIDDK, Building 50, Room 3134, NIH Bethesda, MD 20892-8028

NIH and DHHS are equal opportunity employers.

Closing Date: November 15, 2002

NIDDK NATIONAL INSTITUTES OF HEALTH DEPARTMENT OF HEALTH & HUMAN SERVICES USA

ASSISTANT/ASSOCIATE PROFESSOR
Biology Position

The Biology Department at Southern Connecticut State University in New Haven, Connecticut, invites applications for a full-time, tenure-track Assistant/Associate Professor position starting in fall 2003. We seek a General Zoologist, Cell/Molecular Biologist with a strong commitment to teaching and research on both the undergraduate and graduate levels. The candidate will teach undergraduate courses in general zoology, cell biology, and developmental biology and graduate courses in cell physiology and molecular and developmental genetics. In addition, the candidate is expected to pursue an active research program that provides opportunities for undergraduate students and students working towards their M.S. in biology.

Minimum requirements include a Ph.D. in biology or cell/molecular biology with a strong commitment to teaching undergraduate and graduate students. The successful candidate will teach 12 weighted contact hours a week, hold five office hours, actively participate in our general biology program, engage in continued professional development, and assist with Department and university service.

Applicants should submit (1) letter of application highlighting relevant experience, (2) a résumé, and (3) letters of recommendation from three professional references. Please have all materials mailed to: **Dr. Dwight G. Smith, Chairman, Biology Department, Southern Connecticut State University, New Haven, CT 06515**. Closing date for applications is December 15, 2002. *SCSU is an Equal Opportunity Employer/Affirmative Action Employer. Minorities and women encouraged to apply.*

ASSISTANT PROFESSOR
PLANT ECOLOGIST

The Department of Biological Sciences at Kent State University invites applications for a tenure-track position to begin fall 2003. A Ph.D. and postdoctoral experience in plant biology are required. Preference will be given to candidates who use state-of-the-art approaches to address conservation issues or evolutionary questions in aquatic systems or wetland communities. Candidates are expected to develop a vigorous, extramurally funded research program and to supervise Ph.D. and M.S. students. Teaching responsibilities may include general botany or local flora and a graduate-level course in the candidate's area of expertise. Review of applications will begin October 28, 2002, and continue until the position is filled. Applications will be accepted throughout the process. To apply, please submit curriculum vitae, statement of research and teaching interests, representative reprints, and three letters of reference to: **Chair, Plant, Ecologist Search Committee, Department of Biological Sciences, Kent State University, 256 Cunningham Hall, Kent, OH 44242**. *Kent State University is an Equal Opportunity/Affirmative ActionEmployer.*

TENURE-TRACK FACULTY POSITION

The Boston College Biology Department invites applicants to fill a tenure-track faculty position in the area of bioinformatics/computational biology at the level of **ASSISTANT PROFESSOR** or at a more senior level in conjunction with an initiative to build a bioinformatics program. We will consider candidates who focus primarily on theoretical approaches *in silico* as well as those who combine laboratory investigations with the development and use of bioinformatic tools. We expect the appointee to establish an externally funded, independent research program and to contribute to graduate and undergraduate training. For more information on our department, see **website: http://www.bc.edu/schools/cas/biology/.** Send curriculum vitae, brief descriptions of research plans and teaching interests, three recent publications, and confidential recommendation letters from three or more individuals to: **Dr. Peter Clote, Chair, Bioinformatics Search Committee, Biology Department, Boston College, 140 Commonwealth Avenue, Chestnut Hill, MA 02467**. Review of applications begins December 10, 2002, and will continue until the position is filled. *Boston College is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

TENURE-TRACK FACULTY POSITION
University of Pittsburgh School of Medicine
Department of Pharmacology

An opening is available for a tenure-track faculty position in the Department of Pharmacology. The ideal candidate will be a research-oriented individual who has a Ph.D. or equivalent graduate degree. We are particularly interested in individuals with a research program focused on neuropharmacology who will complement the existing departmental strengths in cell signaling, cell death, cancer pharmacology, and drug discovery. Applicants appropriate for appointment at the **ASSISTANT PROFESSOR** level will be given priority in this search.

We expect the successful candidate will develop outstanding independent research programs and will be committed to the teaching mission of the Department. Very competitive start-up packages are available. Interested applicants should provide a one-page statement on their proposed research, curriculum vitae, and the names and contact information of three professional references. The review of applications will begin immediately, and we expect to fill these positions by spring 2003. Application should be sent to:

Ian J. Reynolds, Ph.D.
Chair, Faculty Search Committee
Department of Pharmacology
University of Pittsburgh, School of Medicine
W1340 Biomedical Science Tower
Pittsburgh, PA 15261

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

DEVELOPMENTAL/CELL BIOLOGIST,
Environmental Biologist, Biochemist,
Experimental Physical Chemist
Rowan University

The Department of Biological Sciences and Chemistry/Physics at Rowan University announce openings for four tenure-track positions: (1) Developmental/Cell Biologist, (2) Environmental Biologist, (3) Biochemist, (4) Experimental Physical Chemist. Applicants for these positions should have completed Doctoral work in the appropriate field, demonstrate the ability to conduct independent research, and possess a strong interest in and commitment to undergraduate education including involving undergraduates in research. For a detailed description of the duties and application procedures, please visit **website: http://www.rowan.edu/jobs**. Review of applications will begin November 15, 2002, and continue until the positions are filled. For more information on each department, go to **websites: http://www.rown.edu/mars/depts/biology/biohome.htm** or **http://www2.rowan.edu/chemphys/**. *Rowan University is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR/AQUATIC BIOLOGY (F–36). Tenure-track position to start September 1, 2003. Ph.D. in aquatic biology or related field and a demonstrated commitment to teaching and research required. Postdoctoral experience preferred. The successful candidate will be expected to help in developing a new interdisciplinary program in aquatic science. Responsibilities include teaching graduate and undergraduate courses in aquatic biology, participating in other biology courses as appropriate, and developing an extramurally funded research program that involves students. Candidates should send a letter of application, curriculum vitae, statement of teaching and research philosophy, and list of at least three references. Position subject to available funding. Screening begins immediately and continues until position is filled. Send applications to: **Dr. Bonnie Lustigman, Chair, Department of Biology and Molecular Biology, Montclair State University, Upper Montclair, NJ 07043**. *Montclair State is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

The Psychology Department at Colorado College invites applications for a tenure-track **ASSISTANT PROFESSOR** specializing in the following areas: neurophysiology, psychopharmacology, personality, health. Candidates are expected to teach undergraduate courses in both the psychology and neuroscience majors. Specifically, candidates will teach introductory psychology, research design, and neurophysiology as well as other courses related to their area of expertise. Preference will be given to applicants who are also capable of teaching a course within the interdepartmental biochemistry program. Applicants must be gifted teachers and must establish a state-of-the-art research program that actively involves students. The Psychology Department will be moving into a new, state-of-the-art science building during the 2003–2004 academic year. The selected candidate will have the opportunity to design his/her own laboratory space in this new complex. A Ph.D. is required at time of appointment. Deadline for all materials is January 6, 2003. Send letter of application, curriculum vitae, copies of graduate transcripts, statements of teaching and research experience and interests, and three letters of recommendation to: **Bob Jacobs, Department of Psychology, Colorado College, 14 East Cache La Poudre, Colorado Springs, CO 80903.** Relevant departmental and program information can be found at the following **websites: Psychology: http://www.coloradocollege.edu/Dept/PY/; Neuroscience: http://www.coloradocollege.edu/IDProg/Neuroscience/.**

Colorado College is an Equal Opportunity Employer and is committed to increasing the diversity of the college community. Candidates who can contribute to that goal are particularly encouraged to apply and to identify their strengths or experiences in this area.

TENURE-TRACK ASSISTANT PROFESSOR
Genomics/Complex Genetic Disorders
University of Pennsylvania

The University of Pennsylvania invites candidates to apply for a tenure-track Assistant Professor position in medical and comparative genetics. The academic appointment will be in the School of Veterinary Medicine as a member of the Center for Comparative Medical Genetics, which is an integral part of a large biomedical campus including the new Penn Genomics Institute. The new faculty member is expected to develop an independently funded research program on the genetic basis of animal models of human disease. This area is especially suitable for someone trained in the use of large-scale genome mapping and analysis, functional genomics, or other new methods. Candidates should have a Ph.D. and/or V.M.D. or equivalent degree and advanced scientific training in a relevant area. Applications are requested by November 1, 2002, including curriculum vitae; summary of current research activities; plans for future research; and list of three references to: **Comparative Medical Genetics Search Committee, School of Veterinary Medicine, University of Pennsylvania, 3900 Delancey Street, Philadelphia, PA 19104**. E-mail attachments to **e-mail: ccmg@mail.vet.upenn.edu**. *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.*

Eastern Illinois University invites applications for a tenure-track **ASSISTANT PROFESSOR** position in biochemistry in the Department of Chemistry beginning August 2003. A Ph.D. in biochemistry or related area and potential for excellent teaching and establishing a vigorous, externally funded research program involving undergraduate and graduate (M.S.) students are required. Postdoctoral experience is preferred. Submit letter of application, curriculum vitae, research plan, teaching philosophy, undergraduate and graduate transcripts, and arrange to have three letters of reference sent to: **Dr. Norbert C. Furumo, Department of Chemistry, Eastern Illinois University, 600 Lincoln Avenue, Charleston, IL 61920. Telephone: 217-581-3119; e-mail: cfncf@eiu.edu**. For further information, visit **website: http://www.eiu.edu/~eiuchem/search**. Application review begins November 15, 2002, and continues until the position is filled *Affirmative Action/Equal Employment Opportunity.*

www.jcu.edu.au

School of Marine Biology and Aquaculture

Townsville

The School of Marine Biology and Aquaculture at James Cook University is the leading marine research group in Australia with excellent facilities, including laboratory and recirculating systems, aquarium facilities and a tropical field station.

Lecturer in Aquaculture

Reference number 2145

The School is seeking a Lecturer to build on its strengths in Tropical Aquaculture, a substantial component of its teaching and research programs. The Discipline has internationally recognised strengths in nutrition, physiology and propagation, a strong publication record, and is highly successful in gaining competitive research funding. Excellent candidates with an outstanding record in research, research funding, undergraduate teaching and postgraduate supervision are sought. Expertise in an area of research complementary to existing strengths of the School, and especially the Discipline of Aquaculture is required. Candidates with research strengths in physiology will be given preference. The appointee will be required to provide academic and research leadership in his/her field of expertise and participate in undergraduate and postgraduate teaching.

Enquiries to: Associate Professor Rocky de Nys, telephone +61 7 4781 4412, e-mail Rocky.Denys@jcu.edu.au

Employment Type: Appointment will be full-time on an on-going basis subject to a probationary period.

Salary: Lecturer - Academic Level B - $52,374 - $61,972 per annum. Benefits include employer superannuation contribution and attractive options for salary packaging.

Applications close 25 October 2002.

Postdoctoral Research Fellow

(Four Positions) - Reference number 2146

The Centre of Coral Reef Biodiversity (http://www.jcu.edu.au/school/mbiolaq/ccrbio/) seeks applicants for four postdoctoral fellowships to join Centre staff engaged in the study of global reef biodiversity. We are interested in candidates with expertise in any relevant field, especially macroecology, evolutionary biology, biogeography, functional biology, paleontology, molecular biology, ecological economics and statistical modelling.

Enquiries to: Professor Terry Hughes, e-mail Terry.Hughes@jcu.edu.au attaching a one page outline of proposed research, CV (including publications list), and contact details of three referees.

Employment Type: Appointments will be full-time for a fixed term of up to three years subject to a probationary period.

Salary: Postdoctoral Research Fellow - Academic Level A - $46,487 - $49,814 per annum. For appointments exceeding two years, benefits include employer superannuation contribution and attractive options for salary packaging.

Applications close 15 November 2002

Information packages including selection criteria and application procedures may be obtained from http://jobs.jcu.edu.au/ or by contacting the Recruitment Officer, Faculty of Science and Engineering, James Cook University, Townsville Qld 4811. Telephone: +61 7 4781 6834; Facsimile: +61 7 4781 6844; e-mail Terri.Williamson@jcu.edu.au

Please quote the appropriate reference number.

Equal Opportunity in Employment is University Policy.

The University reserves the right to appoint by invitation or not to make an appointment.

UJCETW0636

>>Always thinking ahead>>

JAMES COOK UNIVERSITY

JCU

MIT

FACULTY POSITIONS

DEPARTMENT OF BRAIN AND COGNITIVE SCIENCES

MIT's Department of Brain and Cognitive Sciences anticipates making two faculty appointments in cognitive science or cognitive neuroscience. The level of the appointments is open, but at least one will be at the Assistant Professor level. Applicants should be conducting cognitive science or cognitive neuroscience research with humans in the areas of vision, learning, memory, attention, motor control, language, knowledge representation, development, or computational modeling of cognition. Applications should identify the area for which the individual is applying, as well as describe the candidate's research and teaching interests.

Please enclose a CV and representative reprints and arrange to have three letters of recommendation sent to the search committee. Review of applications will begin October 15, 2002. Send applications to: **Cognitive Search Committee, E25-406, MIT, Cambridge, MA 02139.** Qualified women and minority candidates are especially encouraged to apply.
http://web.mit.edu/bcs/jobs.html

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
An Equal Opportunity/Affirmative Action Employer
Non-Smoking Environment
web.mit.edu/personnel/www

Assistant Professor
Department of Cell Biology
Harvard Medical School

The Department of Cell Biology invites applications for a tenure track position at the rank of Assistant Professor. We seek outstanding individuals working on fundamental problems in cell and developmental biology.

Applicants should send their c.v., a 1-page summary of previous research contributions and a 1-page description of plans for future work. Applicants should arrange to have 3-5 letters of recommendation sent to the search committee.

Send all materials to:

Faculty Search Committee
Department of Cell Biology
Harvard Medical School
240 Longwood Ave
Boston MA 02115 USA

Review of applications begins **October 15, 2002**.
http://cellbio.med.harvard.edu/

Harvard is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

FACULTY POSITION FOR MOUSE BIOLOGIST
Department of Biochemistry and Molecular Biology

The Department of Biochemistry and Molecular Biology at Baylor College of Medicine invites applications for a **TENURE-TRACK FACULTY POSITION**. We are seeking outstanding candidates who use mice as model systems to investigate modern aspects of development, organ formation, stem cell biology, systems biology, metabolism, and disease. The Department of Biochemistry and Molecular Biology wishes to build on its research strengths in molecular genetics, developmental biology, cell biology, signal transduction, genomics, and structural biology. Baylor College of Medicine is a national center of mouse genetics with a very large, well-staffed, modern vivarium and several excellent core facilities for producing transgenic and ES cell-derived mice, for mouse imaging, and for analyzing DNA microarrays. As part of the Texas Medical Center, Baylor, is a focal point for oustanding basic research and clinical science and actively encourages interinstitutional and cross-departmental collaboration. Candidates should send their curriculum vitae; preprints and reprints of significant work; a statement of present and future research activities; and arrange to have three letters of recommendation forwarded by December 1, 2002, to: **John H. Wilson, Ph.D., Search Committee Chair, c/o Sylvia Ledesma, Department of Biochemistry, MS 357A, Bayor College of Medicine, One Baylor Plaza, Houston, TX 77030.**

Baylor College of Medicine is an Equal Opportunity/Affirmative Action/Equal Access Employer.

FACULTY POSITION

The Department of Pathology and Laboratory Medicine at Drexel University's College of Medicine has several tenure-track faculty openings at the **ASSISTANT** and **ASSOCIATE PROFESSOR** levels. The Department is developing an emphasis on understanding neoplastic processes at the molecular level. Areas of interest include but are not limited to angiogenesis/lymphangiogenesis, molecular profiling, protein/DNA interactions, gene discovery, and molecular diagnostics of neoplasms related to the prediction of clinical outcomes and the development of novel therapies. Candidates must have an M.D. and/or Ph.D. with postdoctoral experience and record of publications. Faculty will be expected to develop an independent research program that will attract extramural funding and participate in teaching graduate and medical students. Interested candidates should submit curriculum vitae, statement of research interest, and names of three references to:

James M. England, M.D./Ph.D.
Professor and Chair
Department of Pathology and Laboratory Medicine
MCP Hahnemann School of Medicine
245 North 15th Street, Mail Stop 435
Philadelphia, PA 19102-1192
E-mail: james.england@drexel.edu

MCP Hahnemann University is an Equal Opportunity/Affirmative Action Employer.

MOLECULAR ECOLOGY/EVOLUTION: tenure-track **ASSISTANT PROFESSOR**. We will consider all strong applicants but are especially interested in those working in coevolution, symbiosis, microbial chemical signaling, or host-pathogen interactions. Review of applications will begin November 1, 2002. Send curriculum vitae, letter of application, a statement of teaching and research interests, and three letters of reference to: **Chair, Molecular Ecology/Evolution Search, School of Biology, Georgia Institute of Technology, Atlanta, GA 30332-0230**. For further information about the School and faculty, see **website: http://www.biology.gatech.edu.** *Georgia Tech, a unit of the University System of Georgia, is an Equal Education and Employment Opportunity Institution.*

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOLOGY (ANIMAL PHYSIOLOGY)
Bates College

The Department of Biology at Bates College, a highly selective liberal arts institution of 1,700 students, has a tenure-track Assistant Professor position open for an Animal Physiologist beginning September 2003. The animal physiology position is one of nine full-time faculty positions in biology. Our Animal Physiologist will teach an advanced form- and function-based lecture and laboratory course in animal physiology, participate in the Department's core curriculum, and teach one or more additional courses at the introductory and advanced levels. These might include but are not limited to animal behavior, biomechanics, animal locomotion, ornithology, exercise physiology, ecophysiology, reproductive physiology, or sex-based differences in physiology. Candidates are expected to have expertise in both laboratory and field-based work. The successful candidate is expected to seek extramural funding and to conduct an active research program involving Bates students and focused at the tissue to organism level. A Ph.D. is required; postdoctoral training is desirable.

Bates College is located in southern Maine, two and one-half hours from Boston, Massachusetts, and 45 minutes from Portland, Maine, in the city of Lewiston, known for its Franco-American cultural influence and proximity to scenic mountains and beautiful coastline. Since its founding in 1855, the College has been coeducational and enrolled students of various religious and racial/ethnic groups. The institution has an accomplished faculty of 170 from a wide range of disciplines teaching in 24 departments and 8 interdisciplinary programs. Biology faculty contribute to a variety of interdisciplinary programs including biological chemistry, women and gender studies, neuroscience, and environmental studies. The College views research as essential scholarship and as an excellent method of teaching and currently provides opportunities for modest financial support for faculty/student collaboration. Additional information is available at **website: http://www.bates.edu**. Review of applications begins October 20, 2002, and will continue until the position is filled. Applicants should submit a cover letter, curriculum vitae, statement of teaching philosophy and interests, research statement, graduate and undergraduate transcripts, and three letters of recommendation to:

Physiology Search Committee (Number R2303)
c/o Bates College Academic Services
2 Andrews Road, 7 Lane Hall
Lewiston, ME 04240

Bates College values a diverse college community and seeks to assure Equal Opportunity through a continuing and effective Affirmative Action Program.

BIOPHYSICS

Whitman College invites applications for a tenure-track position in biophysics at the **ASSISTANT PROFESSOR** level to begin in August of 2003. Ph.D. in physics, biophysics, or a closely related field required. The successful candidate will be expected to excel in teaching physics and biophysics courses and to develop a research program in biophysics involving undergraduate students. One emphasis of the position will be to assist in the development of a new interdisciplinary major program: Biochemistry, Biophysics, and Molecular Biology. Please send curriculum vitae, a statement of your teaching philosophy, a description of the research program you would pursue, undergraduate and graduate transcripts, and three letters of recommendation to: **Mark Beck, Chair of the Search Committee, Department of Physics, Whitman College, 345 Boyer Avenue, Walla Walla, WA 99362**. Applications received by December 2, 2002, will be given full consideration. Send questions to: **Mark Beck; e-mail: beckmk@whitman.edu**. *Candidates must be lawfully employable in this country as a result of citizenship, visa, or resident alien status. Whitman College is building a diverse academic community and encourages women, minorities, and people with disabilities to apply.*

POSITIONS OPEN

THE UNIVERSITY OF TOLEDO

The Department of Chemistry at The University of Toledo invites applications or nominations for tenured or **TENURE-TRACK FACULTY POSITIONS** in physical chemistry and X-ray crystallography to complement existing department strengths. These positions are in addition to previously advertised faculty openings in analytical and organic chemistry and are part of a planned, multiyear expansion program. The Department has focused research interests in biological chemistry and materials chemistry; individuals with expertise in these areas are particularly encouraged to apply. The successful candidates will have a Ph.D. degree in chemistry or a related field; will be expected to have or to develop a vigorous, externally funded research program at the Doctoral level; and to have a commitment to excellence in teaching at both the undergraduate and graduate level. The University of Toledo is a comprehensive state institution located in a suburban community with an enrollment of approximately 20,000 students. The University offers competitive salaries and an excellent benefits package to its faculty. Further information on these positions, the new research facilities for chemistry (Wolfe Hall), and the Instrumentation Center at The University of Toledo is available at **website: http://www.chem.utoledo.edu**. Senior applicants should send their curriculum vitae and a summary of research accomplishments; junior level applicants should also send a research plan and arrange for three letters of recommendation to be sent to: **Chair, Faculty Search Committee, Department of Chemistry, The University of Toledo, 2801 West Bancroft Street MS 602, Toledo, OH 43606**. Review of applicants will begin on November 7, 2002, and continue until suitable candidates have been identified. *The Department encourages applications from minorities, women, and persons with disabilities. The University of Toledo is an Affirmative Action/Equal Opportunity Employer; Minorities/Females/Disabled/Veterans.*

FACULTY POSITIONS DIABETES RESEARCH
Vanderbilt University Medical Center

Applications are invited for full-time **TENURE-TRACK POSITIONS** at the faculty level in the Diabetes Research and Training Center. The focus of the DRTC, an NIH-designated diabetes research center, is to make discoveries in genetics, cell biology, biochemistry, structural biology, and immunology of diabetes and translate them into novel modalities for prevention, diagnosis, and treatment.

Recruitment interest areas include molecular and cellular immunology, molecular biology of islet beta stem and progenitor cells, beta cell biology, islet cell transplantation, insulin resistance, complications, genetics, and genomics of protemics. Development of extramural funding for an independent program is expected. Candidates must have an M.D. and/or Ph.D. degree and an active research program. Individuals engaged in clinical or translational research related to diabetes are also encouraged to apply. Primary department affiliation and faculty rank will be determined by the applicant's qualifications. Applications containing curriculum vitae; statement of research goals; and three reference letters should be sent by November 1, 2002, to: **Deborah C. Brown, 702 Light Hall, Vanderbilt Medical School, Department of Molecular Physiology and Biophysics, Nashville, TN 37232-0615**.

Vanderbilt University is an Affirmative Action/Equal Opportunity Employer.

PLANT SYSTEMATICS

The Department of Biology at Southwest Missouri State University (Springfield) invites applications for a tenure-track position in plant systematics at the level of **ASSISTANT PROFESSOR** starting 11 August 2003. See **website: http://biology.smsu.edu** for details. Review of applications will begin fall 2002 and is ongoing until the position is filled. Address inquiries to: **Dr. John Heywood; e-mail: johnheywood@smsu.edu; Telephone: 417-836-5149; FAX: 417-836-4204**.

Pacific Northwest National Laboratory

Operated by Battelle for the U.S. Department of Energy

Director
Computational Sciences & Mathematics

Pacific Northwest National Laboratory (PNNL), located in the southeastern Washington State city of Richland, is a U.S. Department of Energy (DOE) Office of Science multi-program research laboratory operated by Battelle Memorial Institute. PNNL has distinct signatures and substantial expertise, research programs and facilities in the chemical and molecular sciences, process science and engineering, systems biology and biotechnology, nuclear science and engineering, and in the computational sciences. PNNL researchers pioneered the implementation of topical high-performance computing for the chemical and molecular sciences.

The Computational Science and Mathematics Division (CSMD) is the focal point at PNNL for basic and applied research in computer science, mathematics, statistics and the application of tera-scale computing to scientific discovery in a number of areas, including chemistry, biology, subsurface science, and climate modeling and simulation. CSMD researchers are engaged in collaborations across the Laboratory and with groups at other DOE Labs and universities. The computational infrastructure at PNNL is state-of-the-art and includes world's fastest and largest Linux cluster with 9.2 Teraflop theoretical peak performance, manufactured by Hewlett Packard.

We are seeking a Director of the Computational Sciences & Mathematics Division who will provide scientific and technical leadership and will manage the resources of the division. The Director will reach out to scientists and engineers in CSMD and across the Lab to develop the direction of the Computational Sciences and Mathematics programs at PNNL, secure support from the DOE Office of Advanced Scientific Computing Research and from other agencies for the research effort, and build strategic partnerships in the Pacific Northwest and beyond. The Director will manage PNNL discretionary investments in computational science, computer science and applied mathematics, and in computational facilities.

The successful candidate must have experience in the following areas:

- Ph.D. in the natural sciences, mathematics, computer science or engineering sciences
- At least 8 years experience beyond the PhD and postdoctoral level, with an established research career and national reputation in mathematics, computer science, or computational science
- Demonstrated success in developing a productive and impactful research programs in mathematics, computer science, computational science, or related fields
- Experience or knowledge of DOE programs in scientific computing research
- Strong knowledge of issues and emerging trends in computational sciences with a particular focus on high-end computing

Salary and benefits are highly competitive. Interested individuals should submit their resume to http://jobs.pnl.gov/jobs.asp?req=104689

PNNL is an EEO/AA employer and values diversity in the workplace. F/M/D/V are encouraged to apply.

GLOBAL OPPORTUNITIES

U.S. - Israel Binational Science Foundation

invites applications for an

Executive Director

The U.S. - Israel Binational Science Foundation (BSF) was established in 1972 to support cooperative science research projects between U.S. and Israeli scientists. The office of the BSF is located in Jerusalem, Israel. Thus, the Executive Director is required to work in Jerusalem. According to the agreement signed by the Governments of the United States and Israel:

(a) The Executive Director shall report to the BSF Board of Governors.
(b) The Executive Director shall be the chief executive officer of the Foundation. He/she shall be responsible for the operations and staffing of the Foundation. He/she shall act in accordance with the policies, directives and delegations of the Board.
(c) The Executive Director shall be a person of outstanding ability, prominent in the scientific and administration fields. He/she shall be appointed by the Board of Governors under a contract for three years, with such compensation and under such terms and conditions as may be determined by the Board of Governors.
(d) BSF's business is conducted in English.

Candidates must be well acquainted with the Israeli and U.S. academic research systems and the current proposal review procedures. He/she should have a proven scientific record, as well as administrative experience in the management of scientific research programs.

Applications, including curriculum vitae, summary of past accomplishments and names of references should be sent, by February 1, 2003, to: **Mr. Y. Bartura, BSF Office, P.O. Box 7677, Jerusalem 91076, Israel**.

Applicants should be able to assume responsibilities not later than **February 1, 2004**. Additional information on the BSF can be found: **http://www.bsf.org.il**

THE OHIO STATE UNIVERSITY

FACULTY POSITION IN BIOCHEMISTRY

The Ohio State University

The Department of Biochemistry at The Ohio State University invites applications for a **Tenure-Track Faculty Position**, preferably at the Assistant Professor level, as part of a multi-year effort involving several hires to develop excellence in structural biochemistry. Macromolecular structure/function, folding and assembly, and protein-protein and protein–nucleic acid interactions in the post-genomics/proteomics era are themes that are being developed to complement the current research interests of our faculty (http://www.biosci.ohio-state.edu/~biochem). All highly qualified candidates will receive consideration, but preference at this time will be given to those with research interests in the study of protein-protein or other biomolecular interactions utilizing state-of-the-art physical biochemical approaches including, but not limited to, X-ray crystallography, NMR spectroscopy, or mass spectrometry.

The candidate should have a Ph.D. degree or its equivalent with a solid background in biochemistry, at least two years of postdoctoral experience, and a strong record of accomplishment. A commitment towards developing an independent and creative research program supported with extramural funds and to excellence in teaching at both the graduate and undergraduate levels is essential.

Please send a curriculum vitae, a summary of research accomplishments, and a three-page description of future research plans to the **Faculty Search Committee, Department of Biochemistry, The Ohio State University, 484 West 12th Avenue, Columbus, OH 43210.** Candidates should also arrange for three letters of recommendation to be sent to the department. Review of applications will begin November 15, 2002 and continue until the position is filled.

OSU is an Equal Opportunity/Access and Affirmative Action Employer

The Biology Department at Concordia University invites applications for two faculty positions in genomics. One, at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level, requires a Ph.D. with postdoctoral experience. The second, a **SENIOR CANADA RESEARCH CHAIR**, is suitable for an established Researcher. This appointment will be made at the Associate or Full Professor level, and the successful applicant will be expected to play a leading role in the expansion of genomic research and education in the University. Both positions require the establishment of an externally funded research program. Preference will be given to individuals who use genomic approaches to study fundamental and/or applied problems in biology. The Department contains a state-of-the-art Centre for Structural and Functional Genomics. Applications should consist of a letter of intent, curriculum vitae, a list of publications, a statement of teaching and research interests, and three letters of reference. Review of applications will begin on November 1, 2002, and continue until the position is filled. Applications should be sent to: **Dr. Claire Cupples, Chair, Biology Department, Concordia University, 1455 de Maisonneuve Boulevard West, Montreal, QC H3G 1M8 Canada. Telephone: 514-848-3390; e-mail: biochair@alcor.concordia.ca**. *In accordance with immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. However, all applicants are welcome to apply. For Canada Research Chair appointments, applications are welcome from Canadian citizens and citizens of other countries. Concordia University is committed to Employment Equity and encourages applications from women, aboriginal peoples, visible minorities, and disabled persons.*

FACULTY POSITION
Developmental Biology

The Department of Biology at Coastal Carolina University invites applications for an **ASSISTANT PROFESSOR** in developmental biology, a tenure-track position beginning August 2003. Candidates are expected to have a Ph.D. in an appropriate related biological discipline. In addition to upper-level courses in the candidate's area of expertise, teaching responsibilities will include cell biology and introductory biology. Applicants for this position will be evaluated on experience and commitment to both teaching and their potential to develop a productive research program involving undergraduates. The School of Natural and Applied Sciences at CCU has been recently recognized for excellence in undergraduate teaching and research by receiving an NSF AIRE Grant.

Each applicant should send curriculum vitae, statement of teaching and research interests, and names and addresses of three references to: **Dr. James Luken, Chair, Department of Biology, Coastal Carolina University, P.O. Box 261954, Conway, SC 29528-6054**. Consult our **website: http://coastal.edu/biology/** for more information about the Department. Review of candidates will begin October 15, 2002, and continue until position is filled. *Coastal Carolina University is committed to Equal Employment Opportunity and is eager to identify minority persons and/or women with appropriate qualifications.*

ASSISTANT PROFESSOR
(TENURE-TRACK)
Biology: Morehouse College

The Department of Biology at Morehouse College seeks candidates for a tenure-track Assistant Professor position. We seek a broadly trained individual possessing a Ph.D. with interest and experience in undergraduate teaching and who is willing to teach core courses at the introductory level. The successful candidate is expected to establish a research program. Field of research specialization is open. Submit curriculum vitae, description of teaching experience and philosophy, description of research interests and career goal, and the names and contact information for three references to: **Dr. David B. Cooke III, Chair, Department of Biology, Morehouse College, 830 Westview Drive S.W., Atlanta, GA 30314. E-mail: dcooke@morehouse.edu**. Deadline is January 1, 2003. *Morehouse College is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

EVOLUTIONARY BIOLOGY
OF INVERTEBRATES
University of Michigan

The Department of Ecology and Evolutionary Biology and the Museum of Zoology announce an anticipated opening for a tenure-track **ASSISTANT PROFESSOR/ASSISTANT CURATOR** in comparative evolutionary biology of (noninsect) invertebrates. Candidates at a more senior level will also be considered. We seek applicants whose research interests involve aspects of invertebrate evolution such as the evolution of development, evolutionary physiology or morphology, animal-bacterial symbioses, functional genomics, or molecular evolution and systematics. Teaching responsibilities may include a course on invertebrate biology and contribution to graduate courses. The candidate will provide scholarly leadership for the Museum's research collections and applicants whose research incorporates molluscan exemplars are especially welcome. The person hired will contribute to developing a vigorous program in evolutionary biology in a new, dynamic department. For information, see **websites: http://www.eeb.lsa.umich.edu/** and **http://www.ummz.lsa.umich.edu/**. To apply, forward curriculum vitae, summaries of research and teaching interests, copies of three publications, and arrange to have three letters of reference sent to: **Evolutionary Biology of Invertebrates, Search Committee, Department of Ecology and Evolutionary Biology 2019S, University of Michigan, Ann Arbor, MI 48109-1048 U.S.A.**

More senior level applicants may forward names and e-mail addresses of three references to **e-mail: klutov@umich.edu**. Review of applications will begin October 25, 2002. The expected starting date is September 1, 2003. *The University of Michigan is an Affirmative Action/Equal Opportunity Employer.*

The Department of Physiology of McGill University invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level. Successful applicants will have a Ph.D. degree and will be expected to maintain an active research program, teach undergraduate- and graduate-level courses, and provide graduate student supervision. While the area of research is open, priority will be given to molecular aspects of cell signaling as it relates to physiology. We particularly welcome applications in the areas of renal physiology and membrane channels, transporters, and receptors.

Applications, which should include curriculum vitae; a statement of research interests and teaching experience; copies of representative publications; and three letters of recommendation, should be sent to: **Dr. Alvin Shrier, Chair, Department of Physiology, McGill University, 3655 Promenade Sir William Osler, Montreal, Quebec H3G 1Y6 Canada**. Applications will be accepted until the position is filled.

Further information about McGill University and the Department of Physiology can be found at **website: http://www.mcgill.ca**. *All qualified candidates are encouraged to apply; however, priority will be given to citizens and permanent residents of Canada.*

FACULTY POSITIONS
DEPARTMENT OF BIOCHEMISTRY
AND MOLECULAR BIOLOGY

As part of a major structural biology initiative, we seek to recruit two **X-RAY CRYSTALLOGRAPHERS** at any professorial level with research interests in protein structure/function. Candidates must have excellent potential and/or an established research program and will be provided with very competitive start-up support. Details at **website: http://www.finchcms.edu/biochem/Biochem.html**. Send curriculum vitae and names of three references to: **Dr. K. E. Neet, Chairman, Finch UHS/Chicago Medical School, 3333 Green Bay Road, North Chicago, IL 60064**.

POSITIONS OPEN

FACULTY POSITION
STRUCTURAL BIOLOGY
Department of Biochemistry
and Molecular Biology
SUNY Upstate Medical University
Syracuse, New York

We invite applicants for a tenure-track position at the **ASSISTANT PROFESSOR** level for candidates with research interests and experience in X-ray crystallography. Through this position, the Department is expanding its commitment to structural biology. We have received a federal grant to establish an X-ray crystallography laboratory with substantial funding for equipment and other start-up expenses. Convenient access to a synchrotron source is available. Preference will be given to candidates whose interests complement existing departmental strengths in membrane proteins, nucleic acid-binding proteins, and multisubunit protein complexes. Applicants must have a Ph.D. or equivalent degree, postdoctoral experience, demonstrated research productivity, and a commitment to excellence in teaching medical and graduate students. Send letter of application, curriculum vitae, and descriptions of past research accomplishments and future research plans to: **Dr. Richard Cross, Department of Biochemistry and Molecular Biology, SUNY Upstate Medical University, 750 East Adams Street, Syracuse, NY 13210**.

Please have three letters of reference sent directly to the above address and include the names of the references in your application letter. Review of applications will begin October 15, 2002, and continue until the position is filled. Further information is available at **website: http://www.upstate.edu/biochem**. *An Affirmative Action/Equal Employment Opportunity/Americans With Disabilities Act Employer.*

The Beckman Laser Institute at the University of California, Irvine, seeks candidate for an **ASSISTANT PROFESSOR IN RESIDENCE**. This appointment will be in the Department of Surgery in the College of Medicine. Qualified candidates should possess the ability to work in an interdisciplinary team setting. Areas of research include the development of noninvasive optical diagnostic instruments, quantitative methods for analysis of tissue spectra, laser-based therapeutics, modeling light and heat propagation in tissue, and the integration of optical technologies with conventional radiological methods.

Candidates should have a Ph.D. in biomedical engineering or equivalent and must demonstrate strong evidence for developing a research program that employs optical technologies for solving biological and medical problems at the cellular and/or tissue levels. The applicant should have demonstrated experience in the design and testing of novel optical systems both in a clinical setting and in preclinical animal models.

Candidates should send curriculum vitae to: **Dr. Bruce J. Tromberg, University of California, Irvine, CA 92612-1475**. E-mail submission is preferred; **e-mail: job@bli.uci.edu**. Salary level is negotiable dependent upon experience. *The University of California, Irvine, is an Equal Opportunity Employer committed to excellence through diversity.*

BIOLOGY FACULTY FELLOW

Rhodes College Biology Department seeks applications for a two-year Research/Teaching Fellow starting in August of 2003. This position will allow the successful applicant to develop teaching skills and gain teaching experience, engage in research with a faculty member, and experience the culture of a highly selective liberal arts college. Qualified applicants in all fields of biology are encouraged to apply; however, the candidate must demonstrate how her/his research will allow for an active collaboration with Rhodes biology faculty. For descriptions of faculty research interests, see **website: http://www.biology.rhodes.edu/biol.html**. Ph.D. required. Send curriculum vitae, a letter of application (including teaching and research goals), and three letters of recommendation to: **Dr. Mary Miller, Department of Biology, Rhodes College, 2000 North Parkway, Memphis, TN 38112**. Applications must be received by December 15, 2002.

CHAIR

DEPARTMENT OF PHARMACOLOGY, PHYSIOLOGY AND THERAPEUTICS

UND University of North Dakota

The University of North Dakota School of Medicine and Health Sciences invites applications and nominations for the position of CHAIR of the Department of Pharmacology, Physiology and Therapeutics. We seek an outstanding medical scientist with a strong research record, including extramural support, using state of the art approaches to the study of pharmacology or physiology in the area of neuroscience, who will complement, expand and strengthen programs in neurotoxicology, synaptic transmission, lipid metabolism, cardiovascular physiology, molecular pharmacology and cancer biology. It is expected that the new Chair will participate as a mentor for junior faculty in conjunction with a recently funded 5-year COBRE grant, "Pathophysiology of Neurodegenerative Diseases." The School of Medicine and Health Sciences is currently building a new $3M specialized brain research laboratory including a $4M MicroPET facility, and the new Chair will have an opportunity to fill several new tenure track faculty positions.

The successful candidate will be expected to participate in medical and allied health education and therefore must be committed to excellence in teaching. The applicant should also possess interpersonal and leadership skills in mentoring faculty, directing students and performing administrative duties. The department offers M.S., Ph.D., and M.D./Ph.D. degrees, instructs first and second year medical students, and provides undergraduate courses to nursing students and other allied health professional students and other undergraduates. Further information is available at: http//www.med.und.nodak.edu/bimd/pharm.html.

The University of North Dakota is committed to doubling its research funding and achieving the Carnegie classification of "Doctoral Research Universities - Extensive" by 2006. The University is located in Grand Forks and currently enrolls more than 12,000 students. Grand Forks is a family-friendly community located in a region offering excellent and rapidly expanding cultural, recreational, and sporting activities. To learn more about the University of North Dakota and Grand Forks, visit: http://www.und.edu and http://www.grandforksgov.com.

Review of applications currently is underway, and the search will remain open until the position is filled. Applicants should submit a detailed curriculum vitae, a statement of administrative experience, research goals and teaching interests, and the names and addresses of three references to: Dr. Thomas Mohr, Chair of Search Committee, c/o Office of the Dean, School of Medicine and Health Sciences, University of North Dakota, Box 9037, Grand Forks, ND 58202-9037 or by e-mail at tommohr@medicine.nodak.edu

Inquiries about the research facility may be addressed to: Associate Vice President Manuchair Ebadi, Ph.D., at mebadi@medicine.nodak.edu.

Inquiries about the educational programs may be addressed to Assistant Dean Richard Vari, Ph.D., at rdvari@medicine.nodak.edu.

Inquiries about the department of Pharmacology, Physiology and Therapeutics should be addressed to Dr. Edward Carlson at ecarlson@medicine.nodak.edu.

(The University of North Dakota is an Equal Opportunity/Affirmative Action institution.)

Tenure Track Faculty Positions in Developmental Biology

Memorial Sloan-Kettering Cancer Center invites applications for tenure-track faculty positions at the Assistant Member level for the new Program in Developmental Biology. Successful candidates will carry out independent research programs addressing problems in any aspect of developmental biology. Topics of particular interest include morphogenesis, cell and tissue polarity, and organogenesis. Research could focus on either vertebrate or invertebrate development; expertise in genetics or imaging would be appreciated. The new faculty members will join a community of developmental biologists in several research programs at Memorial Sloan-Kettering Cancer Center, which offers an outstanding research environment and support infrastructure (www.ski.edu). New faculty will participate in the joint graduate program with Weill Cornell Medical College (www.med.cornell.edu/gradschool).

Interested parties should forward their curriculum vitae, a description of their past research accomplishments and proposed research program, selected reprints, and three letters of recommendation to: **Developmental Biology Search, Mr. Steven Cappiello, Box 193, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, New York 10021. Application submission may also be via e-mail to s-cappiello@ski.mskcc.org** as either Microsoft Word or pdf files. Recommendation letters should be forwarded by post. Inquires to either Mr. Cappiello or Dr. Kathryn Anderson, Developmental Biology Program, Memorial Sloan-Kettering Cancer Center. Applications need to be received by December 1, 2002. EOE/AA

Memorial Sloan-Kettering Cancer Center

The Best Cancer Care. Anywhere.

www.mskcc.org

Department of Health and Human Services
National Institutes of Health
National Institute on Aging

With nation-wide responsibility for improving the health and well being of all Americans, the Department of Health and Human Services oversees the biomedical research programs of the National Institutes of Health and those of NIH's research Institutes.

The National Institute on Aging, a major research component of the National Institutes of Health (NIH) and the Department of Health and Human Services, is recruiting for a Staff Scientist to conduct biological and molecular research studies examining immunological aging and cell trafficking. The individual selected for this position will be responsible for examining and characterizing altered gene expression profiles associated with aging and in various inflammation models using microarray and siRNA technology.

The successful individual will possess an M.D. or Ph.D. degree in the Immunology, Cell Biology, and/or a related field of research, have research experience in a variety of biochemical and molecular techniques and methodologies and the ability to further develop new technology within the laboratory, and leadership/managerial skills and experience that included responsibility for technology development and management and training of research personnel.

Salary is commensurate with research experience and accomplishments, and a full Civil Service package of benefits (including retirement, health, life and long term care insurance, Thrift Savings Plan participation, etc.) is available.

Applicants should send curriculum vitae, bibliography and three letters of reference, at least two from non-collaborators, to: **National Institute on Aging, Gerontology Research Center, Human Resources Office, Vacancy #NIA-02-039, 5600 Nathan Shock Drive, Room 1D09, Baltimore, MD 21224**. Applications must be postmarked no later than **October 18, 2002**. For application procedures and questions, applicants should call **410-558-8116**.

HHS and NIH are Equal Opportunity Employers

ANIMAL PHYSIOLOGIST

The Department of Biological Sciences at the University of Notre Dame invites applications for a **TENURE-TRACK POSITION** at any rank in animal physiology. We encourage application from Scientists working in all areas of animal physiology and welcome individuals utilizing nontraditional model systems to study neurobiology, reproduction, or behavior. The successful candidate will be expected to maintain an active research program that will attract outside funding and bridge with current research strengths within the Department. Teaching responsibilities will be one course per semester and include an undergraduate course in physiology or behavior and a graduate course within the individual's area of expertise. The University of Notre Dame offers highly competitive salaries and start-up funds as well as state-of-the-art animal and research facilities. Additional information on the Department is available at **website: http://www.science.nd.edu/biology**. Review of applications will begin immediately and continue until the position is filled. Applications should be received by December 6, 2002. Applicants should submit curriculum vitae, description of research and teaching interests, and letters from three references to: **Dr. S. K. Boyd, Physiology Search Committee, Department of Biological Sciences, P.O. Box 369, The University of Notre Dame, Notre Dame, IN 46556. E-mail: boyd.1@nd.edu**. *Notre Dame is an Affirmative Action/Equal Opportunity Employer. Women and minority candidates are encouraged to apply.*

SOUTH DAKOTA STATE UNIVERSITY
Department of Chemistry and Biochemistry

Applications are invited for a tenure-track **ASSISTANT PROFESSOR** position available in August 2003. Applicants are sought whose research interests strengthen the Department's programs in environmental or biological chemistry. The successful candidate will be expected to establish a strong and highly visible research program and teach at the undergraduate and graduate levels. Start-up package is commensurate with expectations. Earned Ph.D. in chemistry or closely related discipline required; postdoctoral experience preferred. A full description and listing of qualifications is available at **website: http://www3.sdstate.edu/Academics/CollegeOfArtsAndScience/ChemistryandBiochemistry**. Complete applications consist of a letter of application, curriculum vitae, graduate transcripts, description of proposed research activities (three pages maximum), statement of teaching philosophy, and three letters of recommendation sent directly to: **Chemistry Search, South Dakota State University, Chemistry and Biochemistry, Box 2202, Brookings, SD 57007-0896. Telephone: 605-688-5151**. Electronic submissions to **e-mail: chemsearch@sdstate.edu** are preferred. Application deadline: November 1, 2002, or until position is filled. *SDSU is an Equal Employment Opportunity/Affirmative Action Employer and encourages applications from women and minorities. Americans With Disabilities Act reasonable accommodations; Telephone: 605-688-4504/TTY 605-688-4394.*

FACULTY POSITIONS in neuroscience. The Department of Psychology at the Florida State University seeks to fill both a tenure-track **ASSISTANT PROFESSOR** position and a tenured **ASSOCIATE** or **FULL PROFESSOR** position in neuroscience. Applicants in all areas of neuroscience are encouraged to apply. Preference will be given to candidates with expertise that amplifies or complements our existing strengths in development and neuroplasticity, hormones and behavior, and sensory and regulatory processes. Candidates are expected to lead a cutting-edge research program and demonstrate a commitment to teaching. Send curriculum vitae, a statement of research and teaching interests, and the names of three references to: **Neuroscience Search Committee, Department of Psychology, Florida State University, Tallahassee, FL 32306-1270**. Review of applications will begin on 15 November 2002. For information on the program, see **website: http://www.neuro.fsu.edu**. *Florida State University is an Equal Opportunity/Affirmative Action Employer committed to diversity in hiring and a Public Records Agency.*

POSITIONS OPEN

VIROLOGIST
Uniformed Services University (USUHS)

The Department of Microbiology and Immunology at USUHS invites applications from Virologists for a full-time tenure-track position at the **ASSISTANT PROFESSOR** level. Candidates must possess a Ph.D. degree or its equivalent, postdoctoral experience, and a demonstrated record of outstanding research productivity in human viral diseases. Applicants with a strong background in the areas of hepatitis C virus, emerging viral diseases, virus-host cell interactions, viral pathogenesis, viral oncogenesis, or viral immunology are encouraged to apply. The successful candidate is expected to establish an independent and externally funded research program that complements the research activities of existing Virologists at the university whose interests include molecular biology of human retroviruses, mechanism of viral entry, gene expression, cell cycle regulation, cell transformation, and HIV vaccine development. The candidate must also demonstrate a strong commitment to the teaching mission of the Department. Full salary support, a competitive start-up package, and state-of-the art core facilities are available. Interested individuals should submit the following: a letter of application; curriculum vitae; a statement of research interests and goals; and the names, telephone numbers, and addresses of three references. All materials should be sent to:

Chair, Virologist Search Committee
Department of Microbiology and Immunology
Uniformed Services University of the Health Sciences
4301 Jones Bridge Road
Bethesda, MD 20814-4799

The deadline for submission of applications is October 31, 2002. *USUHS is an Equal Opportunity Employer.*

PHARMACOLOGIST
ASSISTANT OR ASSOCIATE PROFESSOR

Tenure track in the College of Pharmacy (see **website: http://www.westernu.edu/cp**). Candidates should possess a Doctoral-level degree in pharmacology or a related discipline. Candidates will participate in teaching by integrating concepts of pharmacology into the Pharm.D. curriculum. Preference will be given to those who have interest or experience in teaching any two of the following areas: cardiovascular, cancer, endocrine pharmacology, or general pharmacokinetics. Successful candidates also will be expected to establish an extramurally funded research program in any area of pharmacology or pharmacokinetics. Laboratory start-up funds are available. Appointment and salary are negotiable and commensurate with qualifications and experience. Applicants should submit a letter of intent, a teaching and research statement, curriculum vitae, and arrange to have three letters of recommendation sent to the Search Committee Chair. Review of application material will continue until the positions are filled. Applications (electronic submission encouraged) should be sent to: **Robert Graf, Ph.D., Chair, Search Committee, Department of Pharmaceutical Sciences, Western University of Health Sciences, College of Pharmacy, College Plaza, 309 East Second Street, Pomona, CA 91766-1854. Telephone: 909-469-5572; e-mail: rgraf@westernu.edu**. *Western University of Health Sciences is an Affirmative Action/Equal Opportunity Employer and actively seeks applications from women and minorities.*

ASSISTANT PROFESSOR, biochemistry, January 2003. Commitment to teaching and research at the undergraduate and Master's degree levels. The Department is well equipped with a wide range of instruments for research. Send curriculum vitae, statement of teaching philosophy, research plans and transcripts, and have three letters of recommendation sent to: **Glen Lawrence, Faculty Search Committee, Department of Chemistry and Biochemistry, Long Island University, 1 University Plaza, Brooklyn, NY 11201. E-mail: lawrence@liu.edu**. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR
Molecular Genetics of Development
New Position at Caltech

We invite applications for a tenure-track Assistant Professor appointment in the Division of Biology at the California Institute of Technology. We are seeking highly qualified candidates who are committed to a career in research and teaching. The applicant should conduct research directed at understanding the molecular and genetic basis for development. We especially seek persons whose research interests are directed toward understanding genome function in animal or plant development; evolutionary change in such genome function; networks involving signal transduction and gene regulation; and the genetic basis of morphogenesis, among other topics. The initial appointment term is four years, and appointment is contingent upon completion of all the requirements for a Ph.D. Applicants should submit curriculum vitae, list of publications, a brief statement of research interests and teaching experience, and arrange for three letters of recommendation to be sent to:

Chair of Molecular Genetics of Development
Search Committee
Division of Biology 156-29
California Institute of Technology
Pasadena, CA 91125

The California Institute of Technology is an Affirmative Action/Equal Opportunity Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.

CELL BIOLOGY

The Department of Cell Biology, Faculty of Medicine and Dentistry, at the University of Alberta, Canada, invites applications for a tenure-track position at the **ASSISTANT/ASSOCIATE PROFESSOR** level. We seek an individual who will complement and extend our existing strengths in cell signaling/cell cycle, protein targeting, organelle biogenesis, cell-cell interactions, and neurobiology. Applicants should have a Ph.D., a proven record of research achievement, and will be expected to apply for funding from the Alberta Heritage Foundation for Medical Research. The successful candidate will be expected to carry on an independent research program but will also have the opportunity for collaborative interactions with several multidisciplinary research groups within the University. A contribution to the Department's teaching program will also be expected. Please send curriculum vitae, a two-page statement of research interests, and arrange to have three letters of reference sent on your behalf to: **Dr. Richard Rachubinski, Chair, Department of Cell Biology, 5-14 Medical Sciences Building, University of Alberta, Edmonton, Alberta T6G 2H7 Canada**. Deadline for receipt of applications is December 15, 2002. *The University of Alberta hires on the basis of merit. We are committed to the principle of Equity in Employment. We welcome diversity and encourage applications from all qualified women and men including persons with disabilities, members of visible minorities, and aboriginal persons. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. If suitable Canadian citizens or permanent residents cannot be found, other individuals will be considered.*

MICROBIOLOGIST/GENETICIST
Oberlin College Biology Department

Full-time, tenure-track position beginning fall 2003. Lecture-laboratory teaching duties include upper-level course in microbiology, an intermediate-level course in genetics, and freshman-sophomore colloquium. Entire description at **website: http://www.oberlin.edu/FACopenings**. Requirements: Ph.D. (or by fall 2003); demonstrated interest and potential excellence in undergraduate teaching. Postdoctoral experience desired. Send letter of application including statement of teaching and research interests; curriculum vitae; academic transcripts; and three letters of reference by November 1, 2002, to: **Dr. Robin S. Treichel, Chair, Department of Biology, Oberlin College, Oberlin, OH 44074**. Late applications may be accepted until position filled. *Affirmative Action/Equal Opportunity Employer.*

Department of Health and Human Services
National Institutes of Health
Clinical Center

The Nuclear Medicine Department, a major research component of NIH and the Department of Health and Human Services, is recruiting for a Ph.D. graduate to work with studies of human repair mechanisms for radiation-damaged DNA as they relate to genetic instability, mutagenesis, and amenability to manipulation for therapeutic intervention of disease. Emphasis is upon radionuclide-mediated induction and repair of site-specific DNA double strand break damage.

Applicants should be US citizens or permanent residents and possess a recent Ph.D. (less than 3 years postgraduate) with a strong background in biochemistry, molecular biology, and an emphasis on DNA chemistry and metabolism. Knowledge of radiobiology, DNA repair, and proteomics are a plus. Submit resumes to:

Thomas A. Winters, Ph.D.
Nuclear Med Department
National Institutes of Health
Building 10, Room 1C401
10 Center Drive, MSC 1180
Bethesda, MD 20892-1180
e-mail: twinters@mail.cc.nih.gov

HHS and NIH are Equal Opportunity Employers

Research Zoologist/Head
Section of Invertebrate Zoology
National Museum of Natural History
Smithsonian Institution

The Smithsonian's National Museum of Natural History seeks an outstanding zoologist with demonstrated commitment to systematic biology to head the Section of Invertebrate Zoology in the Department of Systematic Biology (**http://www.nmnh.si.edu/departments/invert.html**). The successful candidate will have a superior record of individual research and publication, demonstrated creative leadership in articulating and advancing the science of systematic biology in general, excellent communication and interpersonal skills, and a mature vision for the future of systematic biology. Applicants' research area should be collection based and focused on invertebrate animals (exclusive of insects and chelicerates), utilizing a variety of approaches, including, but not limited to, systematics, ecology, and molecular, evolutionary, and conservation biology.

The section head will provide strong intellectual leadership and effective advocacy for the research, training, collections, and public programs of the unit, both internally and externally, and represent the Section, Department, and Museum to external constituencies both in public and private sectors on a world-wide basis. The Section head provides executive leadership of the unit, including formulating and implementing strategic directions that attract public and private funding for research and curation of the national collections.

Permanent, full-time Supervisory Research Zoologist, GS-410-14/15; U.S. citizenship is required. Salary range: $78,265-$115,682 per annum, commensurate with experience. Completed applications must be mailed to **Smithsonian Institution, Office of Human Resources, P.O. Box 50638, Washington, DC 20091** and must include: (1) complete CV, including list of all professional publications and all extramural grants received with agencies, funding periods, and amounts; (2) one set of selected publications; (3) list of at least 5 individuals from whom letters of professional evaluation may be sought; and (4) cover letter addressing the selective and quality ranking factors which appear in the announcement. Applications must be received by November 8, 2002, and must reference announcement number **02AD-1074**. For application procedures, call **Audrey Davis, 202-275-1005**. For copy of actual vacancy announcement, see: **www.sihr.si.edu**.

The Smithsonian Institution is an Equal Opportunity Employer.

DIRECTOR
Alaska WWAMI Biomedical Program
University of Alaska Anchorage
University of Washington School of Medicine

The University of Alaska Anchorage (UAA) solicits applications and nominations for the Director of the WWAMI (Washington, Wyoming, Alaska, Montana, Idaho) Biomedical Program at the University of Alaska Anchorage (UAA). The position is also appointed as Assistant Dean at the University of Washington School of Medicine (UWSOM) and Associate Dean for Medical and Premedical programs in UAA's College of Arts and Sciences.

Responsibilities: The Director administers a first year medical curriculum at UAA, coordinates the curriculum with UWSOM, further develops a productive externally funded research environment for program faculty, advises first year medical students, and manages funds allocated to the programs from state, private, and federal sources. The Director is primarily responsible for assuring the excellence of the first year medical school program; actively participating in teaching the first year medical school courses; and promoting research and other scholarly activities with the opportunity to continue an active research and graduate education program. The Director works with the Area Health Education Center (AHEC) and will continue and extend outreach in K-12 programs and pre-medical clinical opportunities. Finally, the Director, with the WWAMI Regional Clinical Education Office in Anchorage, works closely with the medical communities, the governor's office, legislators, and public and private health care organizations in Alaska.

Rank: The Director reports to the UAA Dean of the College of Arts and Sciences (CAS), with tenure track academic rank and salary commensurate with experience. The Director will serve as CAS Associate Dean for Medical and Premedical Programs. The Director serves as an Assistant Dean at the University of Washington School of Medicine, reporting to its Dean through the Associate Dean for Academic Affairs. The Director has an affiliate academic appointment without tenure rights in an appropriate department of the UWSOM.

Qualifications: Ph.D., M.D., or equivalent degree in a science basic to medicine. Excellence in teaching medical students, research including a record of external grant support, and interpersonal communication. Aptitude for management of budgets, personnel, other resources. Ability to provide leadership in a regional medical education program.

Salary: Dependent on qualifications and experience.

Application Review Date: Begins November 15, 2002; applications considered until position filled.

Beginning Date: July 1, 2003

Application Process: Application packet to include cover letter (specify **PCN # 301225**) summarizing relevant experience in teaching, administration, and research; Curriculum Vitae; and University of Alaska Applicant Form (mandatory; see website). References will be requested in later stages of search. Send materials to: **Human Resource Services, University of Alaska Anchorage, 3211 Providence Drive, Anchorage, Alaska 99508**. UAA Employment Information website: **http:www.finsys.uaa.alaska.edu/uaahrs/**. Background checks may be required.

Applicants must be eligible for employment under the Immigration Reform and Control Act as of 1986 and subsequent amendments. Your application for employment with the University of Alaska is subject to public disclosure.

For information contact: **Dr. Theodore L. Kassier, Dean, CAS, and Chair, WWAMI Director Search Committee; (907) 786-1708; aftlk@uaa.alaska.edu**.

UAA is an AA/EO Employer and Education Institution

NEUROBIOLOGIST
University of Wyoming

The Department of Zoology and Physiology at the University of Wyoming invites applications for a tenure-track faculty position at the level of **ASSISTANT PROFESSOR**. We seek candidates whose research takes a systems approach to the study of neural function. Applicants are expected to have a strong neuroscience background and postdoctoral experience. The successful candidate will be expected to integrate with departmental programs as well as with the graduate neuroscience program and the NIH Centers of Biomedical Research Excellence. Research interests of the Cardiovascular Center include the neural control of blood pressure and gene expression in brain and heart as it relates to cardiovascular function. Applicants must have a Ph.D. or equivalent degree and have research interests in the neural control of systems that impact on homeostasic mechanisms or that use novel models and integrative approaches. Strong research skills in one or more of the following disciplines are preferred: molecular/cellular neuroscience, regulatory neurophysiology, or neuroendocrinology. The successful candidate will be expected to develop an externally funded research program and to teach and advise at the undergraduate and graduate levels. There are additional opportunities for interaction with Cell Signaling Center of Biomedical Research Excellence. Access to an outstanding microscopy core facility and cooperative DNA microarray facility is available. Salary and start-up are competitive. Interested applicants should send complete curriculum vitae, a two-page letter explaining research interests, three representative publications, and arrange for three letters of recommendation to be sent to: **Neurobiology Search Committee, Department of Zoology and Physiology, University of Wyoming, Laramie, WY 82071. FAX: 307-766-5625; websites: http://uwadmnweb.uwyo.edu/Zoology; http://uwacadweb.uwyo.edu/NeuroScience/; http://uwadmnweb.uwyo.edu/Cardio-Cobre**. Review of completed applications will begin November 1, 2002. *The University of Wyoming is a Carnegie Foundation Research/Doctoral Extensive Institution. The University of Wyoming is an Affirmative Action/Equal Employment Opportunity Employer.*

ASSISTANT PROFESSOR
University of Minnesota
Department of Pediatrics
and Cancer Center

The University of Minnesota Division of Pediatric Epidemiology and Clinical Research, Department of Pediatrics, School of Medicine, invites applications from outstanding candidates for a full-time, nontenure track (annually renewable) position at the level of Assistant Professor. This position is an integral part of the University of Minnesota Cancer Center's expanding initiative in the molecular etiology of childhood cancer. Basic science expertise is sought, particularly in the areas that complement current cancer research activity including molecular biology, molecular epidemiology, and exposure assessment. Both the Department of Pediatrics and the Cancer Center offer state-of-the-art laboratory facilities and the latest biotechnologies for research. The successful candidate must have a Ph.D. and/or M.D. degree with productive postdoctoral experience and will be expected to develop and maintain a vigorous, independent, extramurally funded research program.

Primary criteria for the appointment include demonstrated skills in cancer-related laboratory methods, research management, evidence of effective multidisciplinary collaborations, relevant publication record in peer-reviewed journals, and ability to successfully obtain grant funding. Interested applicants should submit a statement of scientific interests, curriculum vitae, and names of at least three references to: **Dr. Julie Ross, Chair, Search Committee, Department of Pediatrics, MMC 422, 554 CCRB, 420 Delaware Street, S.E., Minneapolis, MN 55455**. Application review will begin October 7, 2002, and continue until the position is filled. *The University of Minnesota is an Equal Opportunity Educator and Employer.*

POSITIONS OPEN

FACULTY POSITION
Department of Biology
Indiana University
High-Throughput Analyses
of DNA, RNA, or Proteins

The Department of Biology at Indiana University is seeking applications for a tenure-track position at the **ASSISTANT PROFESSOR** level from individuals with interests in global analyses of complex biological problems using the tools of functional genomics and/or proteomics. While the candidates are expected to use state-of-the-art methods, the focus of the research should be on biological questions, not on instrumentation or analytical method development. Research could focus on prokaryotic or eukaryotic organisms.

This position is part of a significant expansion of IU–Bloomington's efforts in the life sciences. The expansion encompasses construction of two major research buildings; a new interdepartmental initiative in biochemistry and biophysics; and numerous recent hirings that have greatly expanded our strengths in the areas of microbiology, biochemistry, cell and developmental biology, molecular evolution, and ecology. One consequence of this expansion is that we welcome applications and inquiries from two-career couples at any level including those with partners in other areas of biology, biochemistry, and biophysics.

The successful candidate will be provided with a competitive start-up package and will both interact with and benefit from The Center for Genomics and Bioinformatics and from the Proteomics Research and Development Facility, centers supporting research in these areas. S/he will also benefit from intercampus programs sponsored by the Indiana Genomics Initiative fostering collaborations with the Indiana University School of Medicine and from training grants in genetics and in evolution, development, and genomics. For more information about the Biology Department and for links to information about the campus and the Bloomington community, see **website: http://www.bio.indiana.edu**. Applicants should send curriculum vitae; a statement of research (past, present, and planned) and teaching interests; representative publications; and arrange to have three (or more) letters of recommendation sent to: **Functional Genomics Search Committee, Department of Biology, Indiana University, 1001 East Third Street, Bloomington, IN 47405-3700**. Additional information regarding this position can be obtained by contacting: **Yves Brun, Director of the Microbiology and Biochemistry and Molecular Biology Programs; Telephone: 812-855-8860; e-mail: ybrun@bio.indiana.edu**. A review of applicants will begin November 1, 2002, and will continue until the position is filled. *Indiana University is an Affirmative Action/Equal Opportunity Employer. Women, minority candidates, and couples are encouraged to apply.*

MOLECULAR EVOLUTIONARY BIOLOGIST

Carroll College, a Catholic, coeducational liberal arts college, invites applications for a tenure-track **ASSISTANT PROFESSOR** in molecular evolutionary biology to begin fall 2003. Ph.D. by August 2003 required. Preference will be given to applicants studying plant systems. Teaching responsibilities will include participation in a team-taught introductory biology course, a course in evolutionary biology, and a course in plant biology (or some other course in the applicant's specialty). Applicants should be committed to undergraduate teaching, have a strong interest in developing an undergraduate research program, and be willing to support Carroll's mission statement. Send cover letter, curriculum vitae, transcripts, three letters of recommendation, and statements describing teaching philosophy and proposed undergraduate research program to: **Biology Search Committee, Office of Human Resources, Carroll College, 1601 North Benton Avenue, Helena, MT 59625**. Applications received by December 15, 2002, will be given priority. For more information about Carroll College, its biology program, and its mission statement, see our **website: http://www.carroll.edu**. *Equal Opportunity Employer.*

POSITIONS OPEN

ASSOCIATE CHIEF OF STAFF FOR RESEARCH

The Indianapolis VA Medical Center, an affiliate of the Indiana University School of Medicine, is accepting applications for the position of full-time Associate Chief of Staff for Research. *Applicants must be U.S. citizens* and have an M.D., D.O., Ph.D., or equivalent degree. Physicians must hold a degree from an accredited school, a current and unrestricted license to practice medicine, and be Board certified by an American Specialty Board. Applicants should have demonstrated significant and distinguished accomplishments in both research and administration. Familiarity with compliance issues and experience in the VA system are both highly desirable. The successful candidate will have to meet VA requirements for appointment as Associate Chief of Staff for Research and Indiana University School of Medicine requirements for faculty appointment at the **ASSOCIATE PROFESSOR** or **PROFESSOR** level. In addition to overseeing the operation of the research program and directing the Research Administration office, the appointee will be expected to maintain an outstanding research program of his or her own to foster the growth of existing research programs; to facilitate the initiation of new programs; and to foster the careers of new Investigators. The Indianapolis VAMC and affiliate research programs have an annual research budget of approximately $10 million and are closely integrated with the Indiana University Research Program. Please send cover letter and curriculum vitae with three professional references to: **Mark Deeg, M.D. (111E), Medical Service, Indianapolis VA Medical Center, 1481 West 10th Street, Indianapolis, IN 46202.** Complete application packages must be received no later than November 15, 2002. *The Indianapolis VAMC is an Equal Employment Opportunity/Affirmative Action Employer.*

THREE TENURE-TRACK POSITIONS
Genetics/Ecology/Evolution

The Department of Biology is seeking three **ASSISTANT PROFESSORS** to begin appointments in August 2003. This is a search for one Geneticist and two Evolutionary/Ecological Biologists. Applications will be accepted from qualified candidates across the full range of these disciplines, and the Department especially encourages applications from individuals who use plant and invertebrate model systems. We seek to hire three candidates who will create exciting synergies within the Department and who will participate in our active undergraduate research program. The Department is well equipped and start-up funds are available to meet the individual needs of new faculty.

Candidates are expected to (1) possess a Ph.D. degree, preferably with postdoctoral research experience; (2) teach upper-division courses in their areas of expertise; (3) contribute to the introductory and/or nonmajors curriculum; (4) be involved in academic advising; and (5) develop a research program involving undergraduate participation. Applicants should send curriculum vitae, statement of teaching philosophy, summary of research interests, and names and telephone numbers of three references to: **Professor Thomas Koppenheffer, Chair of Search Committee, Department of Biology, Trinity University, 715 Stadium Drive, San Antonio, TX 78212**. Review of applications will begin 28 October 2002. *Women and minority candidates are strongly encouraged to apply. Trinity University is an Equal Opportunity Employer.*

SCIENCE EDUCATION: BIOCHEMISTRY

The Southwestern Bell Science Education Center at the University of Missouri–Columbia (**website: http://www.swbsec.missouri.edu**) seeks an **ASSISTANT/ASSOCIATE PROFESSOR** of science education: biochemistry for joint appointment in Science Education (tenure home) and Biochemistry. Contact: **Professor Sandra Abell; e-mail: abells@missouri.edu**. Application review begins October 25, 2002. *MU is an Equal Employment Opportunity/Affirmative Action Employer and encourages applications from women and minorities.*

Department of Health and Human Services
National Institutes of Health
National Institute of Allergy and Infectious Diseases

With nation-wide responsibility for improving the health and well being of all Americans, the Department of Health and Human Services oversees the biomedical research programs of the National Institutes of Health (NIH) and those of NIH's research Institutes.

The National Institute of Allergy and Infectious Diseases (NIAID), a major research component of the NIH and the Department of Health and Human Services, is recruiting for an Associate Director to lead a research program in HIV/AIDS therapeutics. The individual selected for this position will lead a global effort to develop safe and effective AIDS therapeutic interventions and strategies.

The successful individual will possess an M.D. or Ph.D. degree in a Biological Science, have experience in HIV/AIDS therapeutics research and experience in clinical trials development and implementation. Experience in the implementation of therapeutic clinical trials in an international setting is an asset.

Salary is commensurate with research experience and accomplishments, and a full Civil Service package of benefits (including retirement, health, life and long term care insurance, Thrift Savings Plan participation, etc.) is available.

For additional information or to apply for this position, please email your cover letter and resume to: **DAIDSjobs@niaid.nih.gov**. For additional information about the Division of AIDS, please visit our website at: **www.niaid.nih.gov/daids**; for more information about current NIAID employment opportunities, please visit: **http://www.niaid.nih.gov/ohrm/default.htm**.

DHHS and NIH are Equal Opportunity Employers

Arena

Arena Pharmaceuticals, Inc.

Arena is a leading biopharmaceutical company located in San Diego, CA, focused principally on discovering and developing drugs that target G protein-coupled receptors. We are seeking candidates for the following positions:

Atherosclerosis Research Scientist - to participate in target validation and drug discovery for atherosclerosis and heart disease. This individual should have expertise in the lipid and cellular aspects of atherosclerosis, including *in vitro* and *in vivo* models of the disease. In addition to a broad knowledge of cardiovascular disease, this individual should have experience in cellular, immunological, and biochemical assay development. Qualifications: A PhD with postdoctoral experience in biochemistry, pharmacology, molecular biology, or a related discipline is required. A strong publication record and experience in pharmaceutical drug discovery would be desirable. **Job Code: CARD06-SCI**

Research Scientist – Obesity/Metabolism - Ph.D. with 4+ years experience in endocrinology and metabolism along with excellent neuroanatomical knowledge required, as well as experience with rodent models of dietary-induced and genetic obesity, observational and microstructural analysis of food intake, thermogenesis, indirect calorimetry and body composition. Experience in pharmaceutical industry desirable. Main responsibilities will include the characterization of *in vivo* function of orphan GPCRs related to metabolic regulation and the evaluation of the therapeutic potential of drugs to treat obesity/metabolic disorders. **Job Code: VIV010-SCI**

Arena offers an exciting work environment, competitive salary, excellent benefits package, including 401(k) and stock options. Email responses to: **jobs@arenapharm.com**. Send or fax résumés to **6166 Nancy Ridge Drive, San Diego, CA 92121; Fax: 858 453-7210. Please reference appropriate job code.**

Tenure-Track Investigator

The Oral Infection and Immunity Branch in NIDCR, NIH, is recruiting an outstanding scientist for a tenure-track position. This investigator would be expected to develop an independent research program to explore the interface between orally relevant antigens, pathogens, and the mucosal immune system. The ideal candidate would have experience in humoral, cellular, and molecular immunology. Interests in mucosal immunity, oral tolerance, apoptosis, T cell regulation, and/or cytokine impact on host defense will complement the existing multidisciplinary research in the Branch, which currently includes studies on oral microbiology, immunology, and chronic inflammatory diseases. The Branch will provide excellent support for a cutting-edge research program, including access to core facilities and/or clinical research. The initial appointment is for two years and may be extended up to six years by mutual agreement while seeking tenure. The appointment is equivalent to an Assistant/Associate Professor and conversion to tenure requires demonstration of creativity and productivity as an independent scientist subject to rigorous scientific review.

Candidates must have an advanced degree, Ph.D., D.D.S, and/or M.D.; at least three years of postdoctoral experience; and an outstanding publication record. This position also requires excellent writing and oral communication skills. Salary range for candidates is commensurate with training and experience. Candidates should send curriculum vitae, bibliography, brief statement of research interests, and have three letters of reference sent to: **Esther Weiss, Human Resources Program, Bldg. 31, Room 2C19, NIDCR, NIH, Bethesda, MD 20892** or email **weiss@nidcr.nih.gov** by **November 1, 2002**. Informal inquiries may be sent to **Dr. Sharon M. Wahl** at **smwahl@dir.nidcr.nih.gov**.

NIH is an Equal Opportunity Employer.

POSITIONS OPEN

FACULTY POSITIONS
BIOCHEMISTRY/MOLECULAR GENETICS
The Hebrew University of Jerusalem
Faculty of Agricultural, Food, and Environmental Quality Sciences

The Institute of Biochemistry, Food Science, and Nutrition invites applications for two full-time, tenure-track faculty positions in biochemistry or molecular genetics related to human nutrition or food sciences. Starting date is April 1, July 1, or October 1, 2003. Applicants should have a Ph.D. in a relevant discipline and have postdoctoral research experience in topics related to biochemistry or molecular genetics. Strong competence in molecular biology is required. Starting rank will be commensurate with qualifications. Candidates are expected to conduct original and independent research in biochemistry or molecular genetics related to human nutrition or food sciences including biotechnology. Expertise in bioinformatics and rDNA technology is desired. Candidates will be expected to attract external competitive funding. Strong leadership and communication capabilities are required and collaborative research with other Researchers will be encouraged. Responsibilities include teaching (in Hebrew) of undergraduate and graduate courses in biochemistry, biotechnology and related topics to food and/or nutritional sciences, and supervising graduate students. Please send a cover letter stating research and teaching interests; detailed résumé; a list of publications; and three letters of recommendation (with complete address, e-mail, and FAX number) to the address below. Applications will be reviewed promptly and are invited until the positions are filled.

Professor Michael Naim, Chairman
Institute of Biochemistry, Food Science, and Nutrition
Faculty of Agricultural, Food and Environmental Quality Sciences
The Hebrew University of Jerusalem
P.O. Box 12, Rehovot 76100, Israel
FAX:+ 972 8 947 6189
E-mail: naim@agri.huji.ac.il

DEVELOPMENTAL PEDIATRICIAN
Psychologist or Neuroscientist

The Department of Pediatrics at the Pennsylvania State University College of Medicine and Hershey Medical Center invites applications for a tenure-track position at **ASSISTANT** or **ASSOCIATE PROFESSOR** level in its new Division of Developmental Pediatrics and Learning. The Division is extensively involved in science education through its LabLion program, multidisciplinary aspects of child learning and cognitive development, neurodevelopmental disabilities (especially in learning and attention), and prevention/outreach programs in educational settings. The position is cosponsored by the University-wide Children, Youth, and Families Consortium, which provides this position with continuing support for significant research time and research program development in a unique opportunity to bridge research, educational practice, and patient care. The successful candidate will be expected to establish a productive research program in areas relevant to advancing child learning and compatible with existing Division, Department, College, and University research and outreach efforts. The position is available for either a Ph.D. in psychology (neuro, clinical, child developmental); cognitive neuroscience; or an M.D. specializing in developmental or behavioral pediatrics. Clinicians must be license eligible in Pennsylvania. Applicants should send a statement of clinical and research interests, curriculum vitae, and three letters of reference to: **Dr. Paul Eslinger, Faculty Search Committee, Division of Developmental Pediatrics and Learning, Mail Code HS–83, Long Lane, Pennsylvania State College of Medicine, 500 University Drive, Hershey, PA 17033**. Applications will begin to be reviewed on December 1, 2002. *Penn State University is committed to Affirmative Action/Equal Opportunity and the diversity of its workforce.*

POSITIONS OPEN

FACULTY POSITION
Department of Chemistry and Biochemistry

The Department of Chemistry and Biochemistry, University of Maryland at College Park, invites applications for a tenure-track position in biochemistry at the **ASSISTANT PROFESSOR** level. Excellent candidates at other levels will also be considered. Candidates interested in developing outstanding research programs in the molecular mechanisms of significant biological processes are encouraged to apply. The successful applicant will join a dynamic and highly interactive faculty with ample opportunities for collaborations within the Department as well as with the NIH, USDA, FDA, NIST, and the University of Maryland Biotechnology Institute. The Department has an active graduate program and all faculty members participate in the instructional program. Additional information about the Department can be found at our **website: http://www.chem.umd.edu**. The University of Maryland at College Park is the flagship campus of the University of Maryland system. It is located in the heart of the Baltimore–Washington research corridor, just 15 minutes from downtown Washington, D.C. Applications should be received by November 1, 2002, to receive full consideration but the search will continue until the position is filled. Materials including a letter of application, curriculum vitae, a three-to-four-page description of research plans, and the names of three references should be directed to: **Biochemistry Search Committee, Department of Chemistry and Biochemistry, University of Maryland, College Park, MD 20742-2021**. *UMCP encourages applications from women and minorities and is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT OR ASSOCIATE PROFESSOR
Vaccine Research Center
Yerkes Regional Primate Research Center
Emory University School of Medicine

Applications are invited for a faculty position at the level of Assistant or Associate Professor in the Vaccine Research Center at The Yerkes Regional Primate Research Center of Emory University. This is a tenure-track position in the Emory University School of Medicine; the successful candidate will have an appoinment in an appropriate academic department. Candidates must have a Ph.D. or M.D. degree. Individuals with demonstrated research interests in chronic viral infections are encouraged to apply, particularly those individuals using either molecular or immunological approaches to understand the mechanisms of viral persistence. The successful candidate is expected to maintain an independent, extramurally funded research program and to participate in graduate and medical student teaching. Please sumbit curriculum vitae, a summary of research interests and program, and three letters of recommendation to: **Attention: Samuel H. Speck, Director, Center for Emerging Infectious Diseases, Yerkes Regional Primate Center, Emory University, 954 Gatewood Road, N.E. Atlanta, GA 30329**. *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR of biology with a specialty in vascular plant ecology. Tenure-track position to begin in August 2003. Demonstrated success or evidence of potential for excellence in teaching and advising undergraduates essential. Teaching duties include introductory-level biology, plant ecology, and plant physiology. An active research program in plant ecology is required with a commitment to fostering student involvement in one's research. Ph.D. required. Located in the scenic Susquehanna valley one hour north of Harrisburg, Pennsylvania; one hour east of State College, Pennsylvania; about three hours from New York, Philadelphia, and Washington, D.C. (See **website: http://www.susqu.edu**). Send curriculum vitae, statement of teaching philosophy, brief description of research plans, copies of graduate transcripts, and three letters of recommendation to: **Dr. David Richard, Head, Department of Biology, Susquehanna University, Selinsgrove, PA 17870**. Review of applications begins December 15, 2002. *Affirmative Action/Equal Opportunity Employer. Applications from women and minorities encouraged.*

POSITIONS OPEN

CHAIR
Department of Chemical and Biological Engineering
Tufts University

Tufts University invites applications for the position of Chair of the Department of Chemical and Biological Engineering. The appointment is at the **FULL PROFESSOR** rank. The Department is looking for candidates with a distinguished record of teaching and scholarship in chemical or biochemical engineering, excellent leadership abilities, and strong interest in charting the course of the Department as a prominent place of learning in the integrated area of chemical and biological engineering.

The Department of Chemical and Biological Engineering at Tufts has recently pioneered its new name to signal the beginning of a new era for chemical engineering, one where biology is integrated with chemistry and engineering under the powerful paradigm of chemical engineering. Curriculum revision is underway to implement the necessary changes for the expansion of the discipline. The successful candidate will assume a leadership role in contributing to this vision and work to spearhead programs aimed at realizing the Department's goals. Ample opportunities exist for cross-disciplinary programs at Tufts. Strong interactions with the engineering and science departments; the Bioengineering Center; and the Medical, Dental, and Veterinary Schools of Tufts are currently underway. The vibrant biotechnology community in Boston fosters many of these interactions. This is both a challenging and an exciting position for the new Chair to lead the Department in its new mission. Information about the faculty, the state-of-the-art facilities of the Department, degree programs, and other facts can be found on the **website: http://ase.tufts.edu/chemical/**.

Screening of applications will begin on October 28, 2002, and will continue until a successful candidate has been identified. Please send letter of interest, curriculum vitae, list of publications, and references to: **Dr. Maria Flytzani-Stephanopoulos, Chair, Faculty Search Committee, Department of Chemical and Biological Engineering, Tufts University, 4 Colby Street, Medford, MA 02155**. *Tufts University is an Equal Opportunity/Affirmative Action Employer. We are committed to increasing the diversity of our faculty. Members of underrepresented groups are strongly encouraged to apply.*

CLEMSON UNIVERSITY
Department of Physics and Astronomy

The Department of Physics and Astronomy of Clemson University invites applications for tenure-track positions in biophysics anticipated to begin in the academic year 2003–2004. Our expectation is that the positions will be filled at the **ASSISTANT PROFESSOR** level but the search is not restricted to this rank. Applicants must have a Ph.D. degree in physics or a related field. Additional requirements include postdoctoral or equivalent experience, a good command of the English language, and an interest in teaching both undergraduate- and graduate-level courses. The successful candidate will be expected to seek and obtain outside research support. Applications should include curriculum vitae; a list of publications; a statement of vision for future teaching and research; a list of current and pending support; and the names, addresses, telephone numbers, and e-mail addresses of three references. Current faculty have research affiliations with several area teaching hospitals and the Bioengineering Alliance of South Carolina. The strategic plan for the University includes an emphasis in biotechnology and biomedicine. Address applications to: **Biophysics Search Committee, Department of Physics and Astronomy, Clemson University, Clemson, SC 29634-0978**. To receive full consideration, applications should be received by November 15, 2002. The search will continue until the positions are filled. Further details about the Department and the talents we seek in filling these positions can be found at our **website: http://physicsnt.clemson.edu/**. *Clemson University is an Equal Opportunity/Affirmative Action Employer. Qualified women and minorities are encouraged to apply.*

UCSF Assistant/Associate Professor UCSF Diabetes Center

The Diabetes Center of the University of California at San Francisco is seeking to appoint a new faculty member whose research program will focus on understanding the mechanisms of diabetes and developing better ways to treat and prevent diabetic diseases. The Diabetes Center is chartered to investigate both type I and type II diabetes, as well as the development, differentiation and homeostasis of the cell types and tissues manifesting these diseases. The successful candidate is expected to have a research plan relevant to type I or II diabetes, and to be committed to active participation in the affairs of the Diabetes Center. Among the relevant research specialties are human and model system genetics, immunology, cell signaling of metabolic functions, stem cells, and developmental biology. The appointee will occupy a laboratory in the Diabetes Center at the Parnassus Heights campus of UCSF, and will be a member of the Biomedical Sciences Graduate Program and an appropriate academic department. Appointment at the Assistant or Associate Professor level will be considered.

Candidates are expected to hold a Ph.D or M.D degree, and to have demonstrated achievement in their field. The deadline for applications to be considered in a timely manner is December 1, 2002. Applicants should submit a curriculum vitae, a 1-2 page summary of research accomplishments, a 1-2 page perspective on future research plans, and reprints of major publications, and arrange to have three-five letters of recommendation forwarded to:

Diabetes Center Faculty Search Committee
c/o Ms. Lily Yu
Room HSW1053
UCSF
513 Parnassus Avenue
San Francisco, CA 94143-0534

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

Tenure-Track Investigator

The Oral Infection and Immunity Branch in NIDCR, NIH, is conducting a national search for an outstanding tenure-track investigator in molecular microbiology/immunology. The successful candidate will be expected to develop a strong independent research program to study the interface between oral pathogens and their target cells. The ideal candidate would provide expertise in both molecular microbiology and in cellular and molecular biology. Such interests in microbial pathogenesis would complement and bridge the existing multidisciplinary research in the Branch, which currently includes studies on bacteria, biofilms, viruses, immunology, and chronic inflammatory diseases. The Branch will provide excellent support for a cutting-edge research program, including access to core facilities and/or clinical research. The tenure-track appointment would be equivalent to the Assistant/Associate Professor level and enable conversion to a permanent position if successful. The initial appointment is for a two year period and may be extended up to six years by mutual agreement while seeking tenure. Conversion to tenure would be subject to rigorous scientific review and endorsement by the NIDCR and NIH scientific leadership.

Candidates must have an advanced degree, D.D.S., M.D., and/or Ph.D; three or more years of postdoctoral experience; and evidence of exceptional productivity. Evidence of written and oral communication skills and mentoring ability is essential. Salary range for candidates is commensurate with training and experience. Candidates should send curriculum vitae, bibliography, brief statement of research accomplishments, and have three letters of reference sent to: **Esther Weiss, Human Resources Program, Bldg. 31, Room 2C19, NIDCR, NIH, Bethesda, MD 20892** or email: **weisse@mail.nih.gov** by **November 1, 2002**. Informal inquiries may be directed to **Dr. Sharon M. Wahl** at **smwahl@dir.nidcr.nih.gov**.

NIH is an Equal Opportunity Employer.

RIKEN Brain Science Institute, Japan
A Laboratory Head
Applications invited for a laboratory head in the Molecular Neuropathology Group at BSI (RIKEN)

RIKEN Brain Science Institute (BSI) promotes three strategic research areas: "understanding the brain", "protecting the brain" and "creating the brain". BSI is currently accepting application for a laboratory head(LH) post in the Molecular Neuropathology Group of the "protecting the brain" area. The Molecular Neuropathology Group already includes laboratories for Structural neuropathology (former lab for CAG repeat diseases) (LH: **Nobuyuki Nukina**), for Neurogenetics(LH: **Kazuhiro Yamakawa**) and for Motor system neurodegeneration (LH: **Ryosuke Takahashi**). During the first phase, it has contributed to the elucidation of pathomechanism of neurodegenerative disorders and identification of responsible genes for epilepsies. To promote research in the next five-year term, the group will establish one new team, which will focus on etiology or prevention of neurological disorders, complementing other teams in the group. Candidates, developing a new strategy for those purposes or establishing the system for drug discovery will be preferred. New laboratory head will be required to organize a team of 5-10 researchers and technical staff and will be provided with full support for 5 years. Progress review by an international review committee occurs every 5 years with the possibility of contract renewal. There is a possibility to select as "senior scientists". (Their employment will continue at most ten years.)

Applications are encouraged from outside Japan, but researchers must be willing to work at BSI full time. A strong desire for interaction with the other teams at BSI is essential. Applicants should send a full CV listing all publications with a statement of research interests and project proposal at BSI (max 2000 words), plus names and addresses of three referees to:
Search Committee (17), Brain Science Institute, RIKEN,
2-1 Hirosawa, Wako, Saitama 351-0198, Japan.
FAX: 81-48-462-4796. E-mail:Search17@brain.riken.go.jp

Deadline: **October 31, 2002**
For further information, please contact the search committee (17)
For further information about RBSI please see our web site:
http://www.brain.riken.go.jp.

MALARIA PROGRAM
NAVAL MEDICAL RESEARCH CENTER

CLINICAL IMMUNOLOGIST

The Naval Medical Research Center (NMRC) Malaria Program is an internationally recognized leader in malaria research engaged in the discovery and development of an effective vaccine against the disease. The Malaria Program is seeking a clinical immunologist to direct the research in one of its major program areas. The position offers the opportunity for a qualified scientist to work on the cutting edge of malaria research. In addition to their scientific expertise, applicants will require strong leadership qualities and excellent verbal and written communication skills. The challenge also demands a forward-thinking, creative individual who can operate in a goal-oriented, team environment. The selected individual will lead the Clinical Immunology group in support of malaria vaccine clinical trials, as well as conduct basic and applied immunology research. Responsibilities include developing, evaluating, and implementing methods for monitoring immunological responses, with particular emphasis on T cell immune responses. Experience with ELISPOT assays, flow cytometry, dendritic cell culture, cytotoxic T cell assays, assay development and validation, immunologic monitoring of clinical trials, and familiarity with standards of Good Laboratory Practices are highly desirable. Minimum requirements include a Ph.D. and/or M.D. with five years of senior-level research and management experience. Work will be performed at state-of-the-art medical research laboratories in Silver Spring, MD.

GENERAL INFORMATION

Chosen individual will be an employee of the Henry M. Jackson Foundation for the Advancement of Military Medicine. Competitive starting salary. Benefits include paid leave, medical insurance, retirement, and parking. A statement of research interests, detailed curriculum vitae, and names of three referees should be submitted to: **Administration, NMRC Malaria Program (IDD), 503 Robert Grant Avenue, Silver Spring, MD 20910-7500; Fax: (301) 319-7541; Email: oharem@nmrc.navy.mil.** Email responses are strongly encouraged.

The Jackson Foundation is a private, not-for-profit organization chartered by Congress to support military medical research and education. Additional information is available at the **website**, **www.hjf.org**.

The Foundation is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

BIOLOGY PROFESSOR: Denison University, a selective liberal arts college located 25 miles east of Columbus, Ohio, invites applications for a tenure-track position at the **ASSISTANT** to **FULL PROFESSOR** level to commence at the start of the fall 2003 semester. A strong potential for excellence in teaching and an active research program involving undergraduates are essential. The Ph.D. is required; postdoctoral experience and demonstrated teaching ability are assets. Teaching responsibilities include developmental biology, cell and molecular biology, and introductory courses for majors and nonmajors. Research focused on a developing system is required.

Denison offers competitive start-up funds; summer support for student and faculty research; a 350-acre biological reserve with field station near campus; and, in fall 2003, we will move into the new, state-of-the-art Talbot Hall of Biological Science. See our **website: http://www.denison.edu/biology** for more detailed descriptions of the position and the program. Candidates should send letter of application; curriculum vitae; statements of teaching philosophy and research interests; copies of transcripts (graduate and undergraduate); and the names, e-mail addresses, and telephone numbers of three references to: **Chair, Developmental Biology Search Committee, Biology Department, Denison University, Granville, OH 43023**. Application deadline is October 25, 2002. *Denison is an Affirmative Action/Equal Opportunity Employer. Women and minorities are especially encouraged to apply.*

PROFESSOR OF MOLECULAR PATHOLOGY
The Harvard Medical School

The Department of Pathology at Harvard Medical School is seeking a candidate with a specific scientific interest in the area of molecular patholgy with expertise in the area of protein biochemistry and proteomics and an interest in cancer biology. Individuals should have a Ph.D. and/or M.D. degree and a distinguished record of research accomplishments and publications, research funding, and teaching. This tenured Professor will be expected to establish and maintain a vigorous research laboratory and to participate in the medical and graduate school teaching programs of the Pathology Department at Harvard Medical School. For consideration, please send a cover letter; curriculum vitae; a list of publications; names of three references; and a concise summary of research accomplishments and interests by November 1, 2002, to:

Peter M. Howley, M.D.
Chairman, Department of Pathology
Harvard Medical School
Armenise 630
200 Longwood Avenue
Boston, MA 02115

Applications from women and minority candidates are strongly encouraged.

The Department of Physiology of McGill University invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level. Successful applicants will have a Ph.D. degree and will be expected to maintain an active research program, teach undergraduate and graduate-level courses, and provide graduate student supervision. While the area of research is open, priority will be given to Systems Neuroscientists with an interest and expertise in sensorimotor physiology.

Applications, which should include curriculum vitae; a statement of research interests and teaching experience; copies of representative publications; and three letters of recommendation, should be sent to: **Dr. Alvin Shrier, Chair, Department of Physiology, McGill University, 3655 Promenade Sir William Osler, Montreal, Quebec H3G 1Y6 Canada**. Applications will be accepted until the position is filled.

Further information about McGill University and the Department of Physiology can be found at **website: http://www.mcgill.ca**. *All qualified candidates are encouraged to apply; however, priority will be given to citizens and permanent residents of Canada.*

POSITIONS OPEN

TENURE-TRACK ASSISTANT PROFESSOR OF BIOLOGY
College of Saint Benedict
Saint John's University

The joint Biology Department of the College of St. Benedict/St. John's University is seeking a broadly trained Vertebrate Biologist to teach a two-semester course in human anatomy and physiology for students pursuing careers in allied health. It is desirable that the successful candidate provides expertise in vertebrate paleontology or environmental science. Ph.D. required. This tenure-track position begins August 27, 2003. Saint John's University, a liberal arts college for men, and the College of Saint Benedict, a liberal arts college for women, are located four miles apart in central Minnesota just outside metropolitan St. Cloud and 70 miles from Minneapolis, Minnesota. Both are Catholic colleges in the Benedictine tradition, which emphasize quality teaching and a commitment to intercultural learning. All applicants must submit a letter of application, statement of teaching philosophy, curriculum vitae, copies of all transcripts (originals required for interview), three recent letters of recommendation: **Human Resources Coordinator, College of Saint Benedict, 37 South College Avenue, St Joseph, MN 56374. E-mail: mergen@csbsju.edu**. For more information, see **website: http://www.csbsju.edu/humanresources**. Application deadline: November 15, 2002. *Women and people of diverse racial, ethnic, and cultural backgrounds are encouraged to apply. The College of Saint Benedict/Saint John's University are Equal Employment Opportunity/Affirmative Action Employers.*

The Lake Forest College Biology Department invites applications for a **TENURE-TRACK FACULTY POSITION** at the entry or advanced level. We are seeking an Animal or Plant Physiologist with postdoctoral experience Candidates will be expected to participate in teaching at all levels of the undergraduate curriculum and to develop an active research program leading to publication with undergraduates. Start-up funds and excellent research facilities are available. Teaching responsibilities include the first-year core course in organismal biology, an upper-level general or animal physiology course, and seminar or other courses in candidate's area of interest. Lake Forest College is a nationally selective undergraduate liberal arts institution located 30 miles north of Chicago with small class sizes and state-of-the art facilities. Please send curriculum vitae, statement of teaching interests/philosophy, research plan, and have letters sent from three references to: **Dr. Karen Kirk, Department of Biology, Lake Forest College, 555 North Sheridan Road, Lake Forest, IL 60045**. Review of applications will begin November 1, 2002. *With students from approximately 45 states and 45 countries, Lake Forest College embraces diversity throughout all its constituencies. We encourage applications from women and members of historically underrepresented groups.*

ASSISTANT CHAIR. The Department of Biological Sciences at Florida International University (**website: http://www.fiu.edu/~biology**) seeks an Assistant Chair, a full-time, permanent, nontenure-track position with the rank of Lecturer. Primary responsibilities will be administration of the Department, a Ph.D.-granting program with 35 full-time faculty, 100 graduate students, and 1,000 undergraduate majors. Twenty-five percent of the Assistant Chair's assignment will be to contribute to the academic mission of the Department through either teaching or research. Ph.D. in the life sciences or M.S. with considerable administrative experience required. Please send a letter of interest highlighting academic administration experience as well as plans for contributing to the academic mission of the Department, curriculum vitae, and the names and contact information of three references to: **James Fourqurean, Chair, Department of Biological Sciences, Florida International University, Miami, FL 33199**. Review of applications will begin on October 31, 2002, and continue until the position is filled. *FIU is an Equal Opportunity Institution that encourages diversity.*

POSITIONS OPEN

TWO TENURE-TRACK ASSISTANT PROFESSOR POSITIONS
Psychology
University of Washington

(1) **ANIMAL BEHAVIORIST** pursuing integrative approaches (including cognitive, developmental, genetic, sensory, or neuroethological). Candidate should complement current area strengths (area **website: http://depts.Washington.edu/psych/Research/animbehav.htm**). (2) **BEHAVIORAL NEUROSCIENTIST** working on fundamental issues and using state-of-the-art neuroscience approaches and animal models, preferably in the area of learning, memory, and/or plasticity. This work should be characterized by a neural systems and behavioral orientation and conducted at different levels of analysis such as behavioral genetics, systems-level physiology, or neuroanatomy.

Applicants should have a Ph.D. and a strong research program and will be expected to participate actively in the teaching program of the Department. To apply, send complete curriculum vitae, a statement of research and teaching interests, a sample of recent reprints or preprints, and arrange to have three letters of recommendation sent to the appropriate Search Committee (either **Animal Behavior Search Committee** or **Behavioral Neuroscience Search Committee**), **Department of Psychology, University of Washington, Box 351525, Seattle, WA 98195-1525**. All applications received by December 1, 2002, will receive full consideration. *The University of Washington is building a culturally diverse faculty and strongly encourages applications from women and minority candidates. Affirmative Action/Equal Opportunity Employer.*

The Department of Biology at the State University of New York College at Oneonta invites applications for a tenure-track **ASSISTANT PROFESSOR** position beginning spring 2003. Initial appointment will be for two years. **BOTANIST**. Duties: Teach general biology and develop upper-level course(s) in one or more of the following areas: Northeastern flora, anatomy and morphology of vascular plants, mycology, phycology, or ethnobotany. Research and teaching possibilities exist at the Biological Field Station in Cooperstown. Required qualifications: Ph.D. in botany or related area with background in systematics and field biology. Preferred qualifications: evidence of ability to teach and develop departmental courses at all levels and ability to integrate computer-based technology into curriculum. Facilities include greenhouses, growth chambers, and herbarium. To apply, please send current curriculum vitae, statements of teaching and research interest, official transcripts, and three letters of recommendation to: **Dr. William J. Pietraface, Chair, Search Committee, Department of Biology, Box S, State University College at Oneonta, Oneonta, NY 13820-4015**. Review of applications will begin immediately and will continue until the position is filled. *SUNY Oneonta is an Equal Employment Opportunity/Affirmative Action/Americans With Disabilities Act Employer. Women, minorities, veterans, and persons with disabilities are encouraged to apply.* (Tracking #1013–G)

The Mathematics and Science Division at Babson College is seeking a **BIOTECHNOLOGIST** with a strong commitment to teaching excellence and scholarship for a tenure-track position beginning no later than September 2003. Candidate must be willing to develop and deliver biological and biotechnical course material specifically geared for undergraduate students who are not science majors. Applicant must hold or be in the process of completing a Ph.D. or equivalent in biology or a related field.

Contact information: Send curriculum vitae, teaching evaluations, and three letters of recommendation to:

Professor Stephen S. Holt
Chair of the Search Committee
Division of Mathematics and Science
Babson College
Babson Park, MA 02457-0310

Babson College is an Equal Opportunity/Affirmative Action Employer.

PENNSTATE

1855

ASSISTANT/ASSOCIATE PROFESSORS OF BIOLOGY

Penn State's Commonwealth College invites applications for tenure-track Assistant Professors of Biology for two of its campus locations. Start Date: August 2003. The Commonwealth College is the largest college within the university system and is comprised of 12 campus locations throughout Pennsylvania. The Penn State campuses seeking these positions are Fayette (Pittsburgh area) and Mont Alto (south central Pennsylvania). QUALIFICATIONS: Ph.D. in Biology. Preference given to candidates with teaching experience beyond a graduate assistantship; evidence of a promising record of research; and a demonstrated commitment to high-quality innovative teaching and active and collaborative learning. Please visit our college website at http://cwchome.psu.edu for more detailed information regarding the positions, the campuses and the Commonwealth College. RESPONSIBILITIES: Teach courses in concepts and biodiversity, function and development, molecules and cells, and additional non-major courses as assigned. Teaching assignment is 9 contact hours per semester. In addition, the successful candidate will be expected to pursue a research program appropriate for tenure; advise students; actively participate in professional organizations; and participate in campus, community and university service. APPLICATION: Please submit a cover letter, resume, and the names, addresses, telephone numbers, and e-mail addresses of three references to: Commonwealth College Faculty Searches, The Pennsylvania State University, 111 Old Main, Box SCI, University Park, PA 16802. Applications also will be accepted as Microsoft Word or PDF files at cwcsearch@psu.edu.

Penn State is committed to affirmative action, equal opportunity and the diversity of its workforce.

Washington State University
Faculty Position in NMR Spectroscopy
School of Molecular Biosciences

The School of Molecular Biosciences seeks to fill a tenure track position beginning August 2003 or later in the area of Structural Biology. The successful candidate will be one employing Nuclear Magnetic Resonance Spectroscopy as a research tool to investigate the structure and function of biomolecules. Preference will be given to candidates who qualify for Associate or Full Professor, however outstanding candidates at the Assistant Professor level are encouraged to apply. The position will include a competitive salary, high quality laboratory facilities, access to state-of-the-art equipment and an excellent quality of life. Equipment currently available to the successful candidate in the University's Center for NMR Spectroscopy include a 5 channel Bruker DRX 600 combined liquids and solid-state spectrometer, a 4 channel 3 axis field gradient Varian Inova 500 liquids spectrometer, a Varian Mercury 300 spectrometer and a 4 channel Bruker DRX 400 solid-state spectrometer (**http://nmr.chem.wsu.edu**). The successful candidate will be expected to maintain a vigorous research program supported by extramural funding, train graduate students, participate in graduate and undergraduate teaching and enhance the instrumental capabilities of the NMR Center. Candidates must have a Ph.D., postdoctoral training, the ability to communicate effectively with students and colleagues and a record indicating outstanding abilities in research and teaching. The School offers undergraduate and graduate degrees in biochemistry, microbiology, cell biology and genetics and has traditionally held strengths in structural biology, reproductive biology, microbial physiology, pathogenesis, biochemistry, biophysics, gene expression and DNA repair (**http://molecular.biosciences.wsu.edu**).

Screening of applicants will begin November 1, 2002, and continue until the position is filled. First, send immediatcly as an e-mail attachment your most recent NIH Biographical Sketch to **Debbie Waite (dwaite@wsu.edu)**. Follow up the e-mail message with a letter of application, curriculum vitae, and statement of current and long-term research interests and then arrange for three letters of reference addressing research accomplishments, teaching and communication skills to be sent to: **Prof. A. Keith Dunker, Search Committee Chair, School of Molecular Biosciences, Washington State University, Pullman, WA 99164-4660**. More information can be found at **http://www.chr.wsu.edu**.

WSU employs only U.S. citizens and lawfully authorized non-U.S. citizens. WSU is an Equal Opportunity/Affirmatvie Action Educator and Employer. Protected group members are encouraged to apply.

Faculty Positions In Cell Biology

Memorial Sloan-Kettering Cancer Center invites applications for tenure-track faculty positions at the Assistant Member level in the Cell Biology Program. Successful candidates will carry out independent research programs addressing problems in any aspect of cell biology including, but not limited to, delineation and integration of signaling networks; basis for context dependent responses to signals and drugs; mechanisms underlying the social behavior of cells. The new faculty members will join a community of cell biologists in several research programs at Memorial Sloan-Kettering Cancer Center, which offers an outstanding research environment and support infrastructure.

Interested parties should forward their Curriculum Vitae, a description of their past research accomplishments and proposed research program, selected reprints, and three letters of recommendation to: **Dr. Joan Massague, c/o Fran Berman, Box 135, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021. Application deadline is November 1, 2002.** EOE/AA

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

MAYO CLINIC

Hematologist Oncologist
Rochester, Minnesota

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

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

Submit curriculum vitae and copies of first authored publications to:

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

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

POSITIONS OPEN

TWO ASSISTANT PROFESSOR POSITIONS IN ECOLOGY
Tennessee

The Department of Ecology and Evolutionary Biology intends to hire two Ecologists to start on August 1, 2003. The positions are at the Assistant Professor level. Postdoctoral experience or the equivalent is preferred as is field or laboratory experience in the area of specialty. We are interested in all areas of ecology: individual, population, community, and ecosystem. Teaching for each faculty member will include a sophomore-level introductory ecology course and a discipline-specific advanced course. We encourage applicants to develop research plans that take advantage of the natural resources available in the Tennessee region. Information about the Department can be found at **website: http://eeb.bio.utk.edu/**.

Interested candidates should send an application to: **Dr. Dan Simberloff, Nancy Gore Hunger Chair of Environmental Studies, Department of Ecology and Evolutionary Biology, University of Tennessee, Knoxville, TN 37996**. The application should include a résumé indicating research goals and teaching experience and goals; the candidate should also arrange for three letters of reference to be submitted. Review of applications will begin on 28 October 2002 and will continue until the positions are filled. *The University of Tennessee is an Equal Employment Opportunity/Affirmative Action/Title VI/Title IX/Section 504/Americans With Disabilities Act/Age Discrimination in Employment Act institution in the provision of its Education and Employment programs and services.*

FACULTY POSITION
Organic Chemistry
University of California, Davis

The Department of Chemistry, University of California, Davis, announces an open search to fill up to four tenure-track positions, one of which may be at a senior level, in organic chemistry with an emphasis in biological chemistry, bioorganic chemistry, chemical biology, or biomaterials. Successful candidates will demonstrate strong motivation towards a productive research career (or have already established an outstanding research program) and a strong commitment to teaching. All applications should include curriculum vitae, list of publications, and a summary statement of research goals and should be addressed to: **Organic Recruitment Committee, Department of Chemistry, University of California, Davis, One Shields Avenue, Davis, CA 95616.** Applicants for junior positions should arrange to have three letters of reference sent to the **Chair of the Committee**. Completed applications received by November 15, 2002, will be accorded first consideration. *The University of California, Davis, is an Affirmative Action/Equal Opportunity Employer with a strong institutional commitment to developing a climate that supports Equal Opportunity and respect for differences.*

ASSISTANT PROFESSOR OF ZOOLOGY

The Zoology Department of Ohio Wesleyan University, a selective undergraduate liberal arts college, invites applications for a tenure-track position to begin August 2003 (pending formal authorization). Responsibilities include teaching introductory cell biology, advanced cell and molecular biology, and another advanced course in area of expertise (preferably immunology) over a two-year cycle. Ohio Wesleyan seeks faculty who are committed to excellence in teaching and to involvement of undergraduates in research. Ph.D. required. Additional position and institutional information is available at **website: http://jobs.owu.edu** or from the Chair (**e-mail: dcradaba@owu.edu**). Send letter of application, current curriculum vitae, statement of teaching and research interests, all undergraduate and graduate transcripts, three letters of recommendation, and up to five reprints to: **Dr. Dennis C. Radabaugh, Department of Zoology, Ohio Wesleyan University, Delaware, OH 43015**. Review of applications will begin on November 11, 2002. *Ohio Wesleyan University is an Equal Opportunity/Affirmative Action Employer and actively seeks applications from women and minorities.*

POSITIONS OPEN

WILLIAM R. KENAN PROFESSORSHIP
Computational Neuroscience

The undergraduate colleges in the Claremont consortium (Claremont McKenna, Harvey Mudd, Pitzer, Pomona, and Scripps Colleges) seek a broadly trained Computational Neuroscientist to fill the William R. Kenan Chair beginning in September of 2003. The Kenan Professorship was formed as an all-Claremont tenured position to be held by a person who has achieved a record of distinction in a new interdisciplinary area. The successful candidate will have an unusual opportunity to take a leadership role in an intercollegiate, interdisciplinary neuroscience program that focuses on undergraduate education and research and involves faculty members in biology, psychology, engineering, and philosophy. A commitment to excellence in undergraduate teaching, an interest in exploring interdisciplinary collaborations, and an active research program are expected. Preference will be given to candidates with a strong background in biology.

The Claremont Colleges include five highly selective liberal arts colleges, the Claremont Graduate University, and the Keck Graduate Institute for Applied Life Sciences (see **website: http://www.claremont.edu/about.html**). The hire will be made within the Joint Science Department (see **website: http://www.jsd.claremont.edu/**), a department of 22 faculty members in biology (12), chemistry (seven), and physics (four) that is cosponsored by Claremont McKenna, Pitzer, and Scripps Colleges.

Send curriculum vitae, copies of three publications, and statements describing research interests and teaching interests/philosophy to: **Kenan Search Committee, W. M. Keck Science Center, 925 North Mills Avenue, Claremont, CA 91711.** Arrange to have three letters of recommendation sent to the same address. Please direct inquiries to: **Alan Jones, Vice President of Pitzer College and Dean of the Faculty; Telephone: 909-621-8217; e-mail: alan_jones@pitzer.edu**. Review of applications will begin on December 2, 2002, and continue until the position is filled.

In a continuing effort to enrich our academic environment and provide Equal Educational and Employment Opportunities, The Claremont Colleges actively encourage applications from women and members of historically underrepresented groups in higher education.

ASSISTANT PROFESSOR ENVIRONMENTAL SCIENCE AND POLICY
College of Arts and Sciences Number 2901

The Environmental Science and Policy Program at the University of Southern Maine, an undergraduate interdisciplinary program within the College of Arts and Sciences, seeks a tenure-track Assistant Professor specializing in aquatic ecology. The candidate must be committed to interdisciplinary teaching and research. We hope to attract staff who share a commitment to diversity, tolerance, and an active examination of ideas that can provide our students with a greater understanding of the richness and complexity of our society. Teaching responsibilities include an introductory environmental science course and some combination of upper-level courses in aquatic ecology, wetlands, limnology, water quality, environmental statistics, and field methods. The position requires an active research agenda with potential for external funding. Involvement of undergraduates in research is expected. The appointment begins September 2003 pending budgetary approval. Qualifications: a Ph.D. in environmental science or closely related field with all requirements including dissertation defense complete by June 30, 2003. Relevant teaching experience preferred. Salary: competitive, based on experience. This position is advertised pending budgetary approval. Please submit a cover letter; current curriculum vitae; transcripts; and the names, postal, telephone, and e-mail addresses of three references to: **Charles Fitts, Environmental Science and Policy Program, University of Southern Maine, RE: 101, 37 College Avenue, 106 Bailey Hall, Gorham, ME 04038. E-mail: cfitts@usm.maine.edu; Telephone: 207-780-5390**. Review of applications will begin on November 1, 2002, and continue until the position is filled.

POSITIONS OPEN

BIOCHEMISTRY FACULTY POSITION

The University of Massachusetts Lowell invites applications for a tenure-track faculty at **ASSISTANT/ASSOCIATE/FULL PROFESSOR** rank in the Department of Chemistry to start September 2002. Areas of research considered include physical biochemistry/instrumental or theoretical/computational approaches to structure determination or intermolecular interactions in genomics, proteomics, or drug-target systems. A solid background in and active utilization of information technology is required. The candidate will develop an active, high-quality funded research program and will participate in the Biochemsitry Ph.D. Program Option within the Department. Active participation in developing an integrated (four-science department) curriculum in cheminformatics/bioinformatics at UML is expected. Teaching will be at both the undergraduate and graduate levels. Review of applications will begin November 15, 2002, and will continue until the position is filled. This position is contingent upon funding. The candidate should send detailed curriculum vitae, a two-page description of research plans with estimated start-up costs, a description of teaching ideas related to developing course curriculum for bioinformatics/cheminformatics courses, and three letters of reference to: **Professor Kenneth A. Marx, Department of Chemistry, University of Massachusetts Lowell, One University Avenue, Lowell, MA 01854**. *The University of Massachusetts is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION
Microbiology
Georgia Institute of Technology

The School of Biology at the Georgia Institute of Technology invites applications for a tenure-track faculty position at the level of **ASSISTANT** or **ASSOCIATE PROFESSOR** in the area of microbiology. We seek candidates with a record of research achievement in any area of microbial genetics, ecology, or physiology. Individuals employing genomic or proteomic approaches are also encouraged to apply. The successful candidate will be expected to establish a strong, extramurally funded research program and teach undergraduate- and graduate-level courses. Review of applications will begin November 1, 2002. Send curriculum vitae, a statement of research and teaching goals, and three letters of reference to: **Dr. Thomas J. DiChristina, Chair, Microbiology Search Committee, School of Biology, Georgia Institute of Technology, 310 Ferst Drive, Atlanta, GA 30332-0230**. For further information concerning faculty research interests, refer to the School of Biology **website: http://www.biology.gatech.edu**. *Georgia Tech is a unit of the University System of Georgia and an Affirmative Action/Equal Opportunity Employer.*

TENURE-TRACK FACULTY POSITION

The Boston College Biology Department invites applicants to fill a tenure-track position at the level of **ASSISTANT PROFESSOR** or at a more senior level. We are particularly interested in candidates working in vector and insect science (who will contribute to the development of a research initiative in this area) or in cell cycle (who would help expand and consolidate an existing faculty strength). We expect the appointee to establish an externally funded, independent research program and to contribute to graduate and undergraduate training. Information on our department and its faculty is **available at website: http://www.bc.edu/schools/cas/biology/**. Send curriculum vitae, brief descriptions of research plans and teaching interests, representative publications, and confidential recommendation letters from three or more individuals to: **Dr. Marc Muskavitch, Chair, Molecular Biology and Genetics Search Committee, Biology Department, Boston College, 140 Commonwealth Avenue, Chestnut Hill, MA 02467.** Review of applications begins December 10, 2002, and will continue until the position is filled. *Boston College is an Equal Opportunity/Affirmative Action Employer.*

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

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

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

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

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

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

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

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

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

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

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

DISTINGUISHED FELLOWSHIP

Lawrence Livermore Postdoctoral Fellowship

The Lawrence Livermore National Laboratory (LLNL) has openings available under its Postdoctoral Fellowship Program. This is a highly desirable, prestigious position with ample resources and freedom to conduct cutting-edge research in the fields of the candidate's choice. Duration for the Fellowship is up to three years. Typically two openings are available each year. Fellowships are awarded only to candidates with exceptional talent, credentials, and a track record of research accomplishments.

Candidates will do original research in one or more aspects of science relevant to the mission and goals of LLNL which include: Physics, Computational Mathematics, Computer Science, Chemistry, Material Science, Engineering, Environmental Research, Atmospheric Science, Geological Sciences, Energy, Laser Science, and Biological Science. Successful candidates may participate in experimental or theoretical work at LLNL, and will have access to LLNL's extensive computing facilities, specialized laboratory facilities, and field equipment. A senior scientist will serve as a mentor to each of the Fellows. The candidates will receive full management and administrative support. The salary is $7,250/mo.

Please refer to our web page http://fellowship.llnl.gov for eligibility requirements and application information. Please reference source code AJSCA42DO. The deadline for application is November 1, 2002. No applications will be accepted after this date. LLNL is operated by the University of California for the National Nuclear Security Administration/Department of Energy. We are an Equal Opportunity Employer with a commitment to workforce diversity.

University of California
Lawrence Livermore National Laboratory
Science in the National Interest

For information about other employment opportunities, visit our website:

www.llnl.gov/jobs

Faculty Positions in Global Environmental Change at the University of California, Irvine

Global Change Biology. Assistant Professor, tenure track. The Department of Ecology and Evolutionary Biology (**http://ecoevo.bio.uci.edu/**) and the Department of Earth System Science (**http://www.ess.uci.edu/**) at the University of California, Irvine, invite applications for a joint position in Global Change Biology. Relevant research areas include plant physiological ecology, community ecology, experimental ecosystem ecology, biogeochemical or biophysical modeling, and biogeography. Possible areas of specialization include (but are not limited to) the effects of CO_2 on productivity, causes and consequences of biological invasion, effects of nutrient deposition on ecosystem function, simulation of the global nitrogen cycle, simulation of the physical effect of land surface on climate, and sensitivity of plant distributions to climate. The successful candidate will be expected to establish a vigorous research program and to teach graduate and undergraduate courses.

Microbial Ecologist/Geomicrobiologist. The Department of Earth System Science (**http://www.ess.uci.edu**) at UC Irvine invites applications for a tenure-track Assistant Professor position in the area of microbial ecology/geomicrobiology. We seek candidates who are committed to the understanding of microbial controls on global biogeochemical cycles and collaborating with other disciplines in determining the effects of microbial controls on global environmental change. Relevant research methods include experience with microbial (molecular genetics, kinetics) or biogeochemical (tracer, stable isotope, biomarker, modeling) techniques as applied to marine and terrestrial environments. Candidates must have a Ph.D. and a demonstrated record of excellence in research in Earth system science. They should also have a commitment to teaching undergraduates and graduates in a university environment and to developing a research program within a multi-disciplinary academic department. The ESS Department is built upon academic study of the changes to the Earth system that have occurred over the past few centuries and that are expected over the 21st century as a consequence of human activity.

Applicants for either position should submit curriculum vitae, statement of research and teaching interests, representative publications, and three letters of recommendation by December 1, 2002, to: **Dr. William Reeburgh, Department of Earth System Science, University of California, Irvine, CA 92697-3100**. Please specify Global Microbial Ecology Search or Global Change Biology Search. Inquiries and complete electronic submission may be sent to: **essfacultysearch@ess.uci.edu**.

The University of California, Irvine, has an active career partner program, is an Equal Opportunity Employer committed to excellence through diversity, and has a National Science Foundation Advance Gender Equity Program.

POSITIONS OPEN

FACULTY POSITIONS
Department of Biochemistry and Molecular Biology
Uniformed Services University of the Health Sciences
F. Edward Hébert School of Medicine

We invite applicants for two tenure-track positions at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. The Department is seeking outstanding individuals capable of establishing and maintaining independent and vigorous research programs. Research interests in all areas of biochemistry and molecular biology will be considered. Applicants are required to have a Ph.D. degree in biochemistry, molecular biology, or a related field. *Only U.S. citizens and permanent residents may apply.* Candidates for the position of Assistant Professor must have postdoctoral experience and a clear potential to establish a strong and competitive research program. Candidates for the position of Associate Professor are expected to have a well-established research program and a strong track record of external funding. Applicants must also have a commitment to teaching graduate and medical students. Additional information about the Department and the Uniformed Services University of the Health Sciences can be obtained by accessing **websites: http://bio.usuhs.mil** and **http://www.usuhs.mil** respectively.

Applicants should submit curriculum vitae, a concise description of future research plans, and arrange to have three letters of recommendation sent to: **Dr. Teresa Dunn, Faculty Search Committee, Department of Biochemistry and Molecular Biology, Uniformed Services University of the Health Sciences, F. Edward Hébert School of Medicine, 4301 Jones Bridge Road, Bethesda, MD 20814-4799**. All inquiries should be directed to e-mail: **mehorn@usuhs.mil**. Review of applications will begin November 15, 2002, and the search will continue until the positions are filled. *The Uniformed Services University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR, BIOLOGICAL SCIENCES. Towson University, the second largest public institution of higher education in Maryland, seeks applicants for a tenure-track position at the Assistant Professor rank in the Department of Biological Sciences. Ph.D. in an appropriate area and experience in teaching human anatomy and physiology required; postdoctoral experience desirable. The successful candidate will teach anatomy and physiology as well as undergraduate and graduate courses in his/her area of specialty. Development of an active research program involving Master's and undergraduate students and pursuit of extramural funding are expected; specific area of research is open. Position starts August 2003. Salary and benefits are competitive. Qualified candidates should send a letter of interest, descriptions of teaching philosophy and research plans, detailed curriculum vitae, copies of all transcripts, and names plus e-mail addresses of at least three references to: **Dr. Gerald Robinson, Search Committee Chair, Department of Biological Sciences, Towson University, 8000 York Road, Towson, MD 21252-0001 U.S.A.** Applications must be postmarked by November 15, 2002. Additional information is available at **website: http://www.towson.edu/tu/facultylinks/employment.html**. *Towson University is an Equal Opportunity/Affirmative Action Employer and has a strong institutional commitment to diversity. Women, minorities, persons with disabilities, and veterans are encouraged to apply.*

POSTDOCTORAL/RESEARCH ASSOCIATE. Positions are available immediately to study molecular mechanisms of neurodegeneration in animal models of Alzheimer's disease and Parkinson's disease. Persons with experience in neurobiology, molecular biology, and/or model organism genetics are strongly encouraged to apply. Please send curriculum vitae and contact information of three references to: **Bingwei Lu, Ph.D., Laboratory of Developmental Neurobiology, Rockefeller University, 1230 York Avenue, New York, NY 10021. E-mail: lub@mail.rockefeller.edu; FAX: 212-327-7923**. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITIONS
MAMMALIAN GENETICS
Junior and Established Investigator

Dartmouth Medical School has launched a major initiative in genetics that includes continued significant growth in the Department of Genetics. We seek outstanding individuals who will bring or establish vigorous and innovative research programs focused on fundamental questions in mammalian genetics that will embrace but extend beyond the era of genomics and who will contribute their energy to a first-rate environment for research and teaching. Although the area within mammalian genetics is open, particular interests include (1) bioinformatics: computation-based approaches to uncover underlying principles in biological systems and (2) behavioral genetics: Scientists using genetic tools to identify and analyze genes governing behavior. Applicants should submit curriculum vitae, a description of research accomplishments and future objectives, and arrange to have three letters of reference sent directly to the Search Committee by the end of February 2003. Please send all materials to:

Search Committee, Department of Genetics
7400S Remsen, Dartmouth Medical School
Hanover, NH 03755-3837 U.S.A.

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

ROOSEVELT UNIVERSITY is seeking applicants for **ASSISTANT PROFESSOR** of geography/environmental science for a tenure-track position for August 2003. This is an excellent opportunity to collaborate with faculty involved with an interdisciplinary program in environmental science. The successful candidate will teach courses in physical geography, GIS, and environmental science and supervise student research projects. Applicant should have a Ph.D. in physical geography, geology, or related environmental sciences; knowledge of GIS; and a demonstrated commitment to teaching. Postdoctoral research or employment in the environmental sector is a strong plus. Interested candidates should send a letter of application, curriculum vitae, a two-page statement of undergraduate teaching philosophy and research interests, and the names and contact information of at least three references to: **Cornelius Watson, Assistant Director of the School of Science and Mathematics, Roosevelt University, Chicago, IL 60605. Telephone: 312-341-3678; FAX: 312-341-4358; e-mail: cwatson@roosevelt.edu**. Application should be submitted by November 5, 2002. For more information about the university, visit our **website: http://www.roosevelt.edu**. Roosevelt University is an institution dedicated to social justice that serves a diverse population of students. Roosevelt has a campus in Chicago's South Loop and a second major campus in suburban Schaumburg, Illinois. *We especially encourage women and minority candidates to apply.*

ASSISTANT PROFESSOR
Neuroscience/Human Anatomy

Idaho State University (**website: http://www.isu.edu/department/bios**) invites applications for a tenure-track position with teaching responsibilities in clinical neuroscience and/or anatomy for graduate PT/OT/PA programs. We seek applicants with expertise in quantitative and analytical microscopy that complement existing research in cell and molecular biology. Additional responsibilities include oversight and instruction in the Department's imaging facility. Successful candidates must possess a Doctorate (postdoctoral research and teaching experience preferred) and will be expected to establish a vigorous, externally funded research program appropriate for undergraduate and graduate students. Review of applications will begin October 29, 2002. Send curriculum vitae, statement of teaching philosophy and experience, research overview and goals, and contact information for three references to: **Ken Rodnick, Search Chair, Department of Biological Sciences, Idaho State University, Pocatello, ID 83209-8007**. *Idaho State University is an Equal Opportunity Employer and members of underrepresented groups are strongly encouraged to apply.*

POSITIONS OPEN

ANIMAL BEHAVIOR AND POPULATION ECOLOGY POSITIONS
New Mexico State University

The New Mexico State University Department of Biology invites applications for two tenure-track **ASSISTANT PROFESSOR** positions. We seek individuals broadly trained in the biological sciences with a demonstrated commitment to undergraduate and graduate education and with research interests in (1) animal behavior and (2) population ecology who will contribute to our ecology and evolution program. We encourage applications from those who could interact with the Department's other disciplinary areas (cell and organismal biology, microbiology) and programs (e.g., minority training programs, natural history collections, Jornada Basin LTER program, INRAM). Information about the Department can be found at **website: http://www.cs.nmsu.edu/~biology/**. The ideal applicants will have a Ph.D. in biology, postdoctoral experience, prior teaching experience, and research productivity commensurate with experience. The successful candidates will be expected to develop an independent research program, seek external funding in support of research, and teach undergraduate and graduate courses. The Biology Department offers degrees through the Ph.D. Applicants should submit curriculum vitae, statements describing research and teaching interests, and three letters of reference to: **Chair of the Animal Behavior Search** or **Chair of the Population Ecology Search, Biology Department, MSC 3AF, New Mexico State University, Las Cruces, NM 88003. Telephone: 505-646-3613; FAX: 505-646-5665.** E-mail attachments of applications or letters of reference will not be accepted. Review of applications will begin November 1, 2002. *NMSU is a Carnegie Doctoral/Research Extensive Institution and an Equal Employment Opportunity/Affirmative Action Employer.*

FACULTY POSITION
Experimental Neuropathology
Harvard Medical School

The Department of Pathology at Harvard Medical School invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level in the area of experimental neuropathology. Candidates must hold a Ph.D. and/or M.D. degree (or equivalent), have postdoctoral experience, and a strong record of accomplishment in research. The Pathology Department and Harvard Medical School offer an outstanding environment to conduct research and ample shared resources as well as the ability to participate in graduate student and postdoctoral training programs. The research space will be located in a newly constructed research building at Harvard Medical School. Candidates using advanced biomolecular approaches (such as genomics, proteomics, or employing animal models) to study neurodegenerative diseases are particularly encouraged to apply. For consideration, please send cover letter; curriculum vitae; a list of publications; names of three references; and a concise summary of research and future directions by November 15, 2002, to:

Experimental Neuropathology Search Committee
Department of Pathology
Harvard Medical School
Armenise 630
200 Longwood Avenue
Boston, MA 02115

Applications from women and minority candidates are also strongly encouraged.

POSTDOCTORAL POSITION at Florida Atlantic University is available immediately for an individual interested in developmental, molecular, and cellular mechanisms of vertebrate heart development. Candidates must hold a Ph.D. or equivalent degree. Send curriculum vitae, statement of research qualifications, and names of three references to: **Dr. Larry Lemanski, Vice President for Research and Professor of Biomedical Sciences, 777 Glades Road, Florida Atlantic University, Boca Raton, FL 33431**. *Equal Employment Opportunity/Access/Affirmative Action Institution.*

FACULTY POSITION

The Center for Comparative Medicine and
The Division of Infectious Diseases
University of California, Davis

Qualified candidates are invited to apply for a position at the level of **ASSISTANT PROFESSOR** or **ASSOCIATE PROFESSOR**, depending upon qualifications of the applicant. Applicants should have M.D. or M.D./Ph.D. degrees with postdoctoral experience, a record publication in mainstream journals, and enthusiasm for the investigation of human infectious diseases in animal models. Faculty are sought whose research encompasses a variety of disciplines involving mechanisms of host-agent interactions during infections, mechanisms of oncogenesis by infectious agents, and/or development of preventive or interventive strategies for infections. Candidates will be expected to establish and maintain extramurally funded research programs and to participate in the teaching of medical students, residents, and graduate students. Faculty members will hold an academic appointment in the Division of Infectious Diseases within the School of Medicine. The Center for Comparative Medicine is a newly constructed and equipped research center that interdigitates with other campus-wide research programs in the School of Medicine, School of Veterinary Medicine, College of Agriculture, Division of Biological Sciences, California National Primate Research Center, Cancer Center, Center for Vector-borne Disease Research, Center for Neurosciences, Center for Genomics, and Mouse Biology Program. This is a tenure-track position in which generous start-up funding, long-term state sponsored 0.5 base salary support, and ample laboratory space will be provided.

Review of applications will commence immediately and be accepted through January 2003, or until the position is filled. Submit applications with letter of interest, curriculum vitae, concise statement of present and future research plans, summary of teaching experience/philosophy, up to 3 representative reprints, and four references (including addresses, telephone numbers and e-mail addresses) to: **Recruitment Committee Chair, c/o Center for Comparative Medicine, University of California, Davis, CA 95616.**

The University is an Equal Opportunity/Affirmative Action Employer.

EPA
United States Environmental Protection Agency

U.S. Environmental Protection Agency (EPA) Office of Research and Development (ORD)

EPA is seeking three highly qualified scientific leaders who are currently engaged in bench-level work and research and development in the physical, biological, medical, or engineering sciences. Further rounds of hires are possible. The incumbent should be a nationally recognized authority and leader in an area of widespread scientific interest and investigation. He/she will typically have received honors and awards from major national organizations for his/her accomplishments. His/her reputation as a scientific leader is such that he/she serves as a recruiting attraction for recent graduates who seek opportunities to work under his/her inspiration and guidance in one of the fields of study listed below. To meet the requirements of these positions, applicants must have a PhD or equivalent experience.

These are Scientific/Technical (ST) Professional positions located in the Office of Research and Development (ORD). The ST shall be based in one of ORD's many laboratories or centers, dependent on field of study.

The minimum rate of basic pay for an ST position shall equal 120 percent of the GS-15 step 1 rate of basic pay.

The incumbent will be responsible for one of the following fields of study:

1. Surface Water Hydrology
2. Systems Ecology
3. Human Exposure
4. GIS / Spatial Analysis
5. Atmospheric Sciences
6. Environmental-Epidemiology
7. Risk Assessment Modeling
8. Genomics/Proteomics
9. Bioinformatics

Interested applicants may submit a short resume, a vision statement, and 2-3 representative publications to **Jayne Ramsey at U.S. EPA/ORD (8101R), 1200 Pennsylvania Avenue, NW, Washington, DC 20460.**

For more information, please go to **http://www.epa.gov/ORD/htm/jobs_ord.htm**, or contact **Jayne Ramsey at (202) 564-6736** or **ramsey.jayne@epa.gov.**

U.S. Citizenship Required
Applications must be postmarked by January 10, 2003
EPA is an Equal Opportunity Employer

THE UNIVERSITY OF HONG KONG

香 港 大 學

The University of Hong Kong is at the international forefront of higher learning and research, with more than 100 teaching departments and sub-divisions of studies, and more than 60 research institutes and centres. Current enrolment includes 10,000 undergraduates and 7,000 postgraduates from 48 countries. English is the medium of instruction. The university is committed to international standards for excellence in scholarship and research.

Research Assistant Professorships and Post-doctoral Fellowships

Applications are invited for a number of positions as Research Assistant Professor (RAP) (Ref: RF-2002/2003-62) and Post-doctoral Fellow (PDF) (Ref: RF-2002/2003-63), tenable on or before 31 August 2003. Appointments will be made for a period of 2 to 3 years.

RAP and PDF posts are created by the University with the aim of injecting fresh impetus and vigour to the University's research enterprise, in order to complement and broaden its existing research expertise. Appointees are expected to bring in new research ideas and cutting-edge technologies.

Research Assistant Professors

The main focus of an RAP's duty is research. They can however be assigned teaching duties, up to 50% of the normal teaching load. Applicants should be research active and have a proven publication record. Appointments will be made usually on the first point of the 4-point salary scale (which is subject to review from time to time in accordance with the University's establishment mechanism) HK$43,215, HK$46,355, HK$49,455 and HK$52,590 per month (w.e.f. 1 October 2002) (US$5,541, US$5,944, US$6,341 and US$6,743 per month; US$ equivalents as at 10 September 2002). A contract-end gratuity and University contribution to a retirement benefits scheme, totalling up to 15% of basic salary, is provided. Annual leave, medical and dental benefits will be offered.

Post-doctoral Fellows

PDFs are expected to focus on research. Applicants should be PhD degree holders. Appointments will be made usually on the first point of the 4-point salary scale (which is subject to review from time to time in accordance with the University's establishment mechanism) HK$31,005, HK$33,940, HK$37,200 and HK$40,785 per month (w.e.f. 1 October 2002) US$3,975, US$4,352, US$4,770 and US$5,229 per month). Annual leave, medical and dental benefits will be provided.

Where posts are held

A full list of the research areas and the departments or academic units in which the posts are recruited will be shown on the webpage at https://extranet.hku.hk/apptunit.

Procedures

Interested applicants are strongly advised to contact, in the first instance and prior to making an application, the Head of the appropriate department or academic unit to ascertain the level of posts available and to obtain information about current research initiatives and activities.

Applicants must submit a completed University application form, which should clearly state which **position** they are applying for; and in which **academic discipline**. They should also provide further information such as details of their research experience, publications, research proposals, etc.

Further particulars and application forms (272/302 amended) can be obtained at https://extranet.hku.hk/apptunit; or from the Appointments Unit (Senior), Registry, The University of Hong Kong, Hong Kong (Fax (852) 2540 6735 or 2559 2058; E-mail: apptunit@reg.hku.hk). **Closes 25 October 2002.** Candidates who are not contacted within 3 months of the closing date may consider their applications unsuccessful.

The University is an equal opportunity employer and is committed to a No-Smoking Policy

POSITIONS OPEN

ASSISTANT PROFESSOR, biochemistry. The Department of Biochemistry, Biophysics, and Molecular Biology (BBMB) at Iowa State University (**website: http://www.bb.iastate.edu**) seeks an Assistant Professor to develop a research program in plant biochemistry. This position is affiliated with the Plant Sciences Institute (**website: http://www.plantsciences.iastate.edu**), a major research emphasis of the university, which has particular interest in developing the area of functional genomics. High-quality laboratory space and generous start-up support are available. In addition, a new metabolism laboratory is being established with a $2.3 million grant from the W.M. Keck Foundation. Candidates must have a Ph.D. or equivalent, postdoctoral experience, and be committed to excellence in research and teaching. Preference will be given to those with accomplishments in plant biochemistry and/or functional genomics methodology and who articulate a clear vision for the development of a nationally recognized research program. Applicants should submit a cover letter, curriculum vitae, description of previous research accomplishments, explanation of future scientific objectives, and arrange for three letters of recommendation to be sent to: **BBMB Faculty Search, 1210 Molecular Biology Building, Iowa State University, Ames, IA 50011**. To guarantee consideration, applications should be received by November 1, 2002. *Iowa State University is an Equal Opportunity/Affirmative Action Employer. Applications from women and minority candidates are especially encouraged.*

ASSISTANT PROFESSOR OF BIOLOGY

Randolph-Macon Woman's College, a selective liberal arts college with historic strengths in the sciences, invites applications for a tenure-track position at the level of Assistant Professor beginning in August 2003. The position requires a Ph.D. in a biological science with an emphasis in cell biology and a strong commitment to excellence in teaching. Responsibilities include teaching a core course in cell biology or molecular cell biology and an advanced course in immunology. Development of related courses that complement our existing curriculum is also expected as is teaching introductory biology, participation in the Department's Senior Program, supervision of Honors Research, and academic advising. Preference will be given to candidates with a broad general biology background and teaching experience. Application review will begin immediately and continue until position is filled. Send letter of application including a statement of teaching and research interests; curriculum vitae; and the names, mail and e-mail addresses, and telephone numbers of three references to: **Dr. Douglas H. Shedd, Department of Biology, Randolph-Macon Woman's College, Lynchburg, VA 24503. Telephone: 804-947-8490; FAX: 804-947-8138; e-mail: dshedd@rmwc.edu**. To learn more about our college, visit our **wesbsite: http://www.rmwc.edu**.

A tenure-track **ASSISTANT PROFESSOR** position is available for a Plant Molecular Biologist in the program in plant molecular biology/biotechnology and in the Department of Plant Biology at The Ohio State University. Areas of interest include but are not restricted to proteomics, genomics, bioinformatics, development, metabolic engineering, physiology, cell biology, and biochemistry. The successful candidate is expected to establish a creative and productive research program and to excel in undergraduate and graduate teaching. Please submit curriculum vitae, a concise statement of research plans, a description of teaching experience and interests, and three reference letters to: **Fred Sack, Department of Plant Biology, Ohio State University, 1735 Neil Avenue, Columbus, OH 43210-1293.** Review of applications will begin December 6, 2002. For background, see **websites: http://www.biosci.ohio-state.edu/~plantbio/plantbio.html** and **http://www.ag.ohio-state.edu/~pmbb/**. *The Ohio State University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and individuals with disabilities are encouraged to apply.*

POSITIONS OPEN

WASHINGTON STATE UNIVERSITY

DEAN OF GRADUATE SCHOOL, Washington State University, Pullman, Washington. Provides leadership in developing and sustaining a broad range of graduate programs at a level of quality and excellence expected of a nationally recognized research institution. For information and application procedures, see **website: http://www.chr.wsu.edu, Search Number 3192; e-mail: boyan@wsu.edu.** *Equal Employment Opportunity/Affirmative Action Employer.*

FACULTY POSITION
Reeve-Irvine Research Center
University of California, Irvine

Applications are invited for an **ASSISTANT, ASSOCIATE**, or **FULL PROFESSOR** in the adjunct nontenure-track, nonsenate series in the area of spinal cord injury/nervous system regeneration. The focus of this position will be based on research. The principal responsibility will be to coordinate and oversee multiinvestigator research projects carried out in the Reeve-Irvine Research Center. Incumbent will participate in teaching spinal cord research techniques. The individual will also have an opportunity to develop an independent, externally funded research program. Experience in spinal cord injury research and excellent communication and organizational skills are required. Salary is commensurate with experience. Send curriculum vitae, list of publications, a summary of previous research, and names and addresses of at least three individuals who can provide letters of recommendation to:

Tania Cusack
Reeve-Irvine Faculty Search
Reeve-Irvine Research Center
University of California, Irvine
2107 Gillespie Neuroscience Research Facility
Irvine, CA 92697-4292
E-mail: tcusack@uci.edu

The University of California, Irvine, is an Equal Opportunity Employer committed to excellence through diversity.

TWO FACULTY POSITIONS
Mammalogist/Assistant Curator
Cenozoic Vertebrate Paleontologist/
Assistant Curator
Florida Museum of Natural History
University of Florida

The Florida Museum of Natural History, University of Florida, invites applications for two tenure-track positions. The Assistant Curator in mammalogy will be expected to develop an active research program in mammalogy using current systematic tools and to curate and develop the museum's collection of mammals. The Assistant Curator in cenozoic vertebrate paleontology will be expected to develop an active research program involving Neogene vertebrates and to curate and develop the museum's collection of vertebrate fossils. Successful candidates for both positions must have a strong commitment to university education and are expected to interact in allied academic departments. Minimum qualifications: Ph.D. and strong research and collections interests in systematic mammalogy or Cenozoic vertebrate paleontology. Start date: 9 August 2003. Salary competitive and commensurate with experience. Please send a letter of application; curriculum vitae; a statement of research, collections, and teaching experience; reprints of three selected publications; and arrange for three letters of recommendation by 31 December 2002 to: **Dr. Gustav Paulay, Chair of Mammalogy Search Committee** or **Dr. Pamela S. Soltis, Chair of Cenozoic Vertebrate Paleontology Search Committee, Florida Museum of Natural History, University of Florida, P.O. Box 117800, Gainesville, FL 32611-7800**. *The University of Florida is an Equal Opportunity/Affirmative Action Employer. The selection process will be conducted under the provisions of Florida's "Government in the Sunshine" and Public Records laws.*

POSITIONS OPEN

ECOLOGY FACULTY POSITION

The Department of Biological Sciences at the University of Notre Dame invites applications for a **TENURE-TRACK FACULTY POSITION** in ecology beginning fall semester 2003. Applicants must have a Ph.D., postdoctoral experience, and a demonstrated record of research excellence. The successful candidate will be expected to bring new research expertise to the Ecology, Evolution, and Environmental Biology group; help bridge to other research strengths in the Department (cell/molecular biology, physiology, and vector biology); and teach one undergraduate and one graduate course per year. While the research area is open, we encourage applications in the areas of (1) quantitative ecology using statistical or modeling approaches from evolutionary, population, community, or ecosystem perspectives; (2) landscape ecology, emphasizing watershed analysis, land-water interactions, or determinants of biodiversity; and (3) ecosystem ecology including wetland ecology, biogeochemistry, or microbial ecology.

The University of Notre Dame provides an excellent research environment including state-of-the-art instrumentation in the Center for Environmental Science and Technology, protected field sites at the Environmental Research Center in northern Wisconsin, and new laboratory and greenhouse facilities on campus in the Hank Center for Environmental Science. Additional information on the Department is available at **website: http://www.science.nd.edu/biology**. The University of Notre Dame offers competitive salaries and excellent start-up packages. While we expect to hire at the pretenure rank, we will consider outstanding midcareer candidates. Applications will be accepted until November 15, 2002, but review will commence immediately. Applicants should submit curriculum vitae, a description of research accomplishments and goals, a statement of teaching experience and interests, and arrange to have three letters of recommendation sent to: **Dr. Gary A. Lamberti, Ecology Search Chair, Department of Biological Sciences, University of Notre Dame, Notre Dame, IN 46556-0369**. For more information, contact: **Gary Lamberti; e-mail: glambert@nd.edu**. *The University of Notre Dame is an Affirmative Action/Equal Opportunity Employer. Women and minority candidates are encouraged to apply.*

FACULTY POSITIONS
University of Massachusetts Medical School
Department of Neurobiology

The Department of Neurobiology, established as part of the unprecedented research expansion at the University of Massachusetts Medical School, has recently hired several outstanding faculty. We now solicit applications for additional junior (tenure-track) positions. The new Department augments an already existing interdisciplinary program in neuroscience. The laboratories for the Department are housed on one floor of a new state-of-the-art, 340,000-square-foot research building.

The Department seeks individuals of outstanding potential who are investigating fundamental mechanisms of brain function. Specific areas of emphasis include but are not limited to molecular, cellular, and developmental neurobiology. The positions are highly competitive with regard to start-up funds, laboratory space, and salary. Rank will be commensurate with ability and experience.

Applicants should send curriculum vitae, statement of research interests, and names and addresses of three references to:

Dr. Steven M. Reppert
Chair, Department of Neurobiology
University of Massachusetts Medical School
364 Plantation Street
Worcester, MA 01605-2324
Website:
http://www.umassmed.edu/neurobiology/

An Equal Opportunity/Affirmative Action Employer.

Director
UC MEXUS
University of California Institute for Mexico and the United States

The University of California system seeks a distinguished scholar from the U.S. or abroad to serve as director of its multi-campus, interdisciplinary research unit responsible for UC-Mexico programs. UC MEXUS develops international programs involving all the UC campuses and Mexican agencies and institutions of higher education and research. In 1997, the Institute initiated an agreement between the University of California and Mexico's National Council of Science and Technology (CONACYT) and is responsible for the administration of the majority of the related activities and programs. More information on UC MEXUS is available at **www.ucmexus.ucr.edu**.

The Director of UC MEXUS reports to the systemwide Vice Provost for Research through the Executive Vice Chancellor of the Riverside campus, where the Institute is headquartered. The Director is responsible for the management of a $6 million+ annual budget, a current staff of twelve, and a research office at the Casa de California — UC's new hub in Mexico City — as well as convening an Advisory Board.

Established in 1980, UC MEXUS's mission is to develop and sustain a coordinated, Universitywide approach to Mexico-related studies by promoting and supporting research, education, public service, and other scholarly activities in five principal areas: Mexican studies, United States-Mexico relations, Latino studies, critical public policy and academic issues, and collaborative research between U.S. and Mexican scientists and scholars in all disciplines. UC MEXUS has recently undergone a comprehensive fifteen-year review that will further inform its future direction.

Candidates must have a record of distinguished scholarly achievement in an area pertinent to the objectives of UC MEXUS and must be eligible for a senior tenured faculty appointment at the University of California, Riverside. In addition, candidates must possess a successful record of administrative experience in managing an active research center or program. The ability to interact effectively with a wide variety of faculty, administrative, agency, corporate, and foundation personnel, both in the United States and Mexico, is critical. Fluency in both Spanish and English and direct knowledge and experience of Mexico and its institutions are essential.

Submit letter of application and curriculum vitae to: **Chair, UC MEXUS Search Committee, c/o Dante Noto, Office of Research, University of California Office of the President, 1111 Franklin Street, 11th Floor, Oakland, CA 94607-5200.** To ensure consideration, submit materials by **December 1, 2002**.

The University of California is an Equal Opportunity, Affirmative Action Employer

POSTDOCTORAL SCIENTIST [PDS LINX]
The Ecosystems Center

The Ecosystems Center of the Marine Biological Laboratory has a full-time, year round position available for a Postdoctoral Scientist with expertise in Nitrogen Cycle Biogeochemistry.

DUTIES: The position involves performing nitrogen isotope tracer experiments in small streams to measure nitrogen retention and denitrification. The successful applicant will coordinate the research program and participate in all aspects of the field research, laboratory analyses, data base development and preparation of publications. The research will be carried out in the watersheds of Plum Island Sound in northern Massachusetts.

EDUCATION/EXPERIENCE/SKILLS: Applicants should have a Ph.D. and several years of experience in Ecology or a related field. Expertise in hydrology, nitrogen biogeochemistry and stream ecology is most relevant to the position. Skills in database management and scientific writing are preferred.

CONDITIONS: The successful applicant will perform moderately strenuous fieldwork (carrying equipment, bending, wading through wetlands and streams) on small streams during the field months of May to September in Massachusetts. The fieldwork will entail setting up pumps and data logging equipment in the field, conducting solute and tracer additions, sampling stream and seepage water and performing detailed stream reach characterizations. Laboratory work will involve preparing samples for nitrogen stable isotope analysis, nutrient and conservative tracer analysis and dissolved gas determinations among other tasks.

APPLICATION DEADLINE: Review of applications will begin October 7, 2002 and will continue until a suitable candidate is identified.

Please send a cover letter, resume transcripts and the names, addresses, telephone numbers and emails of four references to: **Marine Biological Laboratory, ATTN: Human Resources reference code [PDS LINX], 7 MBL Street, Woods Hole, MA 02543-1015; email resume@mbl.edu**.

An Equal Opportunity/Affirmative Action Employer/ Non-smoking workplace.

Nanogeoscience

Assistant/Associate Professor in Nanogeoscience. The Department of Geology invites applications from scientists emphasizing geological processes at the nanoscale, with specific research in geomicrobiology, biomineralization, and/or chemical reactions at mineral surfaces. The Department of Geology seeks a scientist who will expand upon, and complement, our existing strengths in biogeology and Earth System Science, low-temperature and stable isotope geochemistry, and environmental geology. This position is part of a campus-wide initiative in Nanophases in the Environment, Agriculture and Technology (NEAT), and the candidate is expected to develop campus-wide, interdisciplinary collaborations. For more information about the U.C. Davis Geology Department, visit our Web page at **http://www-geology.ucdavis.edu**.

A Ph.D. in the earth sciences or related field is required at the time of appointment. Applicants should send a curriculum vitae, a statement of research and teaching interests, and names, addresses, phone numbers and e-mail addresses of at least three people who can be contacted for recommendations to:

Robert Zierenberg, Chair, Geology/NEAT Committee
Department of Geology
One Shields Avenue
University of California, Davis
Davis, CA 95616

Phone: (530) 752-0350
Fax (530) 752-0951
E-mail: NEAT-search@geology.ucdavis.edu

The position will be effective starting Fall, 2003. To ensure full consideration, applications should be received by November 15, 2002. The position will remain open until filled.

The University of California is an affirmative action/equal-opportunity employer. The University undertakes affirmative action to assure equal employment opportunity for minorities and women, for persons with disabilities, and for special disabled veterans, Vietnam era veterans, and any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

ASSISTANT PROFESSOR OF AIRWAY BIOLOGY
Physiology Program
Department of Environmental Health
Harvard School of Public Health

The Physiology Program of the Department of Environmental Health invites applications for a tenure-track position as Assistant Professor. The most important quality of the successful candidate will be a record of independent, original research in airway biology at the levels of smooth muscle, epithelium, inflammatory cells, cytokines, physical factors, genes, or integrated airway function. We particularly welcome applicants with innovative interdisciplinary approaches to mechanisms of asthma, lung diseases, or biomechanics of airway cells.

This position offers outstanding scholarly and scientific resources in a collegial and collaboratitve atmosphere that includes strong ties to other departments throughout Harvard and surrounding teaching hospitals; a joint appointment with Harvard Medical School is also possible. The position offers the opportunity to mentor exceptional students and Postdoctoral trainees with strong interests in lung biology. The successful candidate will be expected to develop an independent research program, to participate in the teaching of graduate-level physiology or pathophysiology courses, and to supervise graduate students and postgraduates. Competitive start-up funding is available.

Applicants must have a Ph.D. M.D., or equivalent graduate degree. Applicants should send a statement of current and future research interests, curriculum vitae, and the names and contact information for at least three references to:

Chair, Airway Biology Search
c/o Patricia O'Neill
Department of Environmental Health
Harvard School of Public Health
655 Huntington Avenue, 13th Floor
Boston, MA 02115

Harvard University is committed to increasing the number of women and minorities in its faculty and encourages applications from such candidates.

BIOLOGICAL SCIENCES

The Department of Biological Sciences, University of Alberta, invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level in the genetics of vertebrate development. This appointment will be made under the auspices of the Canada Research Chairs Program (Tier II; **website: http://www.rgo.ualberta.ca/crc.html**). The Department of Biological Sciecnes in the Faculty of Science is a broadly based department with strong research groups in genetics, cell, and developmental biology. For additional information about the Department, see **website: http://www.biology.ualberta.ca/**. Applicants should have research expertise addressing questions fundamental to animal development and have potential for excellence in teaching. The research of our 73 faculty members and 270 graduate students is supported by excellent facilities including an aquatic biology facility, a molecular biology service unit, a fully equipped microscopy unit, and an animal care facility. Candidates should submit curriculum vitae, one-page summary of research plans, and reprints of their three most significant publications electronically to **e-mail: positions@biology.ualberta.ca** or by mail to: **Dr. L. S. Frost, Acting Chair, Department of Biological Sciences, CW 405 Biological Sciences Building, University of Alberta, Edmonton, Alberta T6G 2E9 Canada**. Applicants must also arrange for three letters of reference to be sent to the Chair. Closing date: November 1, 2002. The effective date of employment will be July 1, 2003. *The University of Alberta hires on the basis of merit. We are committed to the principle of Equity in Employment. We welcome diversity and encourage applications from all qualified women and men including persons with disabilities, members of visible minorities, and aboriginal persons. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority.*

POSITIONS OPEN

Agricultural Research Service

The U.S. Department of Agriculture, Agricultural Research Service, Plant Sciences Institute, Alternate Crops and Systems Laboratory in Beltsville, Maryland, is seeking applications for an **INTERDISCIPLINARY: PLANT PHYSIOLOGIST/AGRICULTURAL ENGINEER/RESEARCH PHYSICAL SCIENTIST/SOIL SCIENTIST**, GS-435/890/401/470-12/13/14. Salary is commensurate with experience ($55,694 to $101,742 per annum) plus benefits. *Candidates must be U.S. citizens.* The incumbent will undertake research to conceptualize and develop innovative approaches toward the quantification and simulation of biological systems and to develop simulation models on a mechanistic level. Candidates must request a copy of the Vacancy Announcement (ARS-X2E-2562) by either calling **Telephone: 301-504-1484** or by copying the full text announcement from the ARS **website: http://www.ars.usda.gov**. Candidates must submit specific information as outlined in the Vacancy Announcement. This vacancy will remain open until filled. Applications will be reviewed and referred every other month until filled. The first cutoff is November 25, 2002. *USDA/ARS is an Equal Opportunity Provider and Employer.*

ASSISTANT/ASSOCIATE OR FULL PROFESSOR BIOLOGY/BRISM
Department of Biological Sciences Number 2907

The Department of Biological Sciences at the University of Southern Maine invites applications for an Evolutionary, Population, or Developmental Biologist who uses molecular techniques. This is a tenure-track, academic-year appointment starting September 2003 contingent upon funding. Rank is open. This will be a joint appointment with the Biosciences Research Institute of Southern Maine (BRISM) and the Department of Biological Sciences. The successful candidate is expected to teach courses at the undergraduate and graduate (Master's) level and maintain an active, extramurally funded research program. We hope to attract staff who share a commitment to diversity, tolerance, and an active examination of ideas that can provide our students with a greater understanding of the richness and complexity of our society. USM is expanding research with targeted state funding that includes a new science research wing. This position is advertised pending final budgetary approval. Letters of application stating teaching and research interests, curriculum vitae, and contact information for three references should be sent to: **David Champlin, Chair, Search Committee, Department of Biological Sciences, University of Southern Maine, RE: 101, P.O. Box 9300, Portland, ME 04104-9300.** Review of applications begins October 31, 2002.

POSTDOCTORAL/RESEARCH ASSOCIATE POSITION in molecular viral oncogenesis and new pathogen discovery. Position available starting July 2002. Ongoing studies involve viral regulation of cMYC, pRB, apoptotic, and interferon-signaling pathways by Kaposi's sarcoma-associated herpesvirus (*Science* **266**:1865, 1994; *PNAS* **93**:1487, 1996) and use of molecular techniques to find unidentified pathogens. Experience in virology, transcriptional regulation, or genomics preferred. The laboratory is located in the University of Pittsburgh Hillman Cancer Center, a newly built, free-standing 350,000-square-foot cancer research and treatment facility. Send curriculum vitae and three references by FAX or mail to: **Patrick S. Moore, M.D., M.P.H.**, and **Yuan Chang, M.D., Molecular Virology Program, University of Pittsburgh Cancer Institute, Research Pavillion, 5117 Centre Avenue, Suite 1.4, Pittsburgh, PA 15213-1863. Website: http://www.upci.upmc.edu/internet/molvirology/kshvlab.html; FAX: 412-623-7715.**

POSITIONS OPEN

ASSISTANT, ASSOCIATE, OR FULL PROFESSORSHIPS

Up to five tenured/tenure-track or nontenured Research Faculty positions are available at the Assistant, Associate, or Professor level contingent on external funding in the Brain-Body Center of the Department of Psychiatry at the University of Illinois at Chicago (UIC). the Center, a new UIC initiative, conducts basic research (including human research and animal models) focused on understanding the neurobiological basis of human behavior and on the translation of neurobiologically based knowledge into treatments for neuropsychiatric disorders including autism and depression. Among the basic research topics of interest are behavioral neuroscience, psychophysiology, neuroendrocrinology, and developmental psychobiology. Some positions are available immediately; rank and salary commensurate with experience. Candidates holding the Ph.D. or M.D. with strong research record, a competitive grant history, and interests in collaborative research are especially encouraged to apply. For fullest consideration, send curriculum vitae; names and addresses (including e-mail address) of three references, and brief description of research interests by December 1, 2002, to: **Stephen Porges, Director, Brain-Body Center, c/o Ena Casas, Department of Psychiatry, UIC, 1601 East Taylor Street, Chicago, IL 60612. FAX: 312-413-1228; e-mail: ecasas@psych.uic.edu.** *UIC is an Affirmative Action/Equal Opportunity Employer.*

PATHOPHYSIOLOGIST ASSISTANT OR ASSOCIATE PROFESSOR

Tenure track in the College of Pharmacy (see **website: http://www.westernu.edu/cp**). Candidates should possess a Doctoral-level degree in physiology, pathology, or a related discipline. Candidates will participate in teaching by integrating concepts of pathophysiology into the Pharm.D. curriculum. Preference will be given to those with familiarity with pharmacy and who have interest or experience in teaching. Successful candidates will be expected to establish an extramurally funded research program in any area of physiology or pathology. Laboratory start-up funds are available. Appointment and salary is negotiable and commensurate with qualifications and experience. Applicants should submit a letter of intent, a teaching and research statement, curriculum vitae, and arrange to have three letters of recommendation sent to the Search Committee Chair. Review of application material will continue until the positions are filled. Applications (electronic submission encouraged) should be sent to: **Robert A. Graf, Ph.D., Chair, Search Committee, Department of Pharmaceutical Sciences, Western University of Health Sciences, College of Pharmacy, College Plaza, 309 East Second Street, Pomona, CA 91766-1854. E-mail: rgraf@westernu.edu.** *Western University of Health Sciences is an Affirmative Action/Equal Opportunity Employer and actively seeks applications from women and minorities.*

MEDICAL GENETICIST

The Departments of Human Genetics and Pediatrics at the David Geffen School of Medicine, University of California Los Angeles, are jointly accepting applications for a **TENURE-TRACK FACULTY POSITION**. Starting academic rank and salary will be based on level of experience. The applicant will be expected to carry out an active and independent basic research program; provide clinical service in genetics; and participate in resident, medical student, and graduate student education. All applicants must be eligible for medical licensure in California and be Board certified or Board eligible in medical genetics and pediatrics. Interested individuals should send their curricula vitae, a statement of research interests, reprints of three significant publications, and the names of three professional references to: **Janet Sinsheimer, Ph.D., Search Committee Chair, Department of Human Genetics, The David Geffen School of Medicine at UCLA, 695 Charles E. Young Drive South, Los Angeles, CA 90095-7088.** *UCLA is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITIONS IN BIOLOGY
Butler University

The Department of Biological Sciences invites applications for two tenure-track **ASSISTANT PROFESSOR** positions beginning August 2003. Applicants should have a Ph.D., teaching experience, and a strong commitment to undergraduate education. Experience with inquiry-based learning is a plus. Teaching responsibilities for both positions include introductory biology. Other teaching opportunities include upper-division electives and/or senior seminars in your area of specialization. Successful candidates will be expected to sustain a research program involving undergraduates. Setup funds are available for each position.

ANIMAL PHYSIOLOGIST: Teaching responsibilities include animal physiology and general zoology. Ability to teach invertebrate biology is a plus. Area of research is open.

BOTANIST: Teaching responsibilities include introductory botany and upper-level botany classes in area of specialization. Area of research is open.

We are searching for people to complement the teaching and research areas of the present faculty. Information about the Department can be found at our **website: http://www.butler.edu/biology.** Applicants should submit a cover letter, curriculum vitae, a statement of teaching interests and philosophy, a statement of current and planned research, unofficial transcripts, and three letters of recommendation to: **Richard W. Miller, Biology Search, Department of Biological Sciences, Butler University, 4600 Sunset Avenue, Indianapolis, IN 46208.** Inquiries can be made by **e-mail: rwmiller@butler.edu**. To be assured of full consideration, applications should be received by 1 November 2002.

Butler University is an Equal Opportunity Employer and is committed to enhancing the diversity of the student body and the faculty and staff; therefore, women and minorities are strongly encouraged to apply.

NEUROSCIENTISTS

The Department of Anatomy and Neurobiology at the University of Tennessee Health Science Center is seeking qualified applicants to fill three tenure-track positions at the **ASSISTANT, ASSOCIATE**, or **FULL PROFESSOR** level. Candidates must have a Ph.D. M.D., or equivalent, relevant postdoctoral experience; and an active research program in neuroscience with a high potential for external funding. Preference will be given to candidates whose research most closely fits with the existing strengths of the Department in systems neuroscience, developmental neurobiology, and neurogenetics. Faculty members participate in the teaching of professional students and in graduate courses in their area of expertise. Rank and salary will be commensurate with qualifications. The Department is the center of a well-established, multidisciplinary neuroscience program with a highly interactive, productive group of Neuroscientists. Please submit curriculum vitae, a brief statement of research and teaching experience, and names of three references to: **Chair, Faculty Search Committee, Department of Anatomy and Neurobiology, University of Tennessee Health Science Center, 855 Monroe Avenue, Suite 515, Memphis, TN 38163**. Review of application will begin in November 2002 and continue until the positions are filled. *The University of Tennessee is an Equal Employment Opportunity/Affirmative Action/Title VI/Title IX Section 504/Americans With Disabilities Act/Age Discrimination in Employment Act Employer.*

POSTDOCTORAL FELLOW in the program in structural and molecular neuroscience at the Mailman Research Center, McLean Hospital, to study a partial rodent model of schizophrenia using a LEICA laser microdissection apparatus, Affymetrix Microarray System, and quantitative RT-PCR profiling in specific subtypes of hippocampal GABA cells exposed to amygdalar activation. Appointment at Harvard Medical School and opportunities to establish an independent research program. Contact: **Dr. F. M. Benes; e-mail: benesf@mclean.harvard.edu; Telephone: 617-855-2401.**

POSITIONS OPEN

MOLECULAR NEUROBIOLOGY

The Neurobiology Laboratory of the Department of Ophthalmology and Visual Sciences invites applications for two research positions (**RESEARCH ASSOCIATE/POSTDOCTORAL FELLOWS**) available immediately for molecular and biophysical studies of the intercellular channels formed by gap-junctional proteins (connexins) expressed in brain and retina. This is a unique opportunity for highly motivated individuals with good computer skills, experience with molecular biology and/or electrophysiology techniques, and a keen interest in intercellular signaling pathways in neural networks. Successful applicants will collaborate in ongoing research and be encouraged to develop their own research programs, making use of a broad range of experimental methods including signal cell RT-PCR microarray technology, patch clamp recording, ion imaging, and the oocyte expression system. Applicants should send their curriculum vitae, a brief statement of research interests, and the names of individuals who are willing to serve as references to: **Dr. Harris Ripps, University of Illinois College of Medicine, 1855 West Taylor Street, Chicago, IL 60612. FAX: 312-996-7773; e-mail: harrripp@uic.edu**. Direct inquiries to: **Dr. Ripps; Telephone: 312-996-2001.**

EVOLUTIONARY/POPULATION GENETICIST

Mississippi State University's Department of Biological Sciences invites applications for a tenure-track, nine-month faculty position at the **ASSISTANT PROFESSOR** level. The successful candidate is expected to develop an externally funded research program, to direct M.S. and Ph.D. students, and to be committed to excellence in undergraduate and graduate teaching. A Ph.D. degree in biological sciences or a relevant field and an established record of research productivity required; teaching and postdoctoral experience desirable. Application should include curriculum vitae, statements of research and teaching interests, three reprints, and three letters of reference. Screening will begin November 15, 2002, and will continue until the position is filled. Applications should be sent to: **Dr. Christopher M. Taylor, Search Committee Chair, Department of Biological Sciences, P.O. Box GY, Mississippi State, MS 39762. Telephone: 662-325-8591; e-mail: ctaylor@ra.msstate.edu**. *MSU is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and members of minority groups.*

ELECTROPHYSIOLOGIST/MOLECULAR BIOLOGIST. An NIH-funded **POSTDOCTORAL RESEARCH ASSOCIATE** position is available to investigate fundamental molecular mechanisms in synaptic transmission by undertaking a multidisciplinary approach, exploiting *Drosophila* as a genetic model system. Our major focus is the genetic dissection of signaling cascades mediating and/or regulating synchronous neurotransmitter release (see also **website: http://www.neurobio.arizona.edu/people/zinsmaier.htm**). The successful candidate will have a Ph.D. and ideally experience in electrophysiology, molecular biology, and/or genetics. Send curriculum vitae and three letters of reference by **e-mail: kez@neurobio.arizona.edu** or by mail to: **Arizona Research Laboratories, Division of Neurobiology, The University of Arizona, P.O. Box 210077, Tucson, AZ 85721-0077**. Review of materials will begin September 30, 2002, and will continue until position is filled. *The University of Arizona is an Equal Employment Opportunity/Affirmative Action Employer. Minorities/Women/Disabled/Veterans.*

The Mathematical Biosciences Institute (MBI) is accepting applications for **POSTDOCTORAL POSITIONS** beginning in September 2003 and renewable for up to three years. The deadline for applications is January 15, 2003. Short- and long-term visitors may apply at any time. To access the application form or for more information, visit the MBI **website: http://mbi.osu.edu**; or call **Telephone: 614-292-3648.**

POSITIONS OPEN

RESEARCH ASSOCIATE
Gene Therapeutics Research Institute
Los Angeles, California U.S.A.

Research Associate positions are immediately available to develop gene therapy strategies in preclinical models of Parkinson's disease and other chronic neurological disorders. This work, funded by NIH grants, will use novel high-capacity adenovirus vectors to deliver therapeutic genes into the brain to reverse pathological phenotypes and explore the immunology of gene transfer into the brain. Methods and experience required include molecular biology, virology, immunology, image analysis, immunohistochemistry, and confocal microscopy.

Salary will be determined by the successful candidate's qualifications and experience. CSMC offers an attractive benefit package.

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

Pedro R. Lowenstein, M.D., Ph.D.
or **Maria G. Castro, Ph.D.**
Gene Therapeutics Research Institute
8700 Beverly Boulevard, Suite R5090
Los Angles, CA 90048
Telephone: 310-423-7308
FAX: 310-423-7303
E-mail: lowensteinp@cshs.org or
castromg@cshs.org

Cedars-Sinai welcomes and encourages diversity in the workplace. Affirmative Action/Equal Opportunity Employer.

The U.S. Army Natick Soldier Center is seeking applicants for the position of **RESEARCH ANTHROPOLOGIST** (biological anthropology). This exciting research position is responsible for planning and conducting studies in the areas of physical anthropology, anthropometry, morphometry, and human variation. Typical research and development studies relate to the analysis of human size and shape variation and the application of these data to the design and sizing of military clothing and equipment systems. Analyses also relate to the design and development of Army and other Department of Defense material systems with the primary objective of increasing overall personnel accommodation and improving the compatibility and fit of vehicle, aircraft, and weapon systems for all soldiers. The position is located in Natick, Massachusetts. The salary range is $47,341 to $56,738 depending upon level of experience. We also offer a competitive benefits package. Interested candidates must respond to the Job Announcement posted at **website: http://cpol.army.mil** (select employment search, Army vacancies; request Announcement DBU201870.) Please note that this announcement closes on October 23, 2002. For a copy of the announcement or for additional information on the position, please contact: **Bev Lange; Telephone: 508-233-5107.**

RESEARCH ASSISTANT PROFESSOR

The Toxicology Research Laboratory, a GLP facility at the University of Illinois at Chicago, is seeking a Research Assistant Professor to participate in varied safety assessment studies on new drugs. The individual should have a Ph.D. and a background and/or experience in general toxicology. Additional experience in reproductive and developmental toxicology, molecular biology, and pharmacokinetics would be useful. The individual would also have the opportunity to participate in basic research programs. For fullest consideration, submit curriculum vitae and names of three references by November 11, 2002, to: **Dr. Alex Lyubimov, Toxicology Research Laboratory, Department of Pharmacology (M/C 868), UIC, 1940 West Taylor Street, Chicago, IL 60612. E-mail: lyubimov@uic.edu**. *University of Illinois at Chicago is an Affirmative Action/Equal Opportunity Employer.*

FELLOWSHIPS

SCIENCE AND TECHNOLOGY POLICY INTERNSHIPS

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

The **Christine Mirzayan Science and Technology Internship Program of the National Academies**—comprising the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council—is designed to engage graduate and postdoctoral science, engineering, medical, veterinary, business, and law students in science and technology policy and to familiarize them with the interactions between science, technology, and government. As a result, students develop essential skills different from those attained in academia and make the transition from being a graduate student to a professional.

There are three sessions each year:
January (12 weeks), **June** (10 weeks), and **September** (12 weeks)

To apply, candidates should submit an application and request a mentor complete a reference form, both available on-line at ***www.nationalacademies.org/internship***.

The deadline for receipt of materials is
November 1—January program;
March 1—June program; and
June 1—September program.

Details are on our Website:
www.nationalacademies.org/internship

Additional questions should be directed to:
internship@nas.edu

Intern with Einstein

GRANTS

Creating the future of biotech—Together

Invitrogen's Research Tools Development Grants Program provides funding for investigators developing innovative tools for use in life science research, including investigators working in academics, not-for-profit institutions, and for-profit companies. Total funding is US$5 million per year, with annual individual awards of up to US$100,000. Grants are provided quarterly; each quarter focuses on a specific field of interest.

Fourth quarter 2002 funding is for the area of **amplification, labeling and quantitation** of nucleic acids—including proposals for the *in vitro* or *in vivo* applications of detection, expression, hybridization, microarrays, and screening. Deadline for full Grant Proposals is December 1. A preproposal is required prior to submitting a Grant Proposal. **For more information, visit www.invitrogen.com, e-mail grants@invitrogen.com, or call 800 955 6288, ext. 66140.**

1600 Faraday Ave., Carlsbad, CA 92008 USA
P: 760 476 6140 F: 760 602 6563
www.invitrogen.com

Invitrogen life technologies

Find your next tassel with no hassle.

Academic Connections Graduate Program Profiles

Search listings by
• Name of University or College
• Subject
• Location

Science @ CAREERS
www.sciencecareers.org

POSTDOCTORAL POSITION DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE EMORY UNIVERSITY SCHOOL OF MEDICINE

An NIH funded POSTDOCTORAL position available to study the intracellular signaling initiated by angiotensin II. Angiotensin II is a peptide that acts to raise blood pressure through several different physiological mechanisms (vasoconstriction, aldosterone release, salt reabsorption, etc). These different responses are triggered by binding to the seven transmembrane AT_1 receptor. This position is to study angiotensin II activation of the Jak-STAT signaling pathway (*JBC* **276:** 10556, 2001; *JBC* **276:**20954, 2001). In particular, we are interested in the biochemistry and physiology of Jak2 kinase activation by the seven transmembrane AT_1 receptor. This is a strong project for someone with experience in the biochemistry, physiology or cell biology of cell signaling.

Reply to:

Ken Bernstein
Rm. 7109 WMB
Dept. of Pathology
Emory University
Atlanta, GA 30322

Emory is an Equal Opportunity/Affirmative Action Employer

NASA Headquarters Recruitment Opportunities

The NASA Office of Biological and Physical research is seeking applications for the following positions: Deputy Associate Administrator (Programs) – (emphasis on program/project management); Deputy Associate Administrator (Science) – (emphasis on conducting biological and physical research in space); Director, Bioastronautics Research Division – (emphasis on biomedical sciences); Director, Fundamental Space Biology Division – (emphasis on biology, i.e., genomics, cell biology, gravitational ecology, etc.); Director, Resources and Business Management Division – (emphasis on budget, human resources, policy, etc.); and Director, Space Product Development Division – (emphasis on commercial space product development). The positions of Director, Bioastronautics Research Division; Director, Fundamental Space Biology; and Deputy Associate Administrator (Science) require a Bachelor's Degree from an accredited college in an appropriate field of study related to General Biological or Physical Sciences. These positions will be filled at the U.S. Government Senior Executive Service Level. The salary will range from $125,972 to $138,200. Applications should be addressed to: **NASA Headquarters, 300 E Street, S.W., Washington, D.C. 20546**. Qualified applicants should call **(202) 358-1268** for a copy of the vacancy announcement or go to the OPM website, **http://www.usajobs.opm.gov/**. The vacancy will open September 23, 2002, and close October 25, 2002. Applications must be postmarked by the closing date **October 25, 2002,** and received within 5 days. Applicants must be eligible to receive a secret clearance and are subject to random drug testing.

NASA is an Equal Opportunity Employer.

POSITIONS OPEN

A **POSTDOCTORAL POSITION** in molecular virology is available immediately in the laboratory of **Donald Nuss**, Director of the Center for Biosystems Research, University of Maryland Biotechnology Institute. The successful candidate will investigate the molecular biology of viruses (hypoviruses) that reduce virulence and alter signal transduction pathways in the chestnut blight fungus (see *Annu. Rev. Genet.* **35**:1–29, 2001). Qualifications include a Ph.D. in molecular virology or related areas. Experience in protein processing would be an asset. Applicants should send curriculum vitae, names of three references, and a summary of research accomplishments to: **Postdoctoral Position Number R3-0033, Center for Biosystems Research, University of Maryland Biotechnology Institute, Plant Sciences Building, Room 5115C, College Park, MD 20742-4450.** Consideration of applications will begin immediately and continue until the position is filled. *The University System of Maryland is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS
Immunology

Applications are invited for a Postdoctoral Fellow position to investigate the role of dendritic cells in peripheral tolerance and induction of regulatory T cells. Candidates should possess a Ph.D. and/or M.D. degree and experience in cellular and molecular immunology (see **website: http://www.missouri.edu/~mmiwww/hz.htm**). Submit curriculum vitae and the names of three references to: **Professor Zaghouani, University of Missouri, School of Medicine, Department of Molecular Microbiology and Immunology, M616 Medical Sciences Building, Columbia, MO 65212 U.S.A. E-mail: zaghouanih@health.missouri.edu.**

To request Americans With Disabilities Act accommodations, please Telephone: 573-884-7278 (voice/TTY).

ASSISTANT RESEARCH PROFESSOR to study the role of chromatin structure and gene expression in DNA repair in mammalian cells, cell extracts, and yeast (e.g., *Prog. in Nucleic Acids Res. and Mol. Biol.* **62**:227, 1999; *J. Biol. Chem.* **275**:23729, 2000; *Proc. Natl. Acad. Sci. U.S.A.* **98**:10113, 2001; *Proc. Natl. Acad. Sci. U.S.A.* **99**:649, 2002) and to help train students and Postdoctorals. Training in biochemistry, molecular biology, and/or molecular genetics is preferred. Send statement of interests, résumé, and names of three references to: **Dr. Michael J. Smerdon, Biochemistry and Biophysics, School of Molecular Biosciences, Washington State University, Pullman,WA99164-4660.E-mail:smerdon@mail.wsu.edu; Telephone: 509-335-6853; FAX: 509-335-9688.** *WSU is an Eqal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION
Vascular Biology

Position available immediately to study a novel protease induced by retinoids in vascular smooth muscle cells (*JBC* **276**:34175, 2001). Candidates will work in a highly interactive, state-of-the-art cardiovascular research center. Candidate must have technical expertise in protein purification and enzymology with some molecular biology. Candidate will apply for external funding and participate in other related projects including gene knockouts. Send curriculum vitae and four references to **e-mail: j.m.miano@rochester.edu.**

POSTDOCTORAL POSITIONS
University of California, Berkeley

Research areas are (1) molecular function and regulation of secretory factors (including pref-1 and ADSF/resistin) that control adipocyte differentiation and (2) hormonal/nutritional regulation of lipogenic gene transcription. **Hei Sook Sul, Department of Nutritional Sciences and Toxicology, University of California, Berkeley, CA 94720. E-mail: hsul@nature.berkeley.edu; Telephone: 510-642-3978; FAX: 510-642-0535.**

POSITIONS OPEN

POSTDOCTORAL RESEARCHER
Coastal Marine Scholar

Dauphin Island Sea Laboratory (DISL), the marine research facility for 22 colleges and universities in the State of Alabama, is seeking a Postdoctoral Marine Scientist with experience in mathematical modeling of coastal ecosystems. This position will be funded for two years with the possibility of a one-year renewal. Relevant experience could include, for example, research on nutrient or energy flux through marine or estuarine food webs but other areas will also be considered. The successful applicant will pursue independent research but will also be expected to conduct collaborative research with one or more members of the DISL faculty. The position comes with a competitive salary and benefits package along with institutional support for travel and other essential research requirements. For additional details on DISL, its academic programs, and faculty research interests, see **website: http://www.disl.org.**

Applicants should send curriculum vitae, a brief statement of research interests, two to three selected reprints, and the names and contact information (including e-mail addresses) for three references to: **Dr. John F. Valentine, Marine Scientist Search Committee, Dauphin Island Sea Laboratory, 101 Bienville Boulevard, Dauphin Island, AL 36528.** Review of applicants will begin December 1, 2002, and will continue until the position is filled. *The DISL is an Equal Opportunity Employer/Affirmative Action/Minorities/Females/Disabled Employer.*

POSTDOCTORAL FELLOWSHIP in cancer biology immediately available to study the response of tumor cells to hypoxia. Ongoing projects involve research in HIF-1 regulation and the vhl tumor suppressor, mechanisms of hypoxia-induced apoptosis, and the characterization of novel hypoxia-regulated genes. Applicants should have a Ph.D. and/or M.D. Experience in molecular biology, protein biochemistry, yeast genetics, and cell culture particularly desirable. Send cover letter, curriculum vitae, and names of three references to:

Nicholas Denko, Ph.D., M.D.
Stanford University School of Medicine
CCSR-South, 1245C
Stanford, CA 94305-5152
E-mail: ndenko@stanford.edu

Equal Opportunity Employer.

Five **POSTDOCTORAL POSITIONS** will be available on December 1, 2002, at the University of California, Berkeley, to clone, express, and kinetically characterize enzymes. Perform immunocytochemistry, *in situ* hybridization, and site-directed mutagenesis. Purify proteins, prepare subcellular fractions, and analyze retinoids and steroids by TLC and HPLC. Applicants should hold a Ph.D. in biochemistry, chemistry, genetics, or a closely related bioscience discipline. Salary range: $31,044 to $38,652. Send curriculum vitae and names of three references to: **Dr. Joseph Napoli, Department of Nutritional Sciences and Toxicology, 119 Morgan Hall–MC Number 3104, University of California, Berkeley, CA 94720-3104.** Application deadline: November 1, 2002. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

2003 ASM/NCID POSTDOCTORAL RESEARCH POSITIONS IN MICROBIOLOGY

Positions are available for **POSTDOCTORAL SCIENTISTS** to conduct novel research with the overall objective of developing practical applications of microbiology, immunology, and epidemiology for diagnosis and prevention of infectious diseases. Associates will perform research in residence at the National Center for Infectious Diseases, which is headquartered at the Centers for Disease Control and Prevention in Atlanta, Georgia. Applications can only be submitted electronically. Application deadline: November 15, 2002. **Website: http://www.asmusa.org/edusrc/edu23e.htm; e-mail: fellowships-careerinformation@asmusa.org.**

POSITIONS OPEN

POSTDOCTORAL POSITION available to study mechanisms regulating the normal development of the mammary gland and to identify genetic pathways that lead to breast cancer. Projects include (1) the function of the Tsg101 gene in cell cycle regulation and (2) prolactin signaling through the Jak2-Stat5 pathway. Visit **website: http://www.unmc.edu/wagnerlab.** Only highly motivated individuals who are willing to learn new techniques and to improve their skills are encouraged to apply. Applicants should have experience in basic molecular techniques (gene cloning, DNA/RNA/protein analysis, blotting techniques, PCR, etc.). Additional skills in histological methods, culturing of primary cells, and working with transgenic mice are desired but not required. Please send your curriculum vitae and addresses of three references to: **Dr. Kay-Uwe Wagner, Eppley Institute for Research in Cancer and Allied Diseases, 986805 Nebraska Medical Center, Omaha, NE 68198-6805. E-mail: kuwagner@unmc.edu.** *An Equal Employment Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Available immediately in *ab initio*/molecular dynamics calculations of force-induced conformational transitions in organic molecules and/or experimental single molecule force spectroscopy by AFM. Forced conformational transitions were recently observed in single molecule AFM stretching experiments, e.g., **Marszalek et al.,** *Nature* **396**:661, 1998; **Marszalek et al.,** *PNAS* **96**:7894, **Marszalek et al.,** 1999; *Nature Biotechnology* **19**:258, 2001. Applications and reference letters to:

Piotr Marszalek, Associate Professor
Department of Mechanical Engineering and Materials Science
Duke University, Box 90300
Durham, NC 27708-0300

Duke University is an Equal Opportunity Employer.

POSTDOCTORAL FELLOW

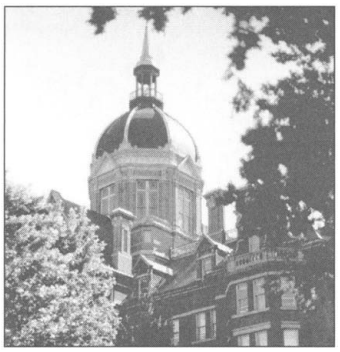
The Stowers Institute for Medical Research in Kansas City, Missouri, seeks a Postdoctoral Fellow to study the regulation of germline stem cells in both mouse and *Drosophila* using a combination of genetic, molecular, genomic, and cell biological approaches (see *Cell* **94**:251; *Science* **290**:328; *Science* **296**:1855). Candidates should have experience in genetics, developmental biology, molecular biology, cell biology, or biochemistry. Interested individuals should send inquiries including curriculum vitae and three references to: **Dr. Ting Xie; e-mail: tgx@stowers-institute.org.** For additional information, please go to our **website: http://www.stowers-institute.org.** *Equal Opportunity Employer.*

POSTDOCTORAL POSITION
Nanobiosensing

This is a joint appointment in chemistry and biomedical engineering for the continued development of a glucose biosensor. Expect to have significant input in the project direction. Candidates should have a Ph.D. and experience in Raman spectroscopy and chemometrics. Interested individuals should submit curriculum vitae and three letters of recommendation to: **Professor R.P. Van Duyne, Department of Chemistry, Northwestern University, 2145 Sheridan Road, Evanston, IL 60208. E-mail: vanduyne@chem.northwestern.edu.**

POSTDOCTORAL/RESEARCH ASSOCIATE positions to study molecular mechanisms of transcriptional regulation of neurotransmitter gene expression triggered by stress, nicotine, and estrogens. Ph.D. with strong experience in molecular biology, biochemistry, cell biology, or neuroscience. Competitive salary and benefits. Send résumé and names of three references to: **Dr. Esther L. Sabban, Department of Biochemistry and Molecular Biology, New York Medical College, Valhalla, NY 10595. Telephone: 914-594-4068; FAX: 914-594-4058; e-mail: sabban@nymc.edu.** *Equal Opportunity Employer.*

SYMPOSIA



THE INAUGURAL SYMPOSIUM OF THE INSTITUTE FOR CELL ENGINEERING

OCTOBER 28-29, 2002

JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE
BALTIMORE, MARYLAND

Sponsored by
Johns Hopkins University School of Medicine ❖ Institute for Cell Engineering

The Inaugural Symposium for the Institute for Cell Engineering (ICE) is designed to educate and update researchers on recent findings in the area of stem cell research. This event will bring authoritative investigators in stem cell research to the campus for presentations and panel discussions on stem cell science and ethics. Dr. James Thomson and Dr. John Gearhart will each present a keynote address. The distinguished lecturer will be Dr. Austin Smith.

REGISTRATION FEE: Complimentary (Pre-registration is required. Registrations are limited and on-site registration will not be accepted.)

FOR FURTHER INFORMATION
Johns Hopkins University-Medicine
Office of Continuing Medical Education
Phone: (410) 955-2959 / Fax: (410) 955-0807
E-mail us at cmenet@jhmi.edu or
visit our website for program and registration information at
www.med.jhu.edu/cme

COURSE DIRECTOR
Chi Van Dang, MD, PhD
Vice Dean for Research
Institute for Cell Engineering
Medicine - Hematology

JOHNS HOPKINS FACULTY
Christopher Chen, MD, PhD
Biomedical Engineering

Andrew P. Feinberg, MD
Institute of Genetic Medicine

John Gearhart, PhD
Institute for Cell Engineering
Gynecology and Obstetrics
Physiology and Comparative Medicine

Anirvan Ghosh, PhD
Neuroscience
Geraldine Seydoux, PhD
Molecular Biology and Genetics

Geraldine Seydoux, PhD
Molecular Biology and Genetics

GUEST FACULTY
Norman Fost, MD, MPH
University of Wisconsin
Children's Hospital
Madison, Wisconsin

Fred H Gage, PhD
Salk Institute
La Jolla, California

Steven A Goldman, MD, PhD
Cornell University Medical College
New York, New York

Ihor Lemischka, PhD
Princeton University
Princeton, New Jersey

Thomas H. Murray, PhD
President, The Hastings Center
Garrison, New York

Roel Nusse, PhD
Howard Hughes Medical Institute
Stanford University
Stanford, California

Janet Rossant, PhD
Samuel Lunenfeld Research Institute
Mount Sinai Hospital
Toronto, Ontario

Harold T. Shapiro, PhD
Princeton University
Princeton, New Jersey

Harinder Singh, PhD
Howard Hughes Medical Institute
The University of Chicago
Chicago, Illinois

Austin Smith, PhD
University of Edinburgh
Edinburgh, Scotland

James A. Thomson, VMD, PhD
University of Wisconsin-Madison
Madison, Wisconsin

Catherine M. Verfaillie, MD
University of Minnesota
Minneapolis, Minnesota

Michael D. West, PhD
President and CEO
Advanced Cell Technology
Worcester, Massachusetts

COURSE

Funding Opportunities
Dystonia Medical Research Foundation

Dystonia Research Grants and Contracts
Grants are being sought to develop important tools for DYT1 dystonia research for the development of antibodies to TorsinA and related TorsinB; animal models; proteomics; cell cultures models, and the development of new assays suitable for high-speed throughput drug screening. The Foundation also seeks to fund grants related to spasmodic dysphonia.
Amount: $40,000 to $150,000 Deadline: 12/30

Dystonia Fellowship
Designed to assist post-doctoral students to establish careers in dystonia research.
Amount: $50,000 PER YEAR FOR TWO YEARS Deadline: 12/30

Dystonia Residency Program
Aimed at second and third year residents interested in movement disorders focusing on dystonia. Residents will be full-time "visiting trainees," experiencing broad research and clinical exposure for a 4- to 6-weeks with dystonia experts at their respective institutions.
Amount: $4,000 Deadline: on-going

Dystonia Young Investigator Award
Recognizes emerging medical professionals in field of neurology. Seeking qualified individuals interested in pursuing questions related to dystonia.
Amount: $1,000 to $2,000 Deadline: 12/30

Available Research Materials
Brain tissue related to dystonia is available through the Brain and Tissue Bank for Developmental Disorders at the University of Maryland. TorsinA and TorsinB antibodies are also available to investigators. Contact the Foundation for information.

For information and applications to these programs, contact the Dystonia Foundation at 312-755-0198 or log on to www.dystonia-foundation.org

POSITIONS OPEN

BULLARD FELLOWSHIPS IN FOREST RESEARCH
Harvard University

Each year Harvard University awards a limited number of Bullard Fellowships to individuals in biological, social, physical, and political sciences to promote advanced study, research, or integration of subjects pertaining to forested ecosystems. The Fellowships, which include stipends up to $35,000, are intended to provide individuals in midcareer with an opportunity to utilize the resources and to interact with personnel in any department within Harvard University in order to develop their own scientific and professional growth. In recent years Bullard Fellows have been associated with the Harvard Forest, Department of Organismic and Evolutionary Biology, and the J. F. Kennedy School of Government and have worked in areas of ecology, forest management, policy, and conservation. Fellowships are available for periods ranging from six months to one year and can begin at any time in the year. Fellowships are not intended for graduate students or recent postdoctoral candidates. Information and application instructions are available on the Harvard Forest **website: http://harvardforest.fas.harvard.edu**. For additional information, contact: **Committee on the Charles Bullard Fund for Forest Research, Harvard University, Harvard Forest, P.O. Box 68, Petersham, MA 01366 U.S.A. E-mail: drecos@fas.harvard.edu**. Annual deadline for applications is February 1. *Applications from international Scientists, women, and minorities are encouraged.*

POSTDOCTORAL POSITIONS

Postdoctoral positions are available for functional atlas of orphan nuclear receptors. A proteomics approach that combines protein complex purification and mass spectrometry is used to define the components and modification (i.e., phosphorylation) of nuclear receptor coactivator complexes. This effort is a part of a multiinstitution and multidiscipline program project that allows outstanding interactions among Investigators. Candidates with a strong background in molecular biology and biochemistry: Please send curriculum vitae and three references to:

Dr. Bert W. O'Malley or **Dr. Jun Qin**
Department of Biochemistry and Molecular Biology
Department of Molecular and Cellular Biology
Baylor College of Medicine
One Baylor Plaza
Houston, TX 77030
E-mail: jqin@bcm.tmc.edu

Baylor College of Medicine is an Equal Opportunity/Affirmative Action/Equal Access Employer.

Three **POSTDOCTORAL POSITIONS** are available at the Virginia Tech Center for Genomics (VIGEN) on federally funded (NSF, NIH, and DoD) projects involving the genetic and proteomic analysis of prokaryotic phosphoproteomes, eukaryotic cell-based biosensor development, and biomimetic approaches to desiccation-tolerant human cells and cell products. Persons with expertise and/or interest in biosensor development, cell tissue culture, DNA microarray technology, and/or protein identification by mass spectrometry are encouraged to apply. Positions will remain open until filled and review of applications will begin immediately. For further information, see **website: http://vigen.biotech.vt.edu/research.html**. *Virginia Tech is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION
The University of Pennsylvania

Postdoctoral positions to study processive viral DNA synthesis mechanisms for drug discovery in cancer and bioterrorism. Expertise in protein expression and purification is required. Experience in virology is desired. Send curriculum vitae and reference names to **e-mail: ricciardi@biochem.dental.upenn.edu**.

POSITIONS OPEN

Exciting opportunities are available for a **POSTDOCTORAL FELLOW** to study the molecular mechanisms of neurodegeneration in an excellent training environment. The positions, both at the junior and senior postdotoral level, are in a productive, well-funded laboratory that has an established track record in examining pathological mechanisms both in Alzheimer's disease and Huntington's disease. Salaries will be at or above NIH guidelines depending on experience and excellent benefits are available. Applicants must have a Ph.D. in a biomedically related field and be highly motivated. In addition, all applicants must currently reside in North America to be available for an interview. University of Alabama at Birmingham is one of the top 20 NIH-funded institutions and provides an outstanding, interactive research environment. Interested candidates should send their curriculum vitae and contact information for three references to: **Dr. Gail V. Johnson, Department of Psychiatry, SC 1061, 1720 Seventh Avenue South, University of Alabama at Birmingham School of Medicine, Birmingham, AL 35294-0017. E-mail: gvwj@uab.edu; FAX: 205-934-3709**.

POSTDOCTORAL FELLOWSHIPS
Neuropathology/Neuroimmunology

Positions exist on an NRSA training grant on experimental neuropathology for Postdoctoral Fellows to work on molecular neuropathology and neuroimmunology of Alzheimer's disease, AIDS, multiple sclerosis, lysosomal diseases, Parkinson's disease, and related models in a leading medical school in the New York City area. Emphasis will be placed on candidates trained in molecular immunology, nervous system tissue culture techniques, PCR, glial development, signaling mechanisms, and immunocytochemistry. Candidates must hold an M.D. or Ph.D., be *U.S. citizens or permanent residents*, and preferably have some postdoctoral laboratory experience. Send curriculum vitae to: **Dr. Cedric S. Raine, Department of Pathology (Neuropathology), Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461**. *Equal Opportunity Employer.*

POSTDOCTORAL FELLOW
University of Texas Health Science Center San Antonio
Barshop Center for Longevity and Aging Studies

Postdoctoral position available to study the contribution of telomere processing to cancer/age-associated changes. Methodologies include both murine and *in vitro* cell culture models. Ph.D., M.D., or M.D./Ph.D. and previous experience in techniques of cellular and molecular biology required. Salary: $45,000 plus benefits. Qualified individuals should send their curriculum vitae including names and addresses of three references to: **Dr. Robert A. Marciniak, Assistant Professor, Medical Oncology, UTHSCSA, 7703 Floyd Curl Drive, MSC 7884, San Antonio, TX 78229-3900**. Applications preferred sent as PDF or MS Word files to **e-mail: marciniak@uthscsa.edu**. *The UTHSCSA is an Equal Employment/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS
Virginia Commonwealth University
Richmond, Virginia

Postdoctoral positions open for studies on reactive oxygen and nitric oxide modulation of cell growth and cellular redox homeostasis with emphases on redox regulation of Tyr phosphatases/growth factor receptors and cGMP/protein kinase G signaling. See **Leach et al.**, *Biol. Chem.* **277**:15400; *Cancer Res.* **61**: 3894. If interested, respond by sending curriculum vitae and names of two references to:

Ross B. Mikkelsen, Ph.D.
Department of Radiation Oncology
Virginia Commonwealth University
P.O. Box 980058
Richmond, VA 23298-0058
E-mail: rmikkels@vcu.edu

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE
Department of Biology
Rhodes College

A three-year, NSF-funded Postdoctoral Research position is available beginning January 1, 2003, to study fungal cell wall development. The project will focus upon identification of *Cal* genes, which affect cell wall integrity in *Aspergillus nidulans*, and includes localization and characterization of *Cal* gene products. Candidates must have a Ph.D. plus proficiency in generating and localizing GFP fusions and epitope-tagged proteins. Experience with filamentous fungi is highly desirable but not required. Candidates must be able to work closely with students in a supervisory role, and fluency in English is essential. More information about this position can be found at **website: hill.biology.rhodes.edu/nsfpostdoc.html**. Applications will be considered until the position is filled. To apply, please send a cover letter, curriculum vitae, and complete contact information (with e-mail addresses) for three references to:

Dr. Terry W. Hill
Department of Biology
Rhodes College
2000 North Parkway
Memphis, TN 38112 U.S.A.
E-mail: hill@rhodes.edu

More information about Rhodes College can be found at **website: http://www.rhodes.edu**. *Rhodes College is an Equal Opportunity Employer committed to diversity in the workforce.*

Three **POSTDOCTORAL FELLOWS** in marine fish ecology, Santa Cruz Laboratory, National Marine Fisheries Service, starting January 2003. (1) Early life history of rockfish, *Sebastes* spp: larval performance and factors influencing growth, survival, transport and settlement. Contact: **Dr. Susan Sogard; e-mail: susan.sogard@noaa.gov**. (2) Retrospective analysis of salmonid growth and ocean climate indices in the North Pacific Ocean to derive indicators of ecological and oceanographic change. Contact: **Dr. Churchill Grimes; e-mail: churchill.grimes@noaa.gov**. (3) Analysis of West Coast groundfish recruitment vis-á-vis broadscale oceanographic factors including low-frequency environmental variability; develop indices of groundfish reproductive success. Contact: **Dr. Stephen Ralston; e-mail: steve.ralston@noaa.gov**. Apply with a cover letter, curriculum vitae, and names of three references to: **Dr. Sogard, Dr. Grimes,** or **Dr. Ralston; NMFS, 110 Shaffer Road, Santa Cruz, CA 95060**.

POSTDOCTORAL POSITION available to work on the identification of mammalian signal transduction proteins that protect cells against oxidative stress, Alzheimer's disease, and other age-related diseases. A strong background in molecular or cell biology is required. The Fellow will work on mammalian neurobiology and genetics projects. Curriculum vitae; summary of research interests; and names, e-mail addresses, and addresses of three references should be sent to: **Dr. Valter D. Longo, Andrus Gerontology Center, Division of Biogerontology and Department of Biological Science, University of Southern California, 3715 McClintock Avenue, Los Angeles, CA 90089. E-mail: vlongo@usc.edu; FAX: 213-821-5714**.

SENIOR POSTDOCTORAL POSITION available in cardiac myocyte pathology/biology for cardiovascular tissue engineering and gene therapy projects. Requires substantial experience in cardiomyocyte, vascular, extracellular matrix pathology/biology (possibly developmental biology). Expertise in organ culture or gene therapy a positive. Projects span the gamut from *in vitro* to *in vivo*; be part of a cross-disciplinary team in an exciting new field. Potential for faculty track upon independent funding. Send curriculum vitae and three references to: **Margaret D. Allen, M.D., Medical Director, The Hope Heart Institute, 1710 East Jefferson, Seattle, WA 98122**.

POSITIONS OPEN

CAREER IN OPTOMETRY, OPTOMETRIC RESEARCH, OR TEACHING

The New England College of Optometry offers a unique program for those with a Doctorate in the sciences: biology, chemistry, physics, psychology, etc. Candidates have the opportunity to obtain the Doctor of Optometry (O.D.) degree in 27 months. The Program begins annually in March. Employment opportunities exist in clinical practice, industry, optometric faculty positions, and research. Contact: **Admissions Office, Department S, 424 Beacon Street, Boston, MA 02115. Telephone: 1-800-824-5526; e-mail: admissio@ne-optometry.edu; website: http://www.ne-optometry.edu**. Application deadline: February 1, 2003.

RESEARCH SCIENTIST/POSTDOCTORAL POSITIONS available in microbial pathogenesis to study anthrax pathogenesis. The program is focused on the identification and molecular characterization of microbial virulence determinants and their mechanisms of action using *in vitro* cell culture and animal models. Characterization of the immune response to infection will also be evaluated. Position requires Ph.D. and *U.S. citizenship*. Experience in microbiology and cell biology desirable. Interested applicants should send their curriculum vitae, statement of research interests, and names of three references to: **Dr. Arthur M. Friedlander, U.S. Army Medical Research Institute of Infectious Diseases, Frederick, MD 21702. FAX: 301-619-2152; e-mail: arthur.friedlander@amedd.army.mil**.

POSTDOCTORAL OPPORTUNITIES
Biochemistry Department
University of Missouri–Columbia

Postdoctoral positions available in individual and interdisciplinary research programs. Send a letter of application, curriculum vitae, and names of three references to a listed faculty member at: **Biochemistry Department, University of Missouri, 117 Schweitzer Hall, Columbia, MO 65211**. Details available at **website: http://www.biochem.missouri.edu/postdoctoral.html**. *MU is an Equal Opportunity/Affirmative Action Employer. To request Americans With Disabilities Act accommodations, Telephone: 573-884-7278 (voice/TTY).*

A **POSTDOCTORAL POSITION** is available immediately to study the role of cysteine proteases in the biology of the malaria parasite. Candidates with a recent Ph.D. in molecular biology, cell biology, or biochemistry are encouraged to apply. Malaria background preferred but not necessary. Please send curriculum vitae and names of references to:

Dr. Manjit Hanspal
Department of Biomedical Research
St. Elizabeth's Medical Center of Boston
736 Cambridge Street
Boston, MA 02135
E-mail: manjit.hanspal@tufts.edu

FELLOWSHIP

FELLOWSHIPS AVAILABLE in neuroscience at the prestigious Marine Biological Laboratory in Woods Hole, Massachusetts. If you are a late Predoctoral or early **POSTDOCTORAL INVESTIGATOR** on the threshold of an independent career in neuroscience and wish to spend the summer of 2003 doing cutting-edge research in neurobiology, visit our **website: http://www.grassfoundation.org** for details and an application form. Up to 12 Fellowships will be awarded by The Grass Foundation for Investigators to work on a project of their choice. These Fellowships provide research space; equipment; supplies budget; and travel, housing, and board for the Investigator, spouse, and dependent children. Act now. The deadline for applications is December 15, 2003.

The Grass Foundation
400 Franklin Street, Suite 302
Braintree, MA 02184
Telephone: 781-843-0219

POSITIONS OPEN

Two **POSTDOCTORAL POSITIONS** are available to study the mechanisms and regulation of the initiation of DNA replication and cell cycle progression in *Drosophila* and humans. Motivated candidates with strong background in biochemistry and cell/molecular biology are encouraged to apply. Experience in *Drosophila* molecular genetics is required for one position. Send curriculum vitae and the names of three references to: **Dr. Igor Chesnokov, University of Alabama at Birmingham, School of Medicine, Department of Biochemistry and Molecular Genetics, 552A Kaul Human Genetics Building, 720 20th Street South, Birmingham, AL 35294. E-mail: ichesnokov@uab.edu**. *University of Alabama at Birmingham is an Equal Opportunity/Affirmative Action Employer.*

COURSE

SHORT COURSE ON TIME-RESOLVED FLUORESCENCE SPECTROSCOPY. The Center for Fluorescence Spectroscopy, University of Maryland School of Medicine, is offering a Short Course on Principles and Applications of Time-Resolved Fluorescence Spectroscopy in Baltimore, March 24–28, 2003. The course will cover basic and advanced topics in fluorometry including time and frequency domain measurements and Forster resonance energy transfer. Advanced topics include chemical sensing, imaging, fiber optics, infrared fluorometry, two- and multiphoton excitation, instrumentation, confocal and multiphoton microscopy, protein fluorescence, DNA technology, high-throughput screening, metal-ligand probes, correlation spectroscopy, lanthanides, and immunoassays. Textbook, course materials, lunches, and refreshments will be provided. For further information, a schedule, and fees, please contact: **Ms. Mary Rosenfeld** or **Professor J.R. Lakowicz, CFS, Department of Biochemistry and Molecular Biology, 725 West Lombard Street, Baltimore, MD 21201. Telephone: 410-706-8409; FAX: 410-706-8408; e-mail: cfs@cfs.umbi.umd.edu; website: http://cfs.umbi.umd.edu**.

GLOBAL OPPORTUNITIES

ACADEMIA SINICA

The Institute of Atomic and Molecular Sciences, Academia Sinica, invites qualified candidates to apply for tenure-track **RESEARCH FELLOW POSITIONS** in the following research fields: experimental atomic physics, surface science, biophysical science, nanoscience, theoretical molecular dynamics, and ultrafast and high-field optics. Please visit **website: http://www.iams.sinica.edu.tw** for detailed academic activities of the Institute. Successful candidates must show excellent academic achievements and abilities to establish a successful research program within the Institute in the above research fields. Collaborations with other Research Fellows are strongly encouraged. Interested applicants should send full curriculum vitae by airmail including a list of publications, a research proposal, and at least three letters of recommendation to: **Dr. Chi-Kung Ni, P.O. Box 23-166, Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan. E-mail: ckni@po.iams.sinica.edu.tw; FAX: 886-2-2362-0200**. To ensure timely processing, all application materials must be received by December 31, 2002.

GRADUATE PROGRAMS

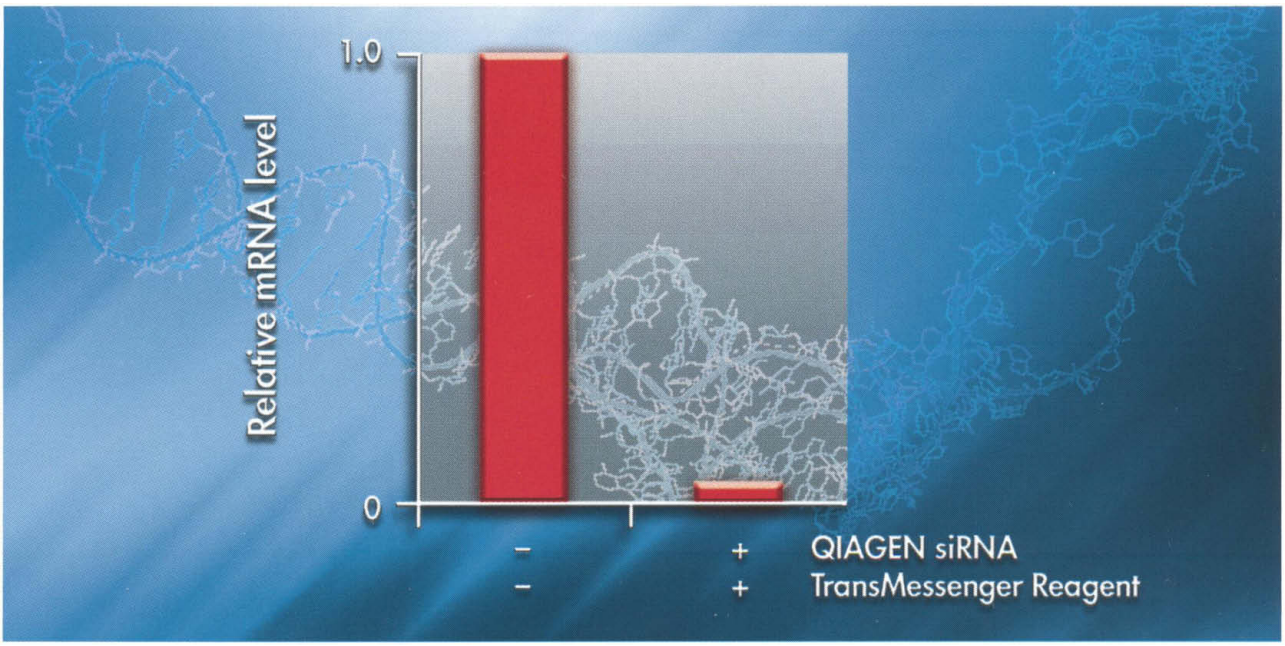
BIOLOGY SCIENCE FELLOWSHIPS, CUNY

The Ph.D. Program in Biology of The Graduate Center of the City University of New York invites applications for 16 Science Fellowships with a competitive support package to be awarded for fall 2002. Specializations including molecular and cell biology, neuroscience, ecology, or plant sciences may be pursued at one of six senior college campuses and three affiliated institutions. For application information, visit our **website: http://web.gc.cuny.edu/biology**.

MARKET PLACE

MORE PRODUCTS ON PREVIOUS PAGE

Custom and library siRNA for efficient gene silencing



Gene silencing of lamin A/C (normalized against GAPDH as a control). HeLa-S3 cells were transfected using TransMessenger Transfection Reagent.

High-purity QIAGEN® short interfering RNA (siRNA) allows efficient gene silencing in cell culture by targeting complementary endogenous mRNA. This effect, termed RNA interference (RNAi), enables targeted gene silencing of gene expression in functional genomics studies.

The QIAGEN siRNA Oligo Synthesis Service offers:

- High-purity siRNA for efficient gene silencing
- Custom and library siRNA, ready to use in RNAi studies
- Expert advice on siRNA design for optimal RNAi effect
- Labeled siRNA allowing transfection to be easily followed

Custom siRNA and a variety of library siRNA duplexes for common target genes are available. High-purity QIAGEN siRNA, together with TransMessenger™ Transfection Reagent — the first reagent specifically developed for transfection of RNA — provides highly effective gene silencing in RNAi studies.

To discover how QIAGEN siRNA can help you get the most out of your RNAi studies visit www.qiagen.com/sirna or contact your local QIAGEN distributor.

www.qiagen.com

QIAGEN:

Australia Tel. 03-9489-3666 Fax 03-9489-3888
Canada Tel. 800-572-9613 Fax 800-713-5951
France Tel. 01-60-920-930 Fax 01-60-920-925
Germany Tel. 02103-29-12400 Fax 02103-29-22022
Italy Tel. 02-33430411 Fax 02-33430426
Japan Tel. 03-5547-0811 Fax 03-5547-0818
Switzerland Tel. 061-319-30-31 Fax 061-319-30-33
UK and Ireland Tel. 01293-422-999 Fax 01293-422-922
USA Tel. 800-426-8157 Fax 800-718-2056

Distributors:

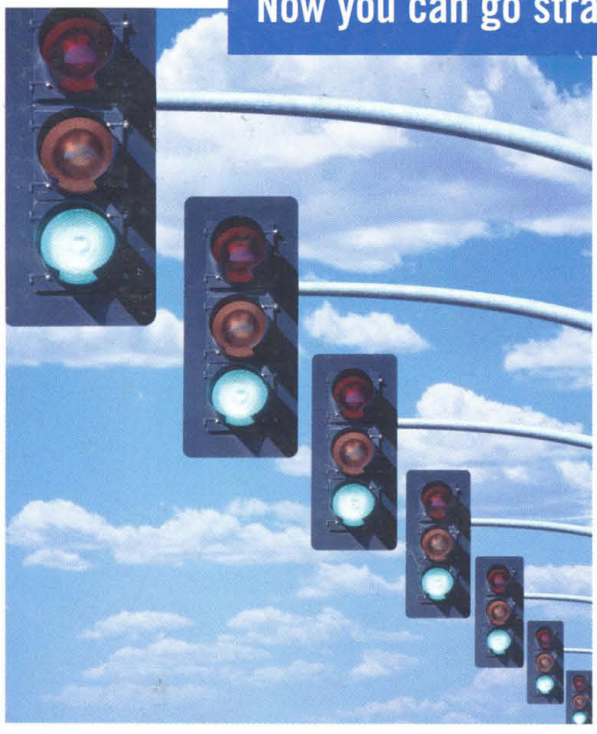
Argentina Tecnolab S.A. (011) 4555 0010 **Austria** VWR International GmbH (01) 576 00 0 **Belgium/Luxemburg** Westburg b.v. 0800-1-9815 **Brazil** Uniscience do Brasil 011 3622 2320 **China** Gene Company Limited (852)2896-6283 **Cyprus** Scientronics Ltd (02) 357 22 765416 **Czech Republic** BIO-CONSULT spol. s.r.o. (420) 2 417 29 792 **Denmark** VWR International A/S 43 86 87 88 **Egypt** Clinilab 52 57 212 **Finland** VWR International Oy (09) 804 551 **Greece** BioAnalytica S.A. (10)-640 03 18 **India** Genetix (011)-542 1714 or (011)-515 9346 **Israel** Westburg (Israel) Ltd. 08 6650813/4 or 1-800 20 22 20 **Korea** LRS Laboratories, Inc. (02) 924-86 97 **Malaysia** RESEARCH BIOLABS SDN. BHD. (603)-8070 3101 **Mexico** Quimica Valaner S.A. de C.V. (55) 55 25 57 25 **The Netherlands** Westburg b.v. (033)-4950094 **New Zealand** Biolab Scientific Ltd. (09) 980 6700 or 0800 933 966 **Norway** VWR International AS 22 90 00 00 **Poland** Syngen Biotech Sp.z.o.o. (071) 351 41 06 or 0601 70 60 07 **Portugal** IZASA PORTUGAL, LDA (21) 424 7312 **Singapore** Research Biolabs Pte Ltd 2731066 **Slovak Republic** BIO-CONSULT Slovakia spol. s.r.o. (02) 5022 1336 **South Africa** Southern Cross Biotechnology (Pty) Ltd (021) 671 5166 **Spain** IZASA, S.A. (93) 902.20.30.90 **Sweden** VWR International AB (08) 621 34 00 **Taiwan** TAIGEN Bioscience Corporation (02) 2880 2913 **Thailand** Theera Trading Co. Ltd. (02) 412-5672 **In other countries contact:** QIAGEN, Germany

QIAGEN

QX092002SWW

drug discovery/proteomics

Now you can go straight to the answers.



New Q TRAP™ LC/MS/MS System. Miles ahead of any other ion trap.

How's this for straight thinking? A linear, hybrid mass spectrometer that outperforms any conventional ion trap, and also delivers high-end triple quadrupole functionality. So for proteomics, you get fast full scans at unmatched sensitivity, real-time charge state determination, plus superior mass accuracy. For metabolism, you get all of the above, plus accurate quantitation. Advanced mixed scan modes, too—and application-specific software ties it all together. It adds up to more value: more metabolites, more proteins, more confidence in your results. Want more information?

Go straight to: http://info.appliedbiosystems.com/qtrap

Applied Biosystems | MDS SCIEX

Applied Biosystems

Data. Decision. Discovery.