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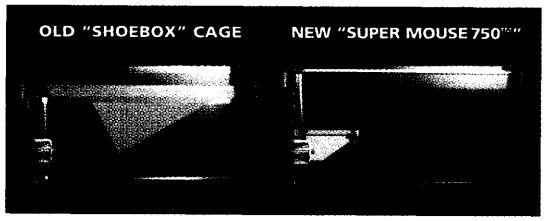

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QuantArray is a Windows NT program to identify spots that differ in brightness between different microarray images. Such analyses indicate which genes under certain treatments are up- or down-regulated in cells with respect to a control, revealing broad patterns of gene expression.

An analysis in QuantArray is performed in an "experiment," which consists of one to four microarray images, a "Gene Database" text file that identifies the gene at each spot, and a protocol. The protocol consists of all the parameter values that the program uses to fully analyze an experiment, including array pattern information and quantitation method.

QuantArray performs three tasks: it locates spots, quantitates the intensity of each spot, and generates reports. To assist QuantArray in locating spots, the program takes the user through four steps in which the images are displayed and manipulated. "Register Images" lets the user visually align each image with the control so spots are not offset between images. After the upper left spot is correctly located, the program displays the pattern of spots based on the array pattern. If this pattern does not closely match the actual spot positions on the images, the user can selectively move and rotate rows and columns until it does. The "Locate Spots" step then uses the array pattern to guide its analysis of the images to determine the center of each spot and its corresponding background rectangular patch.

Spot quantitation occurs as the report is made. Three quantitation methods are offered: histogram (simple and stable, for high-quality spots), fixed circle (in which spot and background masks are defined as constraints), and adaptive (which uses a statistical method to identify spots and to compensate for differences such as size and roundness). All three methods have several adjustable parameters to control how pixels are identified and how overall spot intensity is calculated. They also have options for subtracting background intensity and correcting for contamination by emissions from another dye (called "cross talk").

QuantArray provides numerous reports. Among the several graphical reports that display the relative intensities of different spots, the Scatter Plot is the most useful because it identifies spots differing significantly in brightness with respect to a control image. Clicking on a "Scatter Plot" spot brings up details for that spot. Checking the "Annotate to Image" box then labels that spot on each image with the appropriate gene name. QuantArray produces text reports that can be opened by Excel. Also included is an Excel macro that performs background subtraction as well as several normalizations on the data.

QuantArray is highly configurable, and virtually every step in an analysis offers several options. The program can also be run in an automatic mode, in which the above steps are performed on an experiment without user interaction. Researchers interested in high-quality microarray quantitation software should seriously consider QuantArray. **—John B. Spalding**

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CONTINUED ON PAGE 631

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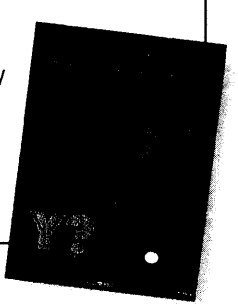

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moting the exchange of information. Also, clicking on a gene on a MAPP reveals annotation for that gene and hypertext links to public databases such as SWISS-PROT and GenBank. Currently, the MAPPs available for yeast, mouse, and human have been derived from public sources such as the Gene Ontology Project and total about 300. The program also exports MAPPs as HTML for display on Web sites and on other computer platforms. GenMAPP currently runs in Windows 98, ME, NT, and 2000.

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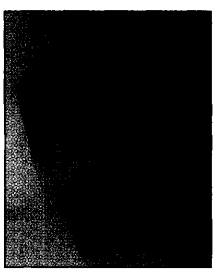

CONTINUED ON PAGE 633

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LITERATURE

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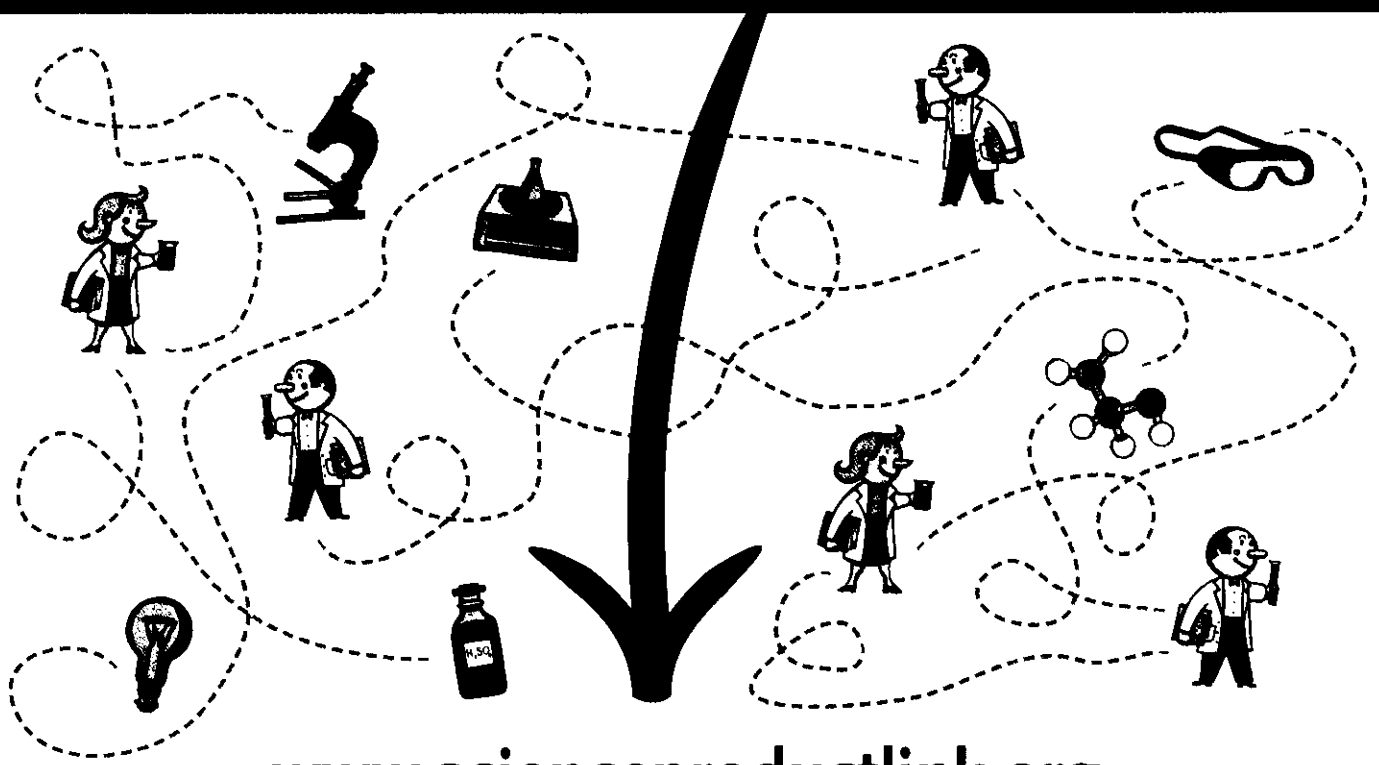

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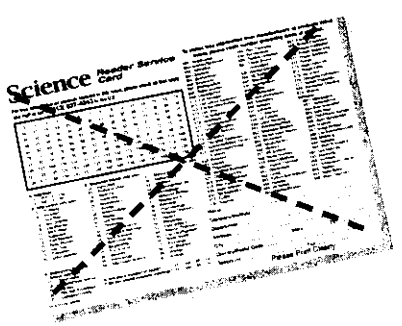

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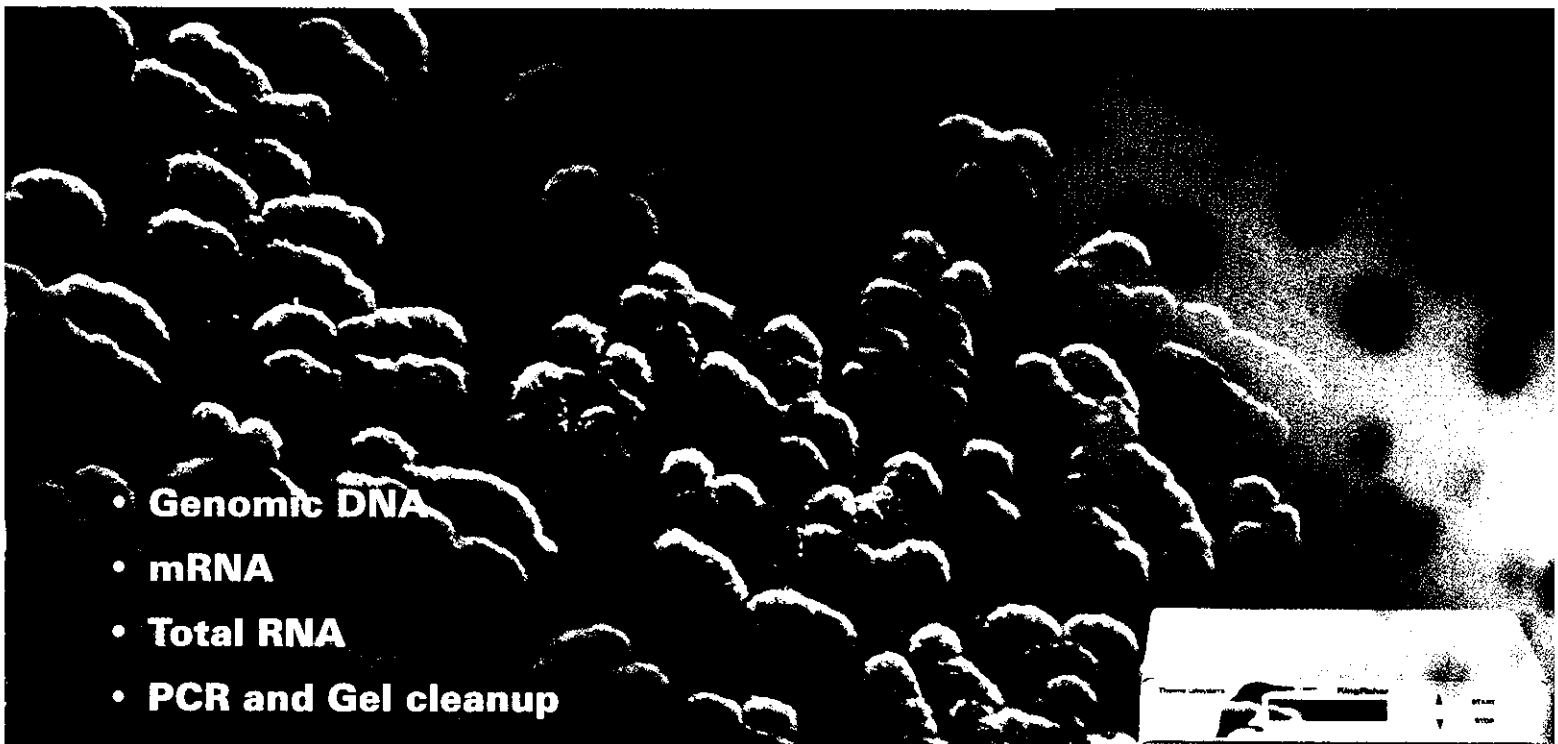

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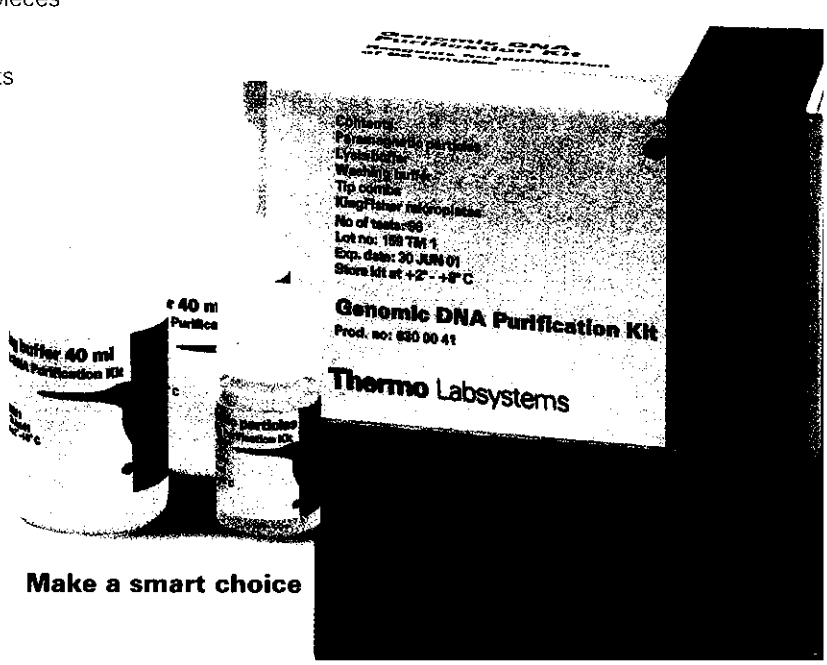

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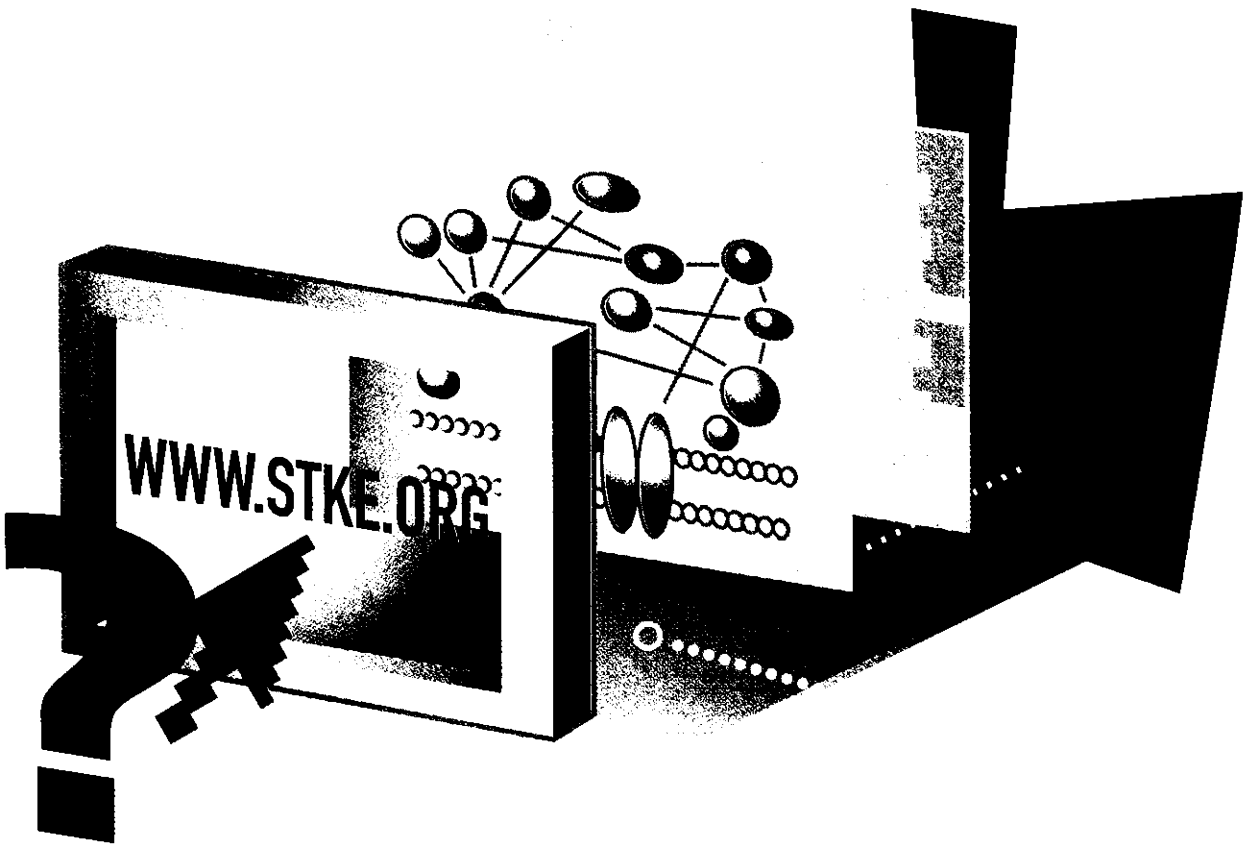

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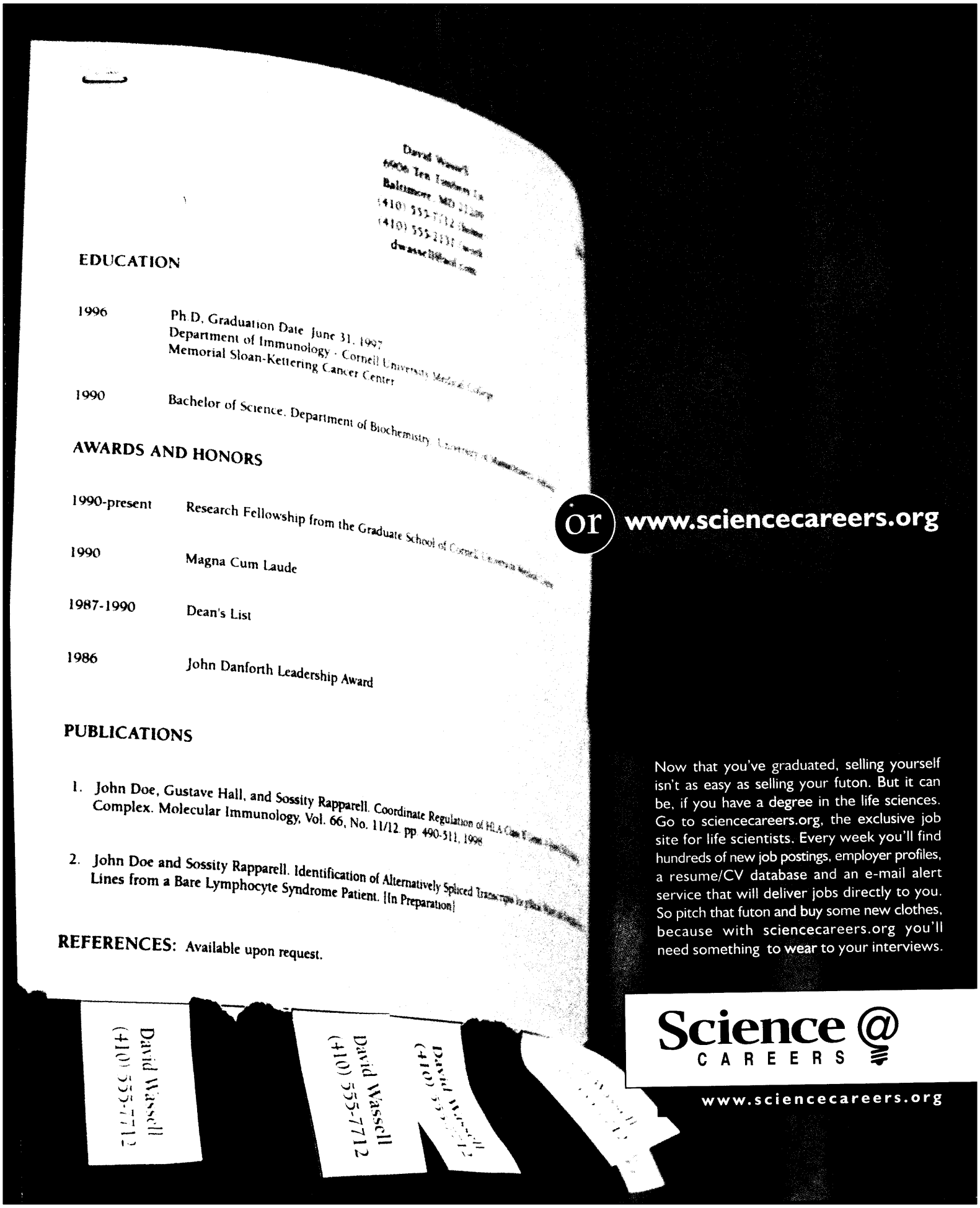
EDUCATION
1996
Ph.D. Graduation Date June 31, 1997
1990
Bachelor of Science, Department of Biochemistry
AWARDS AND HONORS
1990-present
Research Fellowship from the Graduate School of
1990
Magna Cum Laude
1987-1990
Dean's List
1986
John Danforth Leadership Award
PUBLICATIONS
1. John Doe, Gustave Hall, and Sossity Rapparell. Coordinate Regulation of HLA
Complex. Molecular Immunology, Vol. 66, No. 11/12. pp 490-511, 1998
2. John Doe and Sossity Rapparell. Identification of Alternatively Spliced
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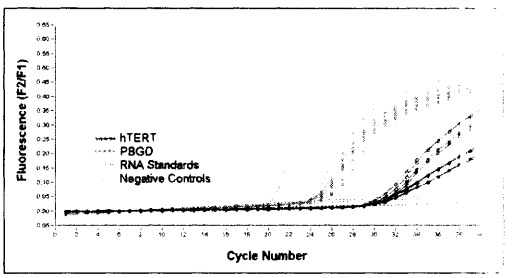

LightCycler amplification curves quantify the mRNA encoding for the human telomerase catalytic subunit hTERT. *Analysis was performed on total RNA isolated using the MagNA Pure LC.*

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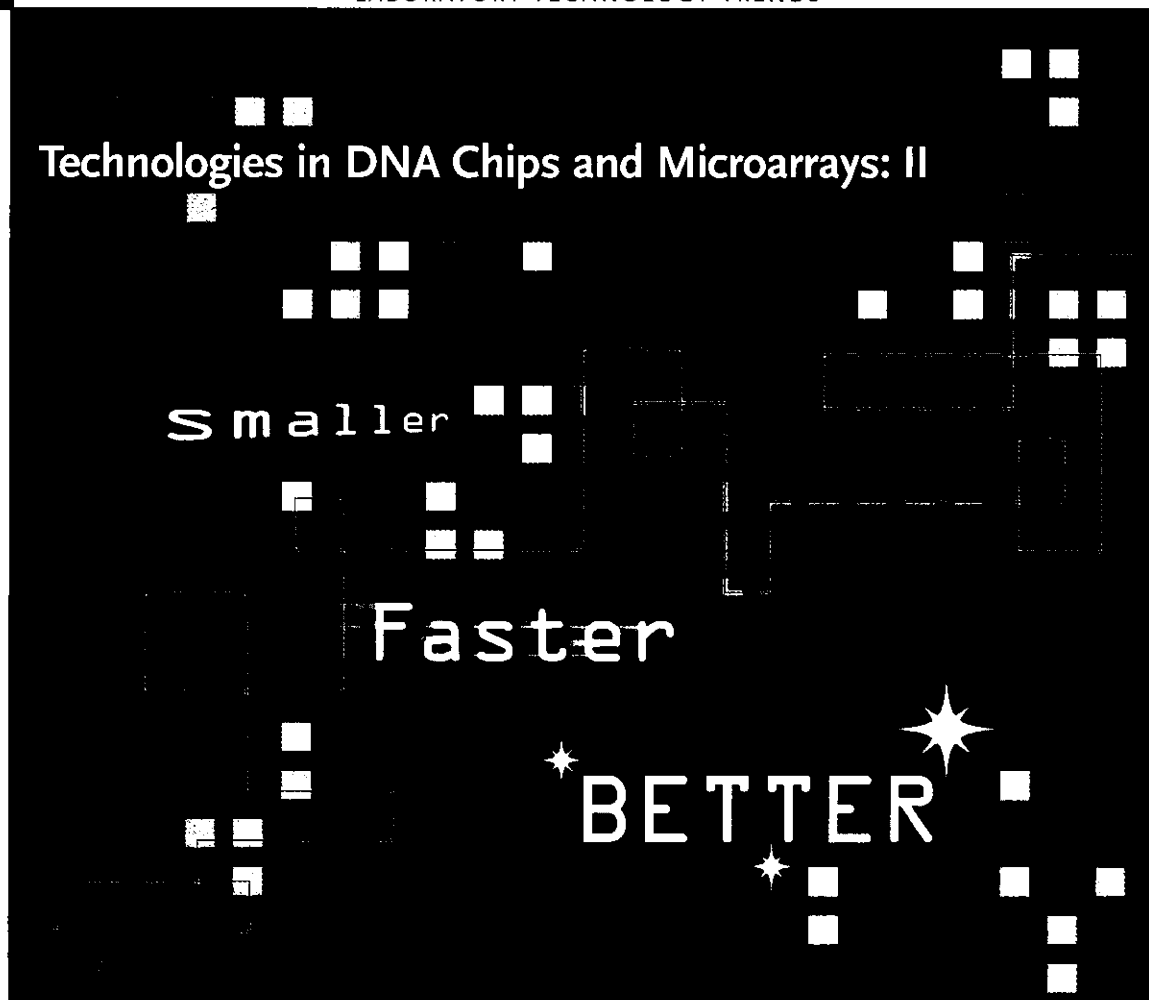
Technologies in DNA Chips and Microarrays: II



By rapidly speeding up assays, DNA chips and microarrays permit researchers to interpret the vast amounts of data from genome-sequencing projects. Manufacturers are now developing smaller biochips with better information-handling capabilities that will contribute more effectively to diagnostics and drug discovery.

BY PETER GWYNNE AND GARY HEEBNER

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.

Over a period of less than a decade, DNA chips and microarrays have changed forever the way in which life scientists carry out their investigations. These rapid assay laboratories in miniature enable scientific teams to perform in just weeks experiments that once took months or even years to conduct – and to do so using fewer scientists and fewer instruments. As a result, life scientists in academic and industrial research laboratories can move faster than ever before toward the goals of understanding the fundamental causes of disease and developing means of diagnosis and treatment.

At present the technology is largely restricted to the laboratory, where it combines with such techniques as high-throughput screening and mass spectrometry. "With the draft of the human genome now in place, there are vast libraries of gene expression data that need to be rapidly analyzed in the rush to develop novel therapeutics to address the underlying genetic/proteomic causes of disease," says Dorman Followwill, vice president, health care practice at marketing, consulting, and training company **Frost & Sullivan**.

However, the technology promises more than that – soon. "Right now it's a research tool," says Jeff Augen, director of business strategy for **IBM Life Sciences**. "But I'm positive that over the next 18 months to two years there will be a migration to the diagnostic side. Ultimately arrays will be an important diagnostic tool." Roland Toder, chief science officer at **GeneScan Europe**, agrees. "What is going on in research today will become a tool for diagnostics tomorrow," he says. "That use will stretch into agriculture as well; you can envision using microarray technology to detect pathogens in food." Adds Followwill: "A wide variety of clinical applications will emerge over the next few years."

This is the second of a two-part series. The first part appeared in the 4 May issue of Science, starting on page 949.

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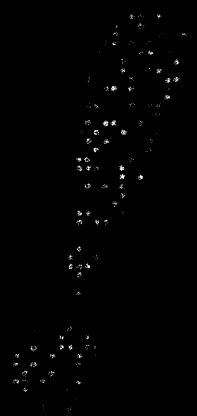

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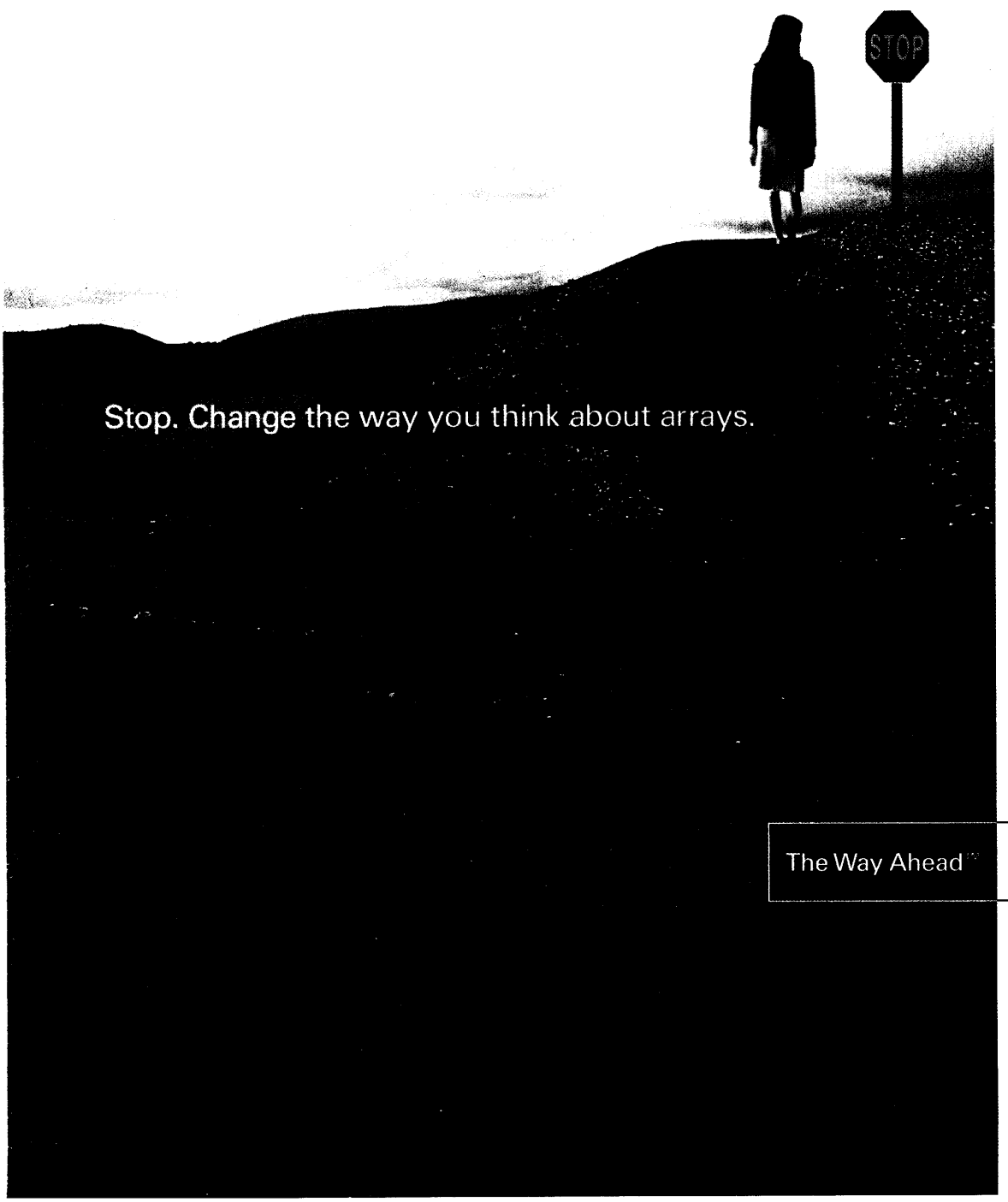

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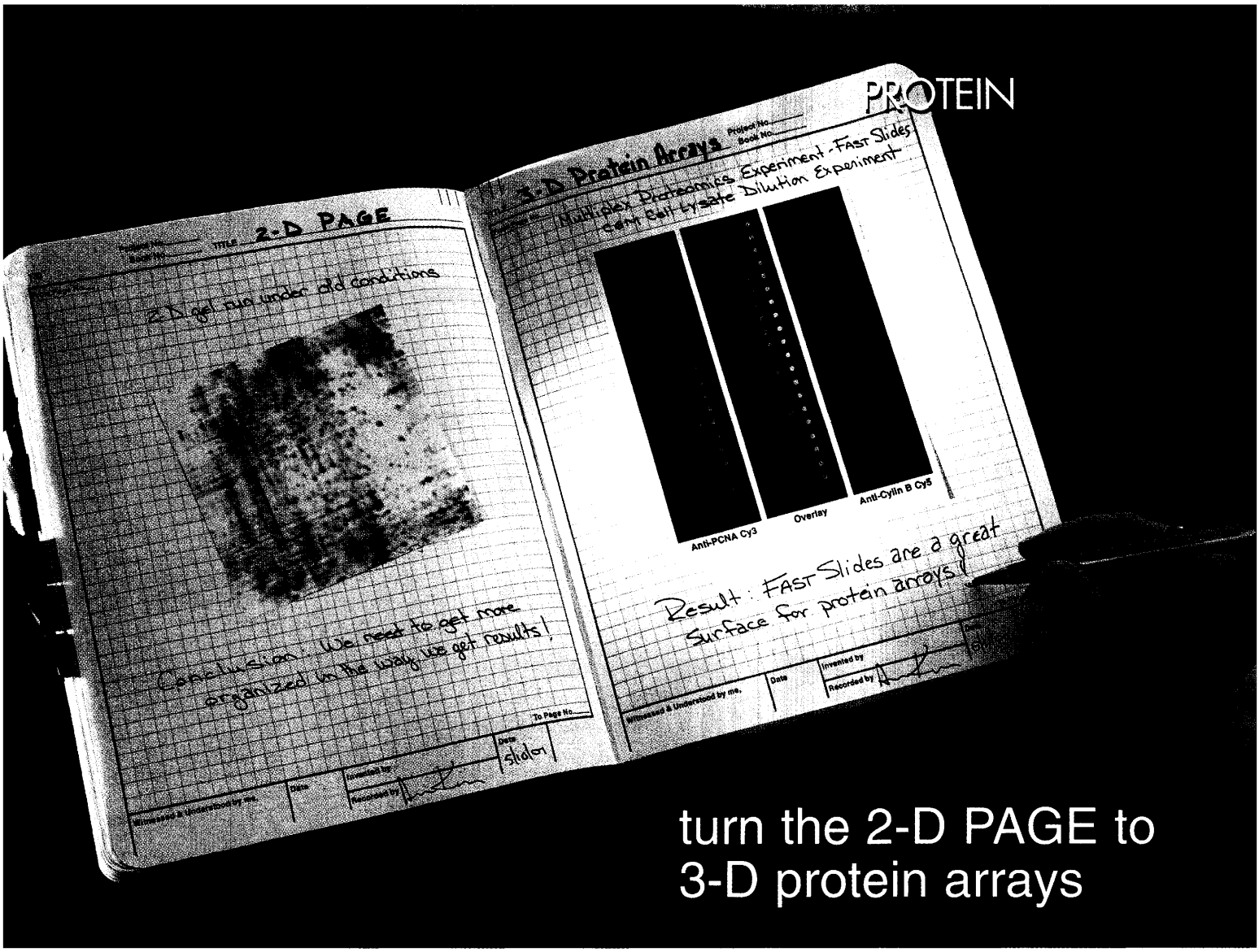

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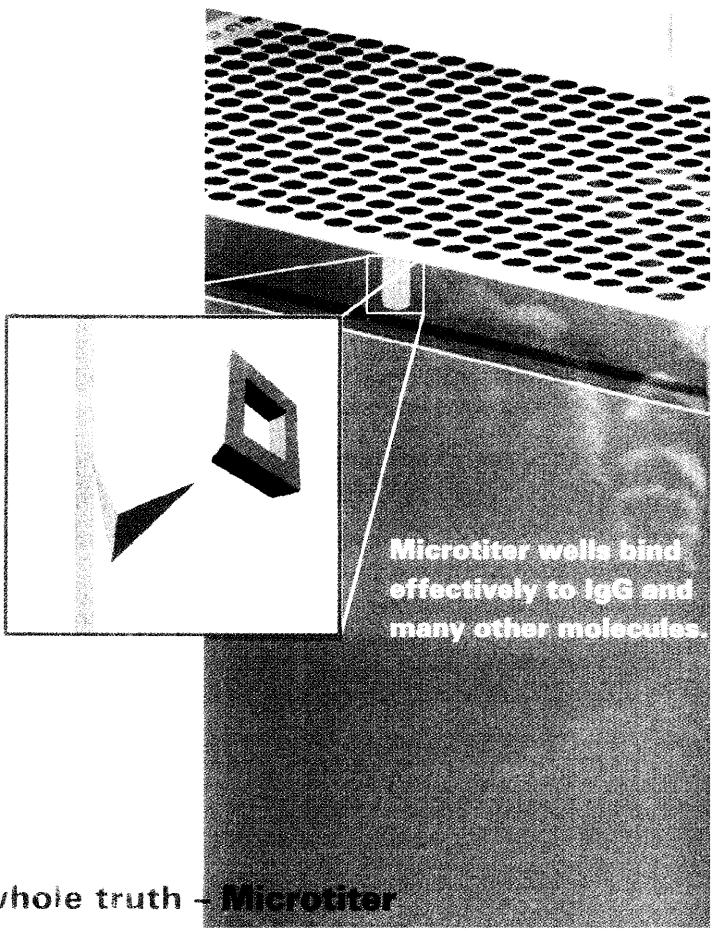

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Technologies in DNA Chips and Microarrays: II

EXPANDING APPLICABILITY

DNA chips (often called biochips) and microarrays represent a broad class of technologies rather than a single technique. Thus their applicability is expanding beyond their present use in gene expression profiling and the recognition of diseases based on the profiles of genes. "In the past, people have utilized these platforms for screening purposes and qualitative data collections," says Shishir Shah, president of **Spectral Genomics**. "But we will soon start to use them for quantitative computations." Beyond that, he adds, "There's no doubt that expression studies will lead into proteomic studies." Xiaobo Wang, senior director of sample preparation at **AVIVA Biosciences Corporation**, takes a similarly optimistic view. "We see development of chips at different levels for different purposes, including tissue chips addressing issues such as the functions of genes," he says.

A related technology platform brings together microfluidics and microelectronics to create assaying laboratories literally on a chip. These devices, which move and process reagents along minuscule channels in a chip, have an equally promising future. "The lab on a chip concept is very broad," says Mike Knapp, vice president of corporate development and cofounder of **Caliper Technologies Corporation**. "It's one of the seductive features of the technology that you can imagine so many different aspects of what goes on in a life science laboratory going on in a lab on a chip."

It's hardly surprising, then, that analysts take an upbeat view of the future for biochips and microarrays. "Health care and drug discovery are now where electronics was at the discovery of the transistor. But there will be no time lag of the type we saw in the electronics industry in commercializing the new technology," says Followwill. "This new technology will come online at 'warp speed' by comparison. However, market participants can get a bit giddy about this 'warp speed,' and set unrealistic expectations in the marketplace. The only cautionary note I see in this high-growth arena is rooted in these unrealistic expectations remaining unmet."

Demand for microarrays, microfluidic devices, and other biochips bears out that optimism. World BioChip Market, a report that Frost & Sullivan issued earlier this year, forecasts that the market will grow at an annual rate of over 50 percent in the next few years and will reach $3.3 billion by 2004. Because of the growing demand **Affymetrix, Inc.**, the technology's current market leader, faces increasing competition. "There is definitely a race between Affymetrix, **Agilent Technologies**, **Corning**, and **Motorola** to increase the number of data sets generated, to drive the trend toward miniaturization, and to make the promise of 'high-throughput' screening live up to its moniker," says Followwill.

COMBINATION OF TECHNOLOGIES

Several technologies have enabled the use of microarrays in life science laboratories. Fred Sanger and Walter Gilbert pioneered the modern DNA sequencing method that researchers use today with DNA chips. Later, Kary Mullis discovered the polymerase chain reaction (PCR) that allowed researchers to amplify very small amounts of DNA and thereby produce enough copies to perform routine laboratory analyses. Just a few years after that, Leroy Hood described a method of DNA sequencing that used fluorescent tags to facilitate automated DNA sequencing. These technologies and others gathered from the molecular biologist's toolbox have merged with the fabrication and processing technologies (based on robotics and semiconductor manufacturing) to give birth to the DNA chip or microarray.

In recent years scientists have labored to sequence genomes of several organisms, including humans. Now that teams have mapped much of the human genome, researchers have started to turn their attention to discovering how cells function. They have a small number of key questions. How does the DNA of a cell relate to the messenger RNA (mRNA) and proteins found in that cell at a given time? How do cells differentiate and change in their development? And, of course, what course of events determines whether or not a particular cell is destined to change, perhaps into a cancer cell? Microarrays allow researchers to ask many of these questions and to obtain answers in a relatively short period of time by conducting huge numbers of individual experiments simultaneously.

The idea of tools that conduct many reactions at a time is hardly new. Life science researchers have used microwell plates for several years. Such suppliers as **BD Biosciences**, **Millipore**, and **Molecular Devices** have offered such equipment with increasing capacity, moving up from 96 to 384 and even 1,536 wells per plate. Microarrays allow researchers to conduct even larger-scale experiments in genotyping and gene expression using very small volumes of sample and reagents. In microarrays the number of features or samples on a single slide or array can exceed tens or even hundreds of thousands.

Those numbers are increasing at an extraordinary rate. "When we started broad commercial access to microarrays in 1996, the typical feature on a chip was about 100 microns. Now it's under 20 microns. That means improvement by a factor of 25 in information density," says Stephen

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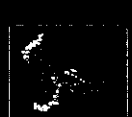

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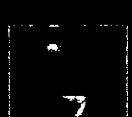

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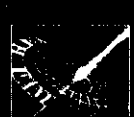

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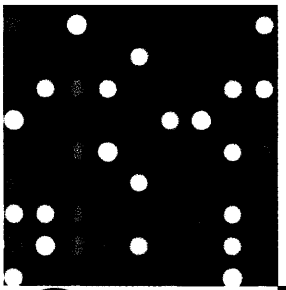

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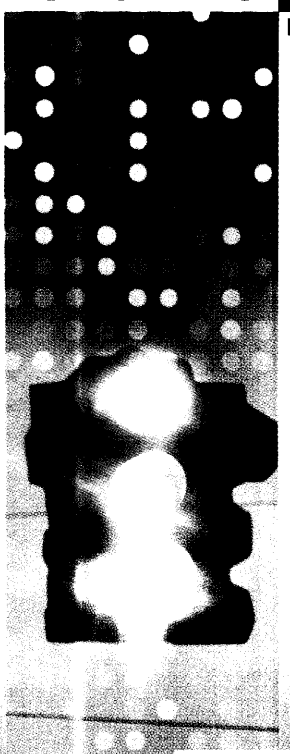

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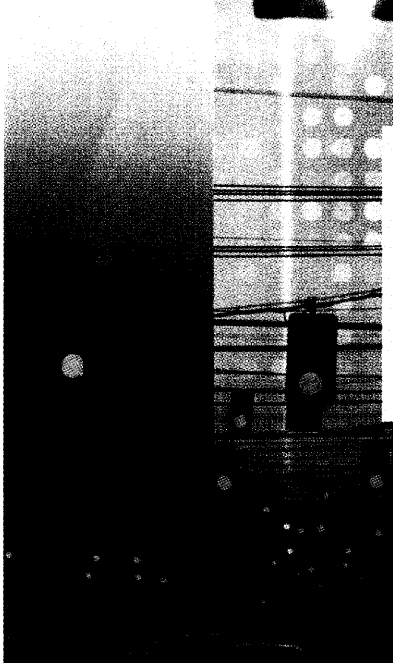

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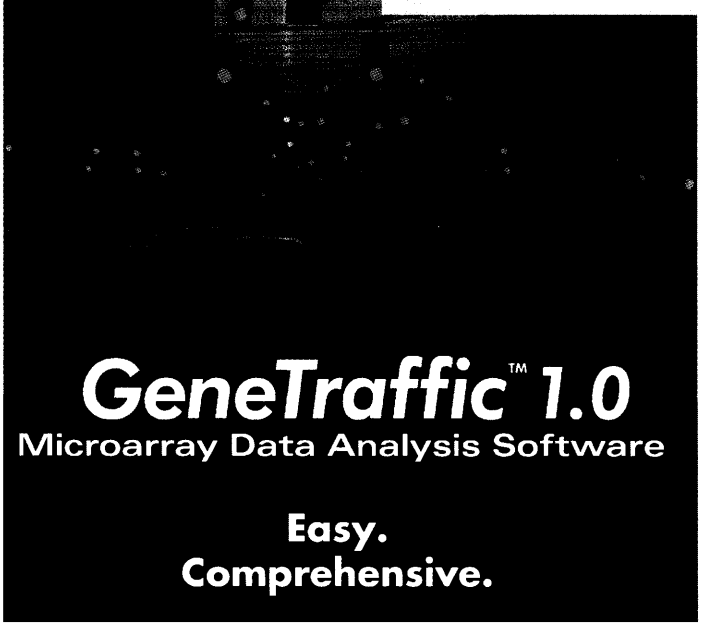

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Technologies in DNA Chips and Microarrays: II

Fodor, CEO of Affymetrix. "We've shown how to go to the 2 micron area. If you push the current 400,000 probe chip down to 2 microns, you'll have 40 million probes on a single chip."

DEALING WITH DATA

Those numbers, combined with the basic change in the way experiments are performed that microarrays have brought about, have led to the creation of mountains of experimental data that scientists simply cannot manage in a manual fashion. Instead researchers must develop or buy computer software programs to examine the information and determine relationships between the thousands of data points that may have been produced from one experiment.

The need to interpret complex data has caused the field of bioinformatics to blossom during the past few years. Scientists interested in genetics now need to possess a good understanding of how data can be organized and queried using computers and sophisticated software. Some researchers have taken it upon themselves to find individuals who can write the software programs needed for their research work. Others have turned to companies that offer software programs ready for use in data analysis work. The number of companies turning their attention to bioinformatics is growing every day, much to the delight of researchers everywhere.

IBM Life Sciences has started to develop a high profile in the microarray world. "We're spending a lot of time talking to diagnostics companies as possible partners and formulating a strategy around the technology," says Augen. "We think that the interesting part of the gene chip business is the mining of data for information. I don't want to minimize the biochemistry, but the hard part is the computer part."

Big Blue intends to find a niche in the microarray business relevant to its background in computing. "If you look at hypertension you see 27 genes related to it. The question is: Will there be a small glass array with 27 genes for which you can test a patient or should you test for the entire genome. That part of the business IBM will leave to the medical side," Augen explains. "But when you want to store millions of expression array profiles in a gigantic database and for a given patient be able to search the database for expression profiles that are similar, and then be able to compare the patterns and search for other information, that's the part of the business that falls into our bailiwick. We have groups that write pattern discovery algorithms, search programs, and databases."

INFRASTRUCTURE AND STANDARDS

The issue goes beyond organizing data mining software. Building up a suitable data infrastructure demands a fundamental understanding of such issues as bandwidth requirements, movement of data, and security issues. In addition, says Augen, "We need to keep ahead of what the molecular biologists can do. The database structure has to be extendable so that it can evolve over time." What does that imply? "We think that the infrastructure piece of this may be even more complex than the data mining management segment."

Related to that is the issue of standards for microarray data. "Today there are no standards," says Augen. "There is no standard format or data type that will allow you to store a million base pair sequences of DNA." In fact IBM, **Millennium Pharmaceuticals, Inc.**, the **National Cancer Institute** and **Sun Microsystems** have established the Interoperable Informatics Infrastructure Consortium (I3C) to establish standards for data exchange relevant to microarrays. "Expression array data is the area we've decided to focus on first," notes Augen. "This is a huge problem in two ways. One is exporting the data in a suitable format. The other is dealing with differences between databases."

Standardization doesn't apply only to information handling for microarrays. "In every conversation [with microarray manufacturers] the topic of standards rises very quickly," says Followwill of Frost & Sullivan. "Hopefully this is where the experience of the information technology world will come into play. Manufacturers know that standardization is the way to go. Affymetrix has clearly been the thought leader in the biochip world, but other giants have now entered the field. With standards, everyone wins."

SAMPLES OR SPOTS

By definition, an array is an ordered arrangement of samples or spots. Scientists can set up an array format with microwell plates, standard blotting membranes, whole wafers, or slides and can do so manually or using automated robotic systems. The term DNA chip usually describes macroarrays with spots about 300 microns in diameter or larger, while DNA microarray generally applies to spots with diameters of 200 microns or less.

DNA microarrays can contain thousands of spots or features on a single slide. Because of those large numbers, production of microarrays usually requires the use of robotics to place each spot accurately on the slide and to control the volume of sample deposited in each spot. Alternatively, the microarrays can be created using photolithographic methods like those used by Affymetrix. Macroarrays can be used with standard gel scanners, while microarrays require specialized scanners capable of detecting and recording the many minute signals emitted from a microarray.

Many molecular biology companies now offer some form of DNA macro- or microarrays. They include **Amersham Pharmacia Biotech**, **Clontech**, **Incyte Genomics**, **Operon Technologies**, and **Stratagene**. This list has grown significantly in recent years as scientists have chosen to avoid the complexities of creating their own microarrays. "We see a lot of customers who no longer want to do it themselves. They're in the business of discovering drugs or doing basic biology; they're not chip makers," says Fodor of Affymetrix. "Beyond that are the issues of quality control, tracking samples, and data management that make people slaves to the technology rather than using it."

Nevertheless, several life scientists still prefer to design and produce their own DNA chips. The do-it-yourself approach allows individuals a great deal of flexibility because they control most of the work involved in producing a chip. Many scientists feel that producing chips in-house is less expensive. "If you already have your equipment in place you can't beat the cost of doing it yourself," says Michael Fowler, life sci-

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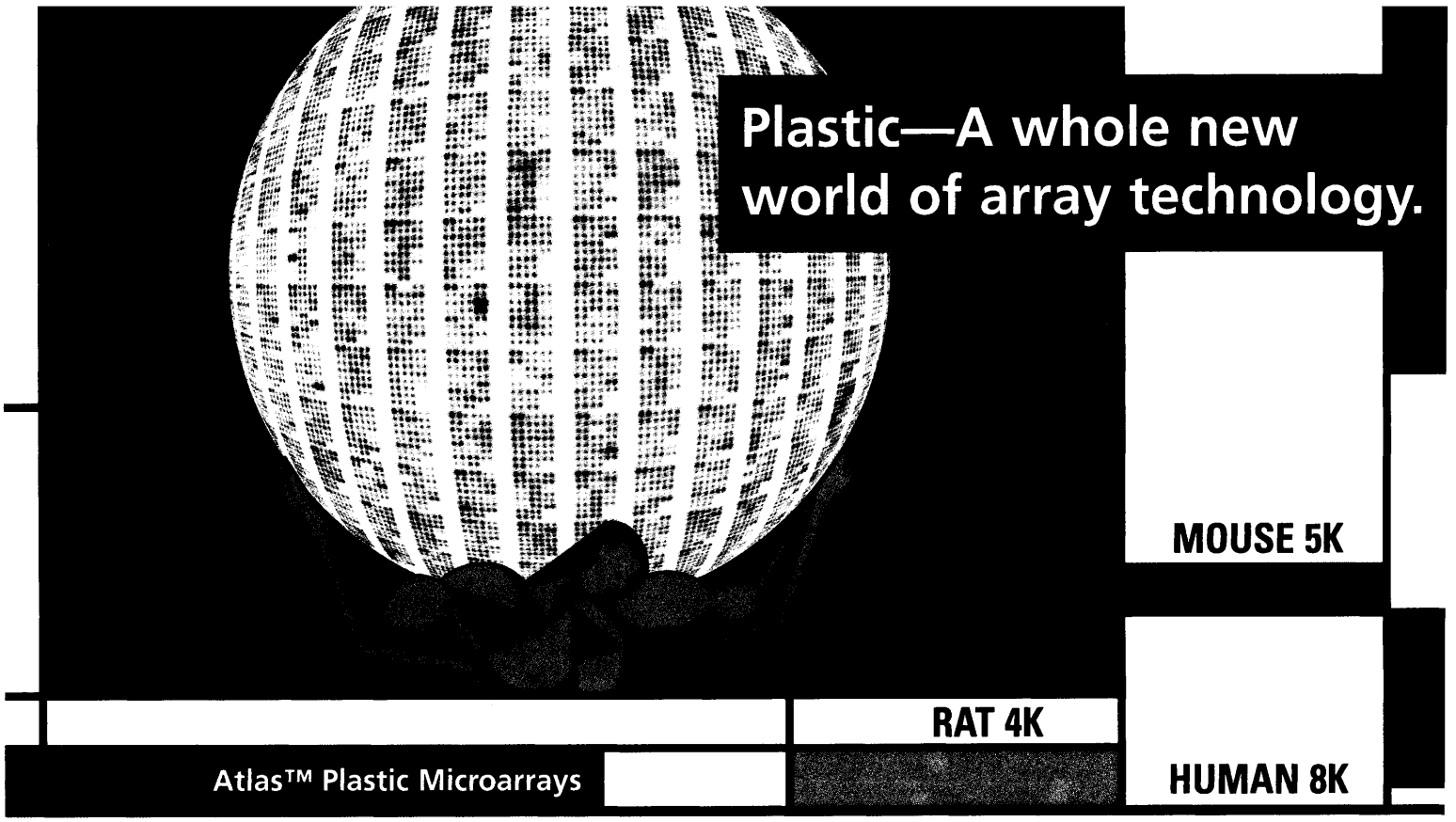
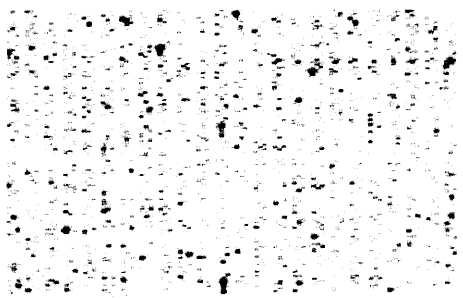


Illustration inspired by the art of Juan Gris (1887–1929) & Piet Mondrian (1872–1944).



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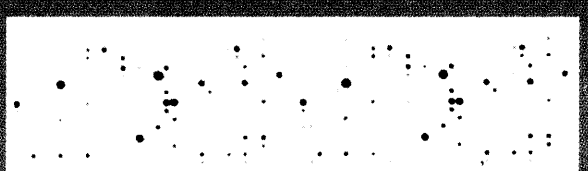

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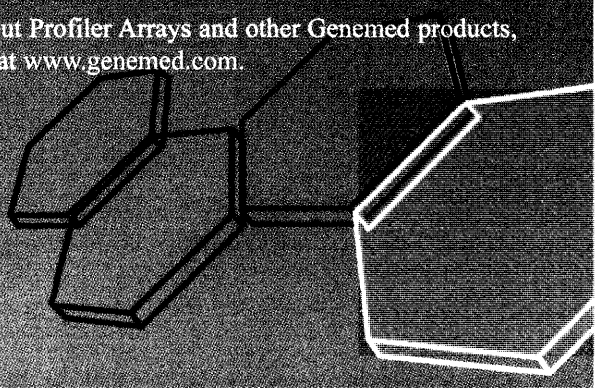

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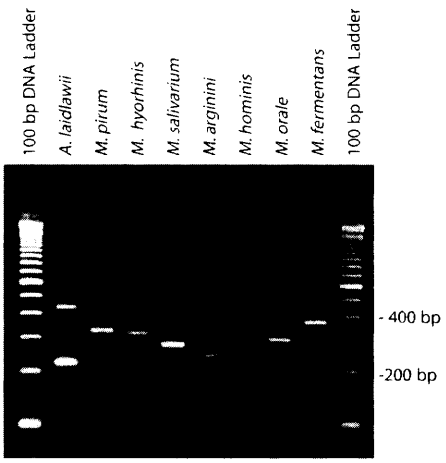

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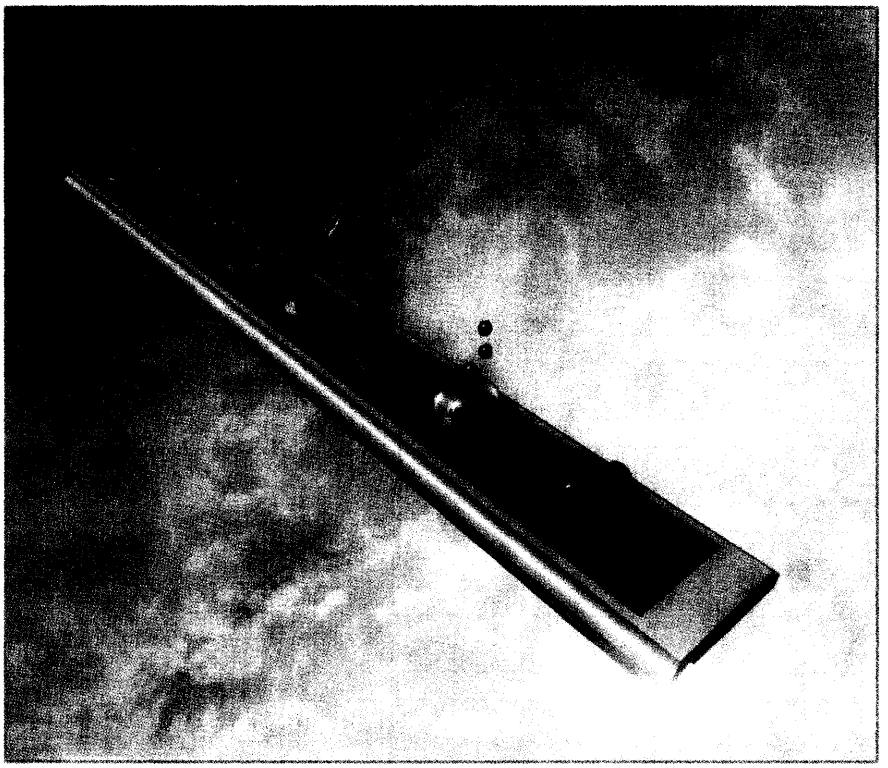

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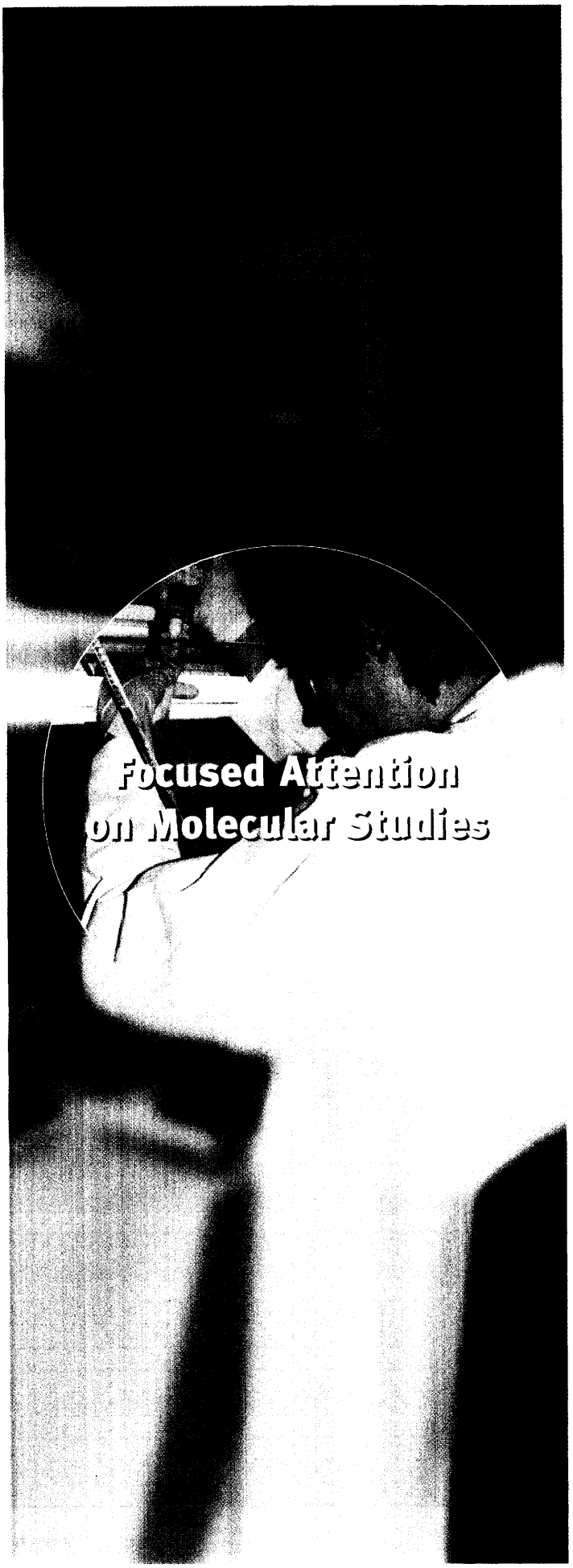

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Technologies in DNA Chips and Microarrays: II

ences marketing manager for **Schleicher & Schuell**. However, scientists taking that route should bear in mind the hidden costs, including the person-hours involved in designing and producing a chip.

Pat Brown's team at **Stanford University**, working along with others as consultants to Affymetrix, developed the basic technology for producing complementary DNA (cDNA) microarrays. The Brown lab has also developed and posted several protocols for working with DNA arrays on its website (see weblinks on final page). Many dedicated do-it-yourselfers have found this information extremely useful as they have cautiously ventured into the world of DNA arrays.

FUNDAMENTALS OF FABRICATION

Fabricating an array often begins with choosing a substrate – generally a specially treated glass slide, whole wafer, or plastic membrane. The process first involves creating a surface with predictable and reproducible characteristics. To avoid having to use chemicals that can be toxic and difficult to cure, many scientists purchase the pretreated slides from Corning, **Mosaic Technologies**, Schleicher & Schuell, **Sigma-Aldrich**, and other companies. "Core users are increasingly using preprinted arrays to supplement their capabilities," says Fowler.

Once the slide's surface is ready, the scientist uses spotters to deposit DNA samples onto it. These robotic instruments use high-grade stainless steel pins to pick up samples and then deposit them in the correct locations on the slide. "We have three different robots specialized for the specific needs of researchers wanting to exploit microarray technology," says Tamara Bond, business development manager of **Virtek Biotech**. "Chipwriter Pro can deposit over 80,000 spots per slide on up to 126 slides. In addition, we combine complementary functions such as membrane gridding, liquid handling, and colony picking into the same robot to provide the best all-in-one robotic solution. We have just launched a compact version of it because of researchers' growing interest in spotting their own slides. Finally, the unique Colony Arrayer is specialized for high-throughput screening of colony arrays, which is useful in the automation of Yeast-2-Hybrid and similar techniques.

Other companies, such as **Beckman Coulter, BioRobotics Ltd.**, and **Hitachi Genetic Systems**, offer robotic spotting devices. The more automated types create dozens of replicated slides without any manual intervention. Agilent Technologies and **Packard Bioscience**, among other vendors, have modified ink-jet heads from printers in such a way that they can deposit DNA samples onto slides. However, what this type of ink-jet system gains in speed can be lost in resolution; its spots are often larger than those created by pin applicators.

Labeling for DNA chips generally involves fluorescent methods. Probes can be labeled with various fluorescent dyes that a single reader can detect at different wavelengths. Several labeling methods are available to attach these dyes to the DNA molecule. **Molecular Probes** and **PerkinElmer Life Sciences** (formerly NEN) produce fluorescent dyes and labeling kits. Other suppliers include Amersham Pharmacia Biotech, **PanVera**, and **Roche Molecular Biochemicals**.

Scientists use specialized scanners to detect the signals that the DNA chips emit. These capture each signal and convert it into data that can be analyzed by very sophisticated software programs. The most sensitive systems use a confocal beam of light that allows the instrument to detect signals in a plane of limited thickness, thereby reducing a lot of the potential background noise common to standard detectors that lack this feature. **BioLogics**, **Genomic Solutions**, Virtek Biotech, and others offer these specialized array scanners. "Our confocal laser scanner has a high degree of sensitivity," says Philip Nafekh, president of Virtek Biotech. "That allows researchers to get down to the lowest level of detection."

Finally, analysis of the multiple data points requires robust software programs that can store and interpret the output from these experiments. Companies with strong information technology capabilities have designed programs specifically to peruse this information and to find relationships between the thousands of data points in a single experiment. **DoubleTwist**, **Genpak**, **Paracel**, **Silicon Genetics**, and others provide bioinformatic solutions for use with microarrays. Some of these companies offer their products through the Internet, while others sell programs that reside in-house with the end-users.

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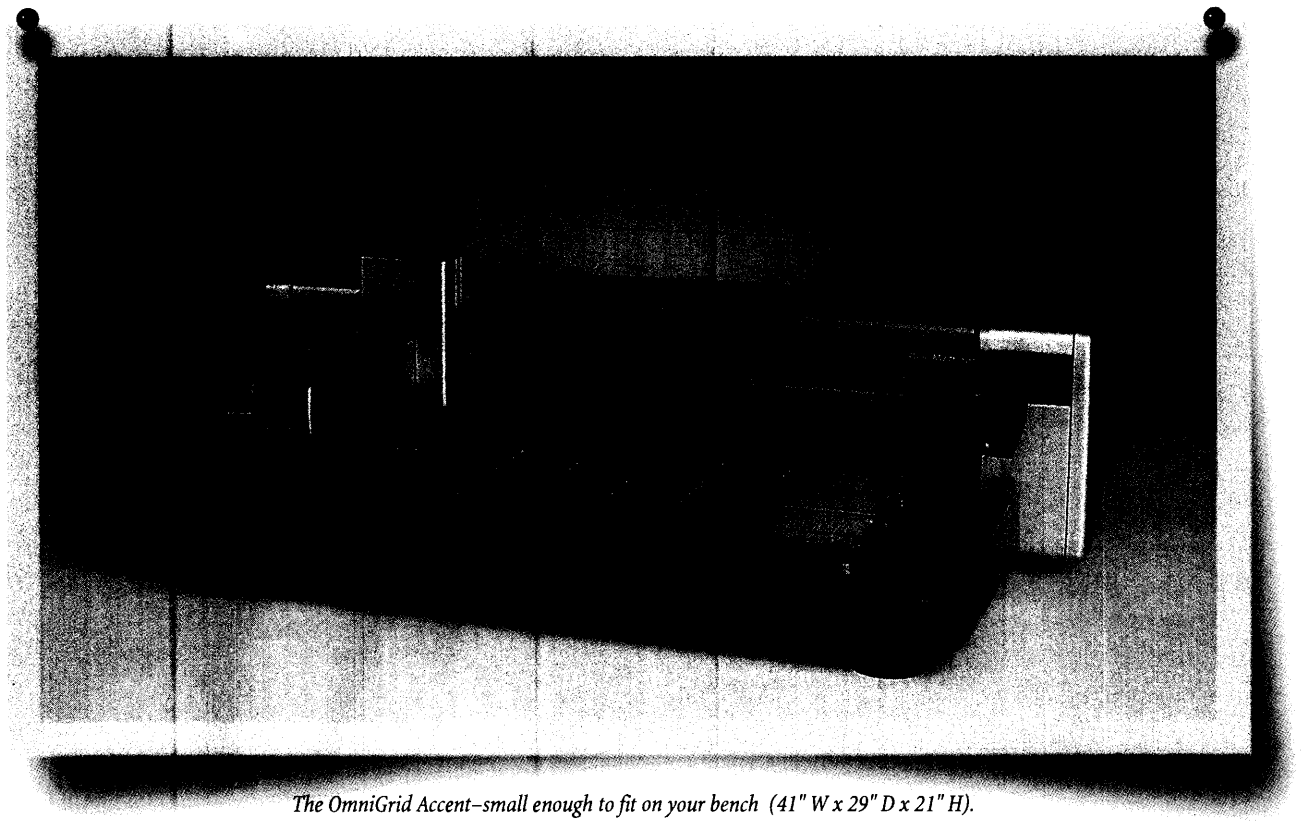

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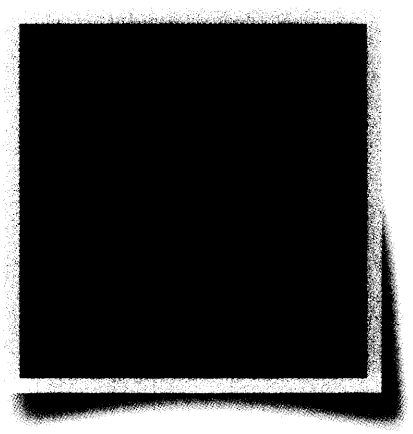

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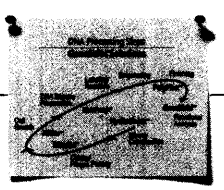

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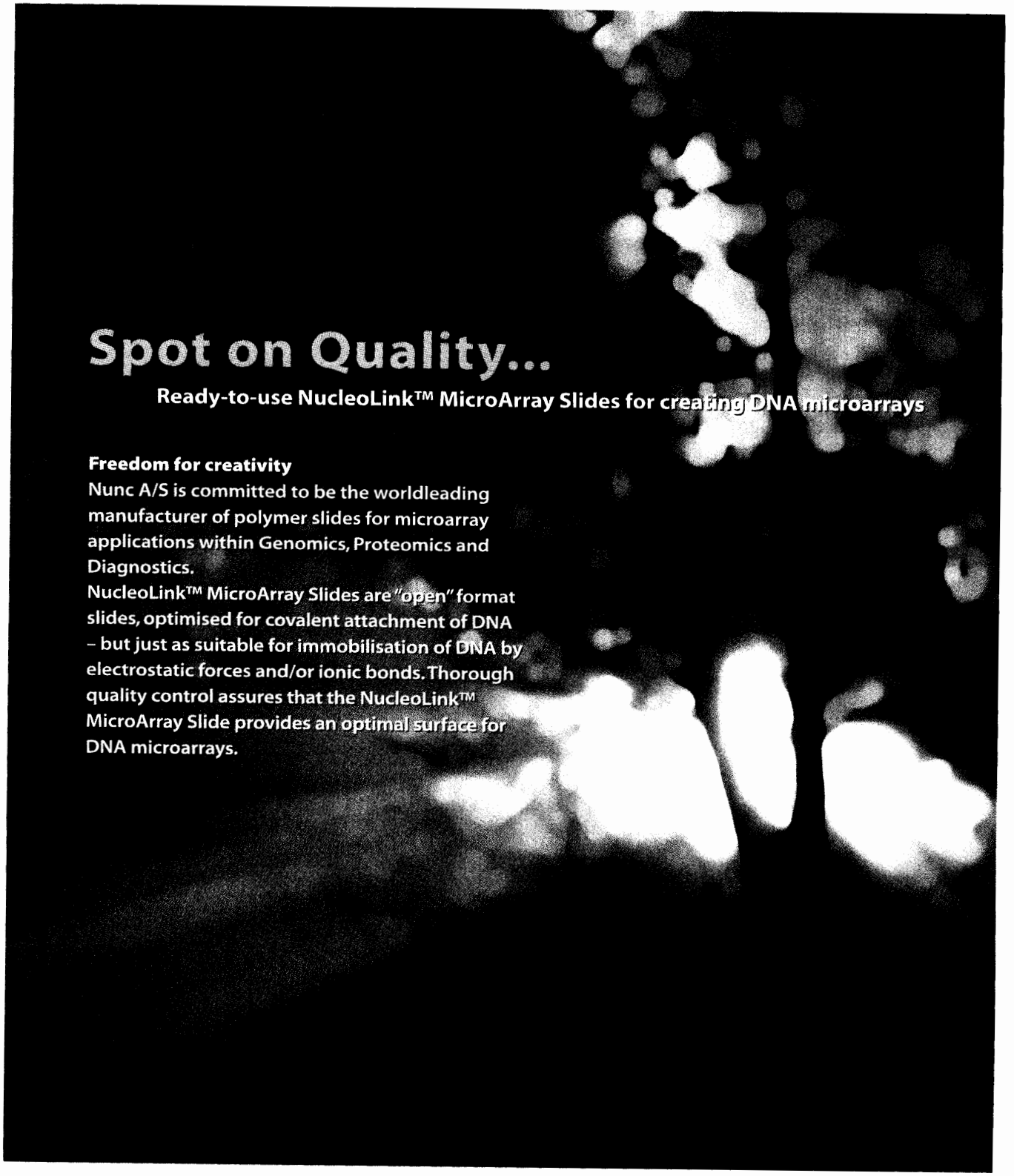

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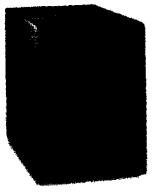

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Technologies in DNA Chips and Microarrays: II

TWO BASIC FORMATS

DNA arrays come in two basic formats. One uses oligonucleotide probes, otherwise known as DNA sequences, and the other complementary (or cDNA) probes. Oligonucleotide probes came first. In the early 1990s Affymetrix developed the technology needed to produce very high-density DNA microarrays using a patented technique very similar to the process used to fabricate semiconductor chips. Oligonucleotides can be synthesized either *in situ* (on the chip) or by conventional DNA synthesis techniques and later applied to the slide surface. The microarray is then exposed to sample labeled DNA. Hybridization allows complementary sequences of DNA to attach to their counterpart sequences on the slide's surface. These chips are intended to determine the expression level of genes in a sample.

By developing the process, which it still uses to produce its GeneChip Probe Arrays, Affymetrix literally created the market for ready-to-use DNA microarrays. Today several additional companies, including Agilent Technologies, **NimbleGen**, and **Protogene**, also offer DNA arrays with oligonucleotide probes.

Complementary DNA is produced from messenger RNA (mRNA) using reverse transcriptase. The cDNA probes, which contain specific sets of DNA sequences known to give rise to the mRNA of interest, can be spotted onto a membrane or glass substrate using robotics, according to the basic method developed by Brown's laboratory at Stanford. Scientists use these arrays to determine the level of expression that occurs in a cell by measuring the amount of mRNA produced by the cell at a given moment in time. Manufacturers of cDNA chips include **Ambion**, **Invitrogen**, and **Sigma-Genosys**.

Several companies specialize in a particular area of research. "Most of our customers use our GeneFilters microarrays to determine which genes are differentially regulated by a particular experimental treatment or by a particular disease or cellular state," explains Christopher Russell, director of Research and Development for **ResGen**, a division of Invitrogen. "However, there is a shift toward specialty gene sets for profiling, say, cancer or immunology. Our MyArray custom gene sets address this need by providing the customer with ready-to-use gene sets for their specialized experiments."

The cDNA chips find even narrower usage in diagnosing diseases linked to specific gene expression, such as certain types of cancer. **Vysis**, for example, offers cDNA microarrays for gene expression studies.

SNPS OFF THE OLD BLOCK

Natural differences in individuals' DNA sequences are called single nucleotide polymorphisms. SNPs, as they are known, can indicate a predisposition to specific genetic illnesses. Thus scientists can use chips or microarrays based on SNPs to discover the genes that cause disease. The chips may prove especially useful in diagnosing conditions such as diabetes and heart disease in which several different genetic variations each have some influence on the disease. Physicians could also use SNP chips to tailor treatment to an individual patient's genetic makeup. For instance, by predicting a patient's drug response, the chips might reduce the potential for the adverse drug reactions that account for a large number of patients' deaths.

Some day SNP chips could provide a powerful diagnostic tool in the emerging new field of personalized medicine. Indeed, SNPs have such promising potential that 10 big pharmaceutical companies have formed the nonprofit **SNP Consortium** to identify SNPs. The latest release of the SNP Consortium database consists of 1,034,034 SNPs. The consortium has made this information public to prevent other companies from patenting the SNPs before their functions are known.

Genetic markers help to identify the rough locations of genes related to a particular disease. When these markers are associated with a disease function, the geneticist knows that the defective gene is somewhere near the marker. These markers used to be hard to find. But the successful sequencing of the human genome has led to the identification of many genetic markers and their location on human chromosomes.

Affymetrix offers a mapping array for human SNPs. The ready-to-use HuSNP Mapping Assay consists of probes to the many common markers from the human genome. DNA samples from diseased patients can be tested to determine whether any of the common genetic markers are also present. This experimentation on a single chip replaces many separate tests. Affymetrix has also developed GeneChip HIV PRT Plus to detect mutations in HIV-1 protease and HIV reverse transcriptase genes. The chip permits physicians to determine possible roadblocks in the virus's resistance to specific therapies. In addition the company offers a GeneChip p53 Assay and a GeneChip CYP450 Assay for studies of tumor suppression and drug metabolism, respectively.

Companies such as **DNA Sciences**, **Genaissance**, and **Myriad Genetics** have been working with patients' samples to correlate SNPs to diseases and drug responses. Eventually, SNP chips could be used in the doctor's office to diagnose diseases and conditions.

PROTEIN CHIPS

While cDNA microarrays can measure the levels of mRNA expressed in a cell, they cannot directly measure the proteins produced by these messengers. Protein chips, on the other hand, can measure the relative levels of proteins and their interactions with other molecules. "My interest in protein microarrays has been as a way to study protein function," says Stuart Schreiber, chair of chemistry and chemical biology at **Harvard University**. "Proteins do the work inside the cells; mRNAs really don't do much except convey information from one place to another," points out Leigh Anderson, chief scientific officer of Large Scale Proteomics, a division of **Large Scale Biology Corporation**. "The essence of measuring functionally related molecules is almost by definition one of measuring proteins."

When a protein microarray is exposed to a mixture of other proteins, a selection process takes place. Some molecules naturally interact with the proteins fixed on the microarray slide. Those will bind to the proteins on the microarray. The proteins that bind to the probes in this way can be labeled and visualized just like DNA

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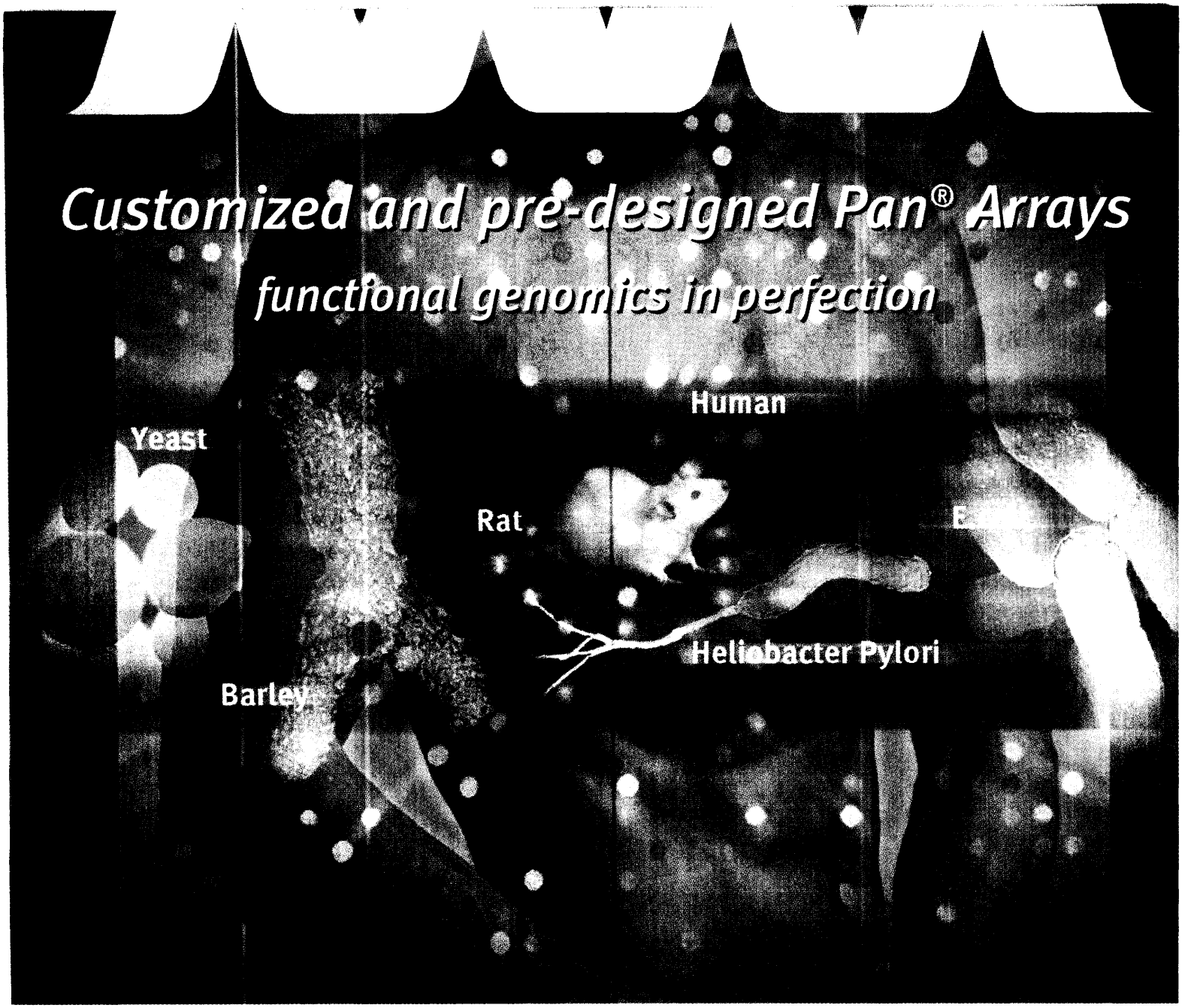

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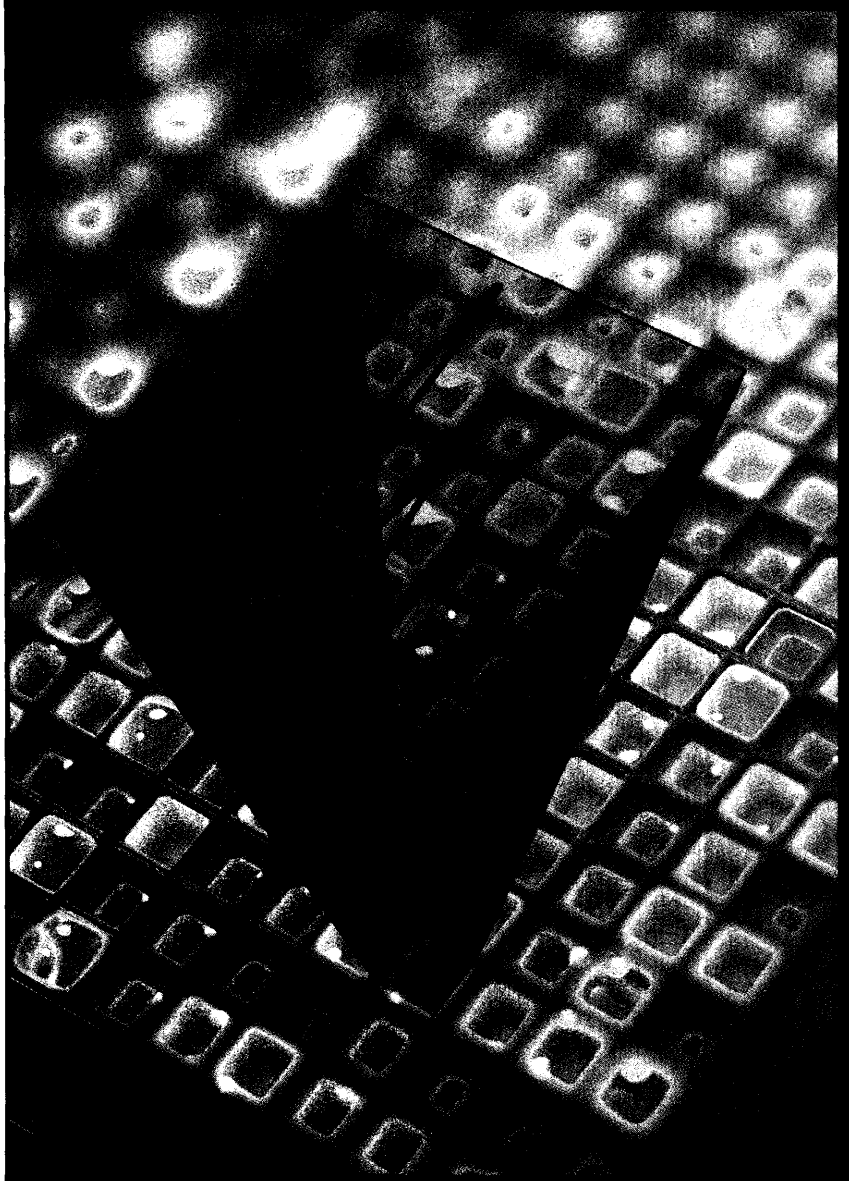

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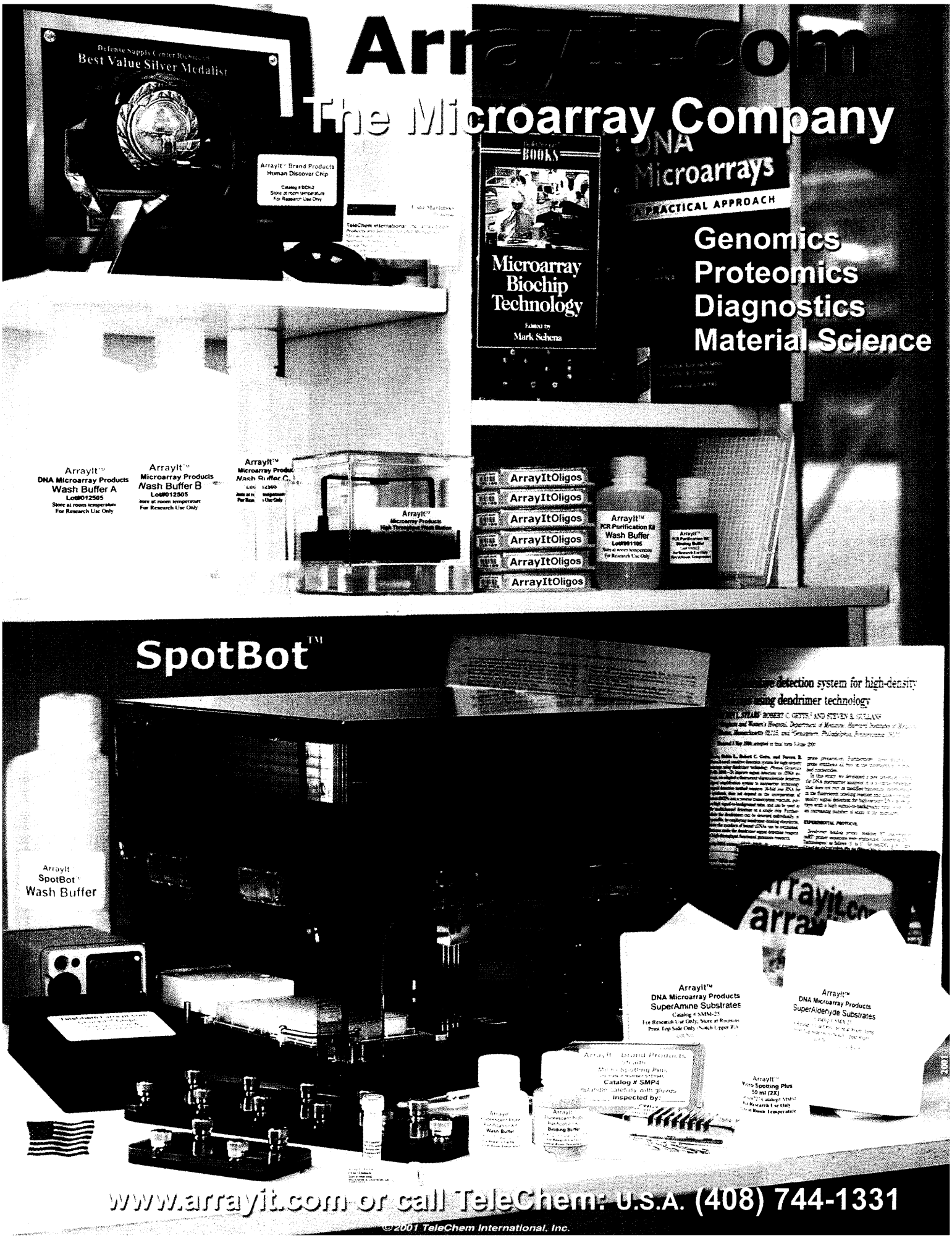
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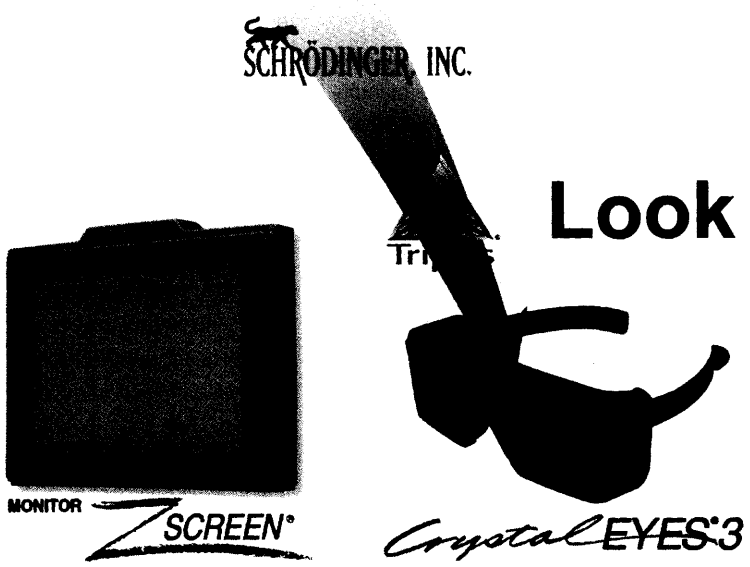

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Technologies in DNA Chips and Microarrays: II

sequences that attach themselves to DNA microarrays. Molecules with strong affinities to the probes represent good candidates for leads in drug discovery since a drug must bind to its target to be effective.

Making a protein chip is technically much more challenging than making a DNA chip. Proteins are not nearly so stable as DNA. They tend to be bioactive only in their native state – that is, when they are folded into their correct three-dimensional structures. Changes in the pH, temperature, or ionic strength of a solution can cause native proteins to change shape and denature, rendering them inactive. Controlling these conditions during the creation and use of these microarrays is no easy task.

Michael Snyder of **Yale University** has developed one means of doing so. "We print them under high viscosity and high humidity to prevent their drying out," he explains. "Since the assays are very sensitive you don't have to have 100 percent perfect protein. But the biggest challenge was getting a good set of expression clones and setting up procedures to make thousands of proteins at once."

Despite the technical challenges, companies are investing heavily in protein arrays. In addition to Large Scale Proteomics, **Ciphergen Biosystems**, Packard Bioscience, and **Phylos** have entered the business. They are betting that proteomics will emerge as the next wave of research. That bet looks sound because the days of studying one protein at a time are long gone. Researchers routinely study families of proteins to understand the complex interactions of protein systems within cells.

Schreiber's team at Harvard, meanwhile, has taken a further step. Not only has the group created its own protein chips to measure the function of thousands of proteins simultaneously, it has also produced high-density arrays of small molecules. "These have been or will be used in two ways," Schreiber says. "The primary one is proteomic screening to determine which small molecule binds with which protein. The second one is to assess changes in the levels of proteins in cells or tissues following a perturbation such as the activation of a signaling network."

THE NEXT WAVE

DNA, protein, and small molecule microarrays clearly demonstrate the value of miniaturization and automation. Now the next wave in microarrays is underway. Several companies have started applying techniques to manipulate small sample volumes in an automated system. Some have begun to work on microarrays that allow samples to be prepared for an experiment on the actual microarray that will be used for the experiment.

For example Spectral Genomics, a company founded last year, has developed a novel chemical attachment method that differs fundamentally from the traditional chemical approaches. "Instead of coating the surface with a sticky substance, we modify the DNA molecules chemically without changing the specificity of the targets in such a way as to allow covalent bonding to the substrate," explains company president Shah. "You now have a DNA chip without any coating on it. You can also attach large sequences of DNA without running the risk of washing them off the surface. We also improve the sensitivity of the hybridization test itself."

The method's chemistry is very flexible in that it allows both nucleotides and other molecules to be attached to a slide s surface. It can also be applied to surface materials other than glass. The result: DNA microarrays that are very sensitive with low background noise. "Right now we have two arrays on the market – a mouse genome chip and a human genome chip," says Shah. "We have also developed specific labeling protocols. We sell these products in the form of a kit with two chips and the necessary labeling and hybridization reagents. We have also introduced software specifically designed for use with genome chips."

GeneScan Europe has developed its own approach to printing chips. "Our TopSpot is a contact-free printing technology that permits you to print oligos and proteins in a fully automatic way that produces thousands of chips per day," says chief science officer Toder. The chips have a variety of applications. "For pharmacogenomics we have a chip that could be used to test drug tolerance," Toder continues. "Another of our chips detects pathogens such as salmonella in foodstuffs. The chip dramatically decreases the detection time from two or three days to several hours." The company also sells a kit for applications to diagnostics. "For that application the microarray or biochip is not enough any more," says Toder. "You have to implement a microarray in an automated or semiautomated system to get your data online."

PHYSICAL DIFFERENCES

Other new approaches to biochips involve new and different approaches to moving small volumes of biological samples from one matrix to another. The task is not a simple one. But researchers in small companies have developed imaginative approaches in recent months.

Take **AVIVA Biosciences**, a two-year-old company. "We are developing a 'multiple force' chip that uses several types of force to manipulate and process the biological sample," says Wang. Electromagnetic, dielectrophoretic, acoustic, and thermal-gradient forces applied on the chip perform a wide range of bioanalytical functions. "We use the forces to act on cells and particles," adds company chairman Charlie Sie. "By using the combination of forces you get a much more precise control of each process." The combination of forces permits scientists to position cells with an accuracy of one to three microns in order to optimize and accelerate ion channel recording.

The technology is still in development with the goal of putting a product on the market within two years. Once available, the chips should permit enrichment, isolation, and transportation of targeted bioanalytes from crude biological samples or even cultured cell lines.

Cepheid, based in Sunnyvale, California, produces equipment for sample preparation and analysis designed to complement DNA microarrays. The company focuses on sample preparation, DNA amplification, and detection. Its first product, the Smart Cycler System, performs PCR with real-time optical detection. Under development now is technology called GeneXpert that will be able to perform many sample preparation steps as well as other functions.

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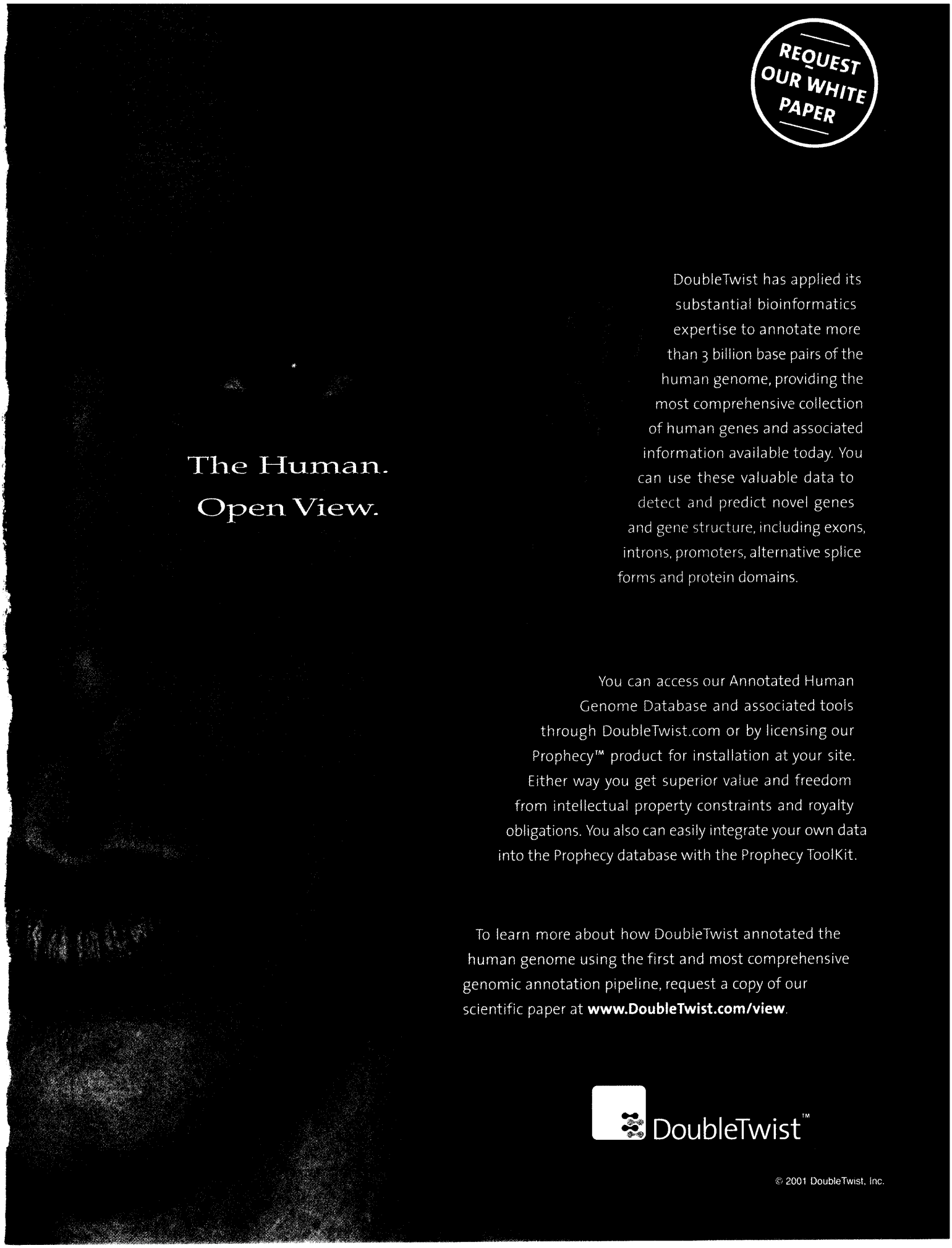
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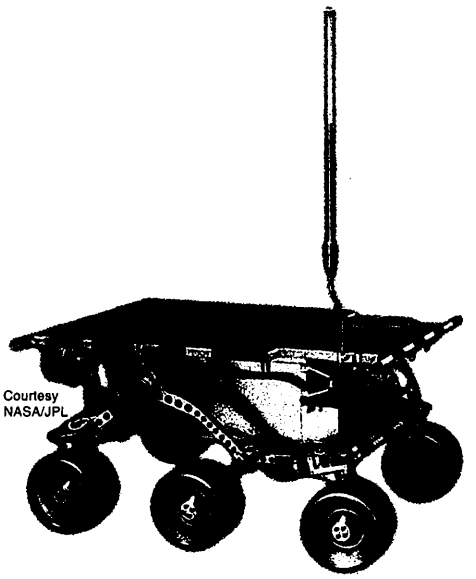

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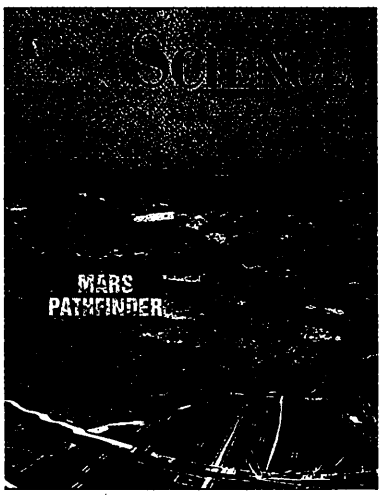

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Technologies in DNA Chips and Microarrays: II

Cepheid has also applied microelectromechanical (better known as MEMS) technology to microarrays. It has developed a micromachined, microfluidic system that creates high surfaces on silicon substrates. These structures can be designed to create channels or arrays that allow controlled fluid flow and liquid-surface interactions. The internal volume of these chips can be as small as several microliters. "It's basically a large array of pillars coated with silicon oxide; DNA can get attached to the pillars," explains Farzad Pourahmadi, the company's former director of microfluidics. "We use the chip to concentrate the amount of DNA in a solution and get rid of impurities that could interfere with the PCR process. We have been able to achieve 10 times more concentration using this chip. We then elute the DNA off the pillars and send it to PCR for amplification followed by detection."

The project, which remains in the development phase, has the main goal of helping to detect SNPs. "We're also aiming for a portion of the patient care market in doctors' offices," Pourahmadi continues. "It has potential for concentrating the HIV virus from patients."

Millipore has developed new methods of target preparation that are better suited to miniaturization and automation. "We introduced the Multiscreen-PCR filter plate about a year and a half ago," says director of research and development Jack Leonard. "It doesn't require the traditional bind, wash, and elute processes for sample preparation. The purified PCR product is retained on the surface of the membrane. As a result, you can easily apply automation to collect the purified DNA and then use the samples for spotting microarrays."

Lynx Therapeutics, Inc. offers a technology designed to address some of the inherent limitations of array formats. "Our Megaclone technology captures on millions of microbeads virtually all the transcripts from the tissue or cell sample under investigation," says Norman Russell, Lynx's president and CEO. "Thus we are not limited to the content of an array fabricated with a limited number of known genes. Since there is no requirement to know anything about these transcripts prior to the Megaclone process, even unknown genes are captured on the microbeads, even if they are expressed at levels as low as 1:1 million in the tissue. Our massively parallel signature sequencing delivers comprehensive quantitative gene expression information."

LABS ON CHIPS AND CDS

Another imaginative miniaturization technology aims to put the entire assaying operation on a chip. "The lab on a chip is miniaturized and its processes are integrated, so that the device is doing more than one step of a protocol or incorporates the functionality of more than one instrument," explains Caliper's Knapp. Lab on a chip products will permit researchers to move minute amounts of fluids in microscale channels on integrated microfluidic devices. They will enable a range of techniques from biochemical reactions to cell-based assays on a microscale. Thus they will make all of the assays routinely performed in a biochemistry laboratory available on a microchip system.

Caliper's commercial partner, Agilent Technologies, introduced the Personal Laboratory System – the first product based on Caliper's technology – in 1999. The line consists of a device that runs a menu of different applications commonly used in drug discovery laboratories. "The applications getting most use today are quality control of DNA fragments that will be put on microarrays," says Knapp. "So the lab on a chip is a productivity enhancer. We also have a protein analysis chip for the same system introduced late last year. And we are in the advanced stages of developing a lab on a chip to analyze cells."

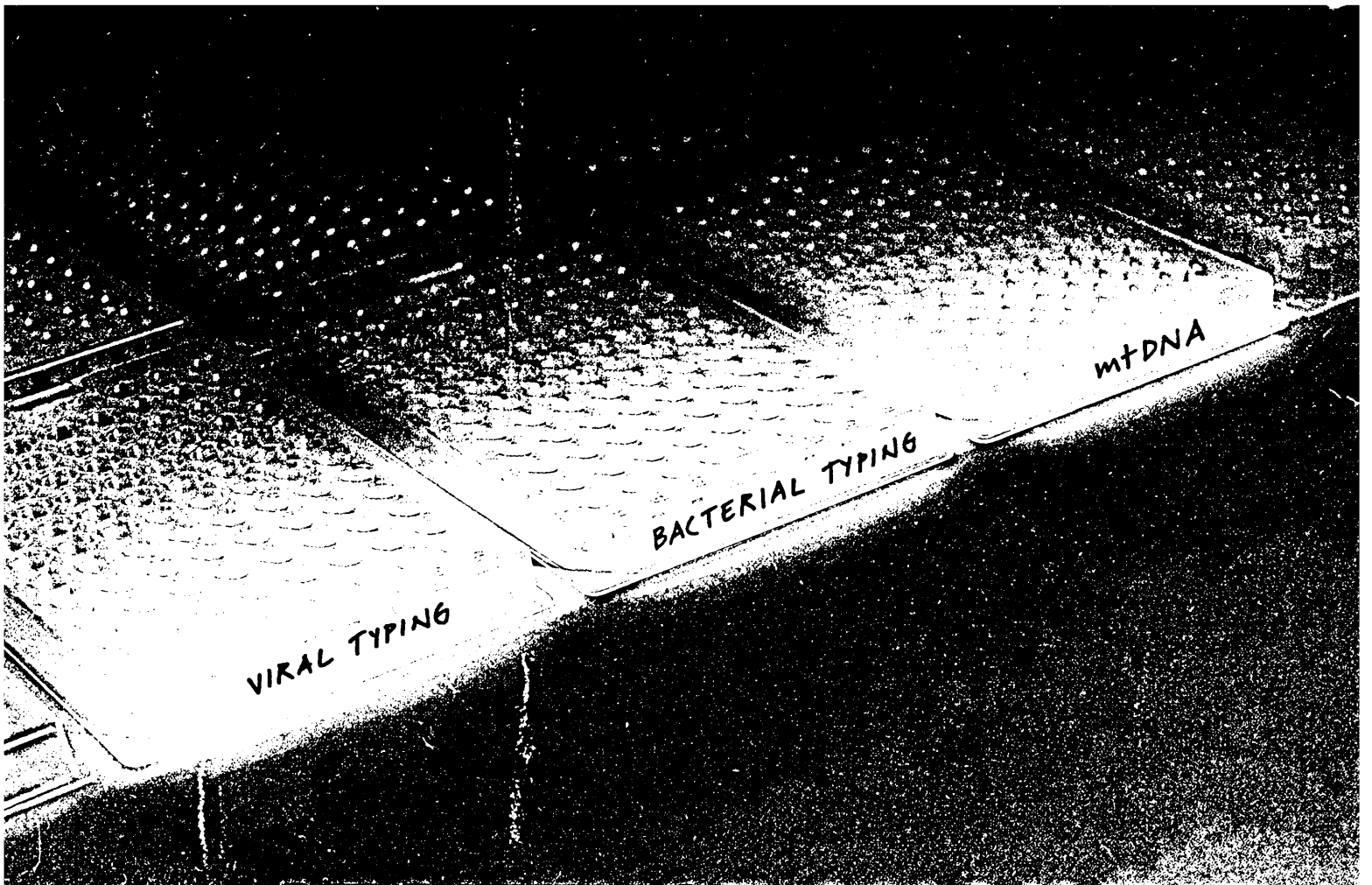
Gyros AB, a start-up firm in Uppsala, Sweden, has created its own twist on the lab on a chip theme. In the first half of next year it plans to introduce a laboratory on a compact disc (CD). The technology originated more than a decade ago in microfluidic research at Pharmacia Biotech, a company that has since merged into Amersham Pharmacia Biotech. The CDs can be fabricated on a custom basis with both routine and nonroutine laboratory processes. The format allows thousands of analyses to be performed in parallel on these disposable CDs. "We can see things we cannot see with other techniques," comments Per Andersson, Gyros's director of applied research.

"We have decided to focus on protein arrays because there is a high demand for innovative high-sensitivity techniques and we have knowledge of working with proteins rather than DNA," says Camilla Bondesson, the firm's vice president of marketing. "We will have two programs. The first is an off-the-shelf system with application-specific instruments and software that will do sample preparation prior to identification via mass spectrometry. The other, which we have already introduced in collaboration with **Genencor**, is a program in which we offer to produce a customized CD according to the customer's needs."

Applied Biosystems has developed several microtechnology tools. "We have put a lot of effort into getting higher numbers of reactions with reduced sample volumes," says Michael Albin, the company's vice president of science and technology. "We have a product that packages assays into very small assay volumes. PCR cards are packages that have all the reagents needed to look at a sample against all cytokines or other targets for gene expression studies with real-time detection. The cards take what we did in a tube and miniaturize and automate it. At the same time we look at ways to feed our platforms using microfluidics and miniaturization to ultimately provide more information with improved speed, cost, and accuracy."

Eos Biotechnology, based in South San Francisco, California, has decided to use the complete human genome to identify new drug targets and develop antibodies and small molecule drugs against those targets to treat human diseases. Eos, which recently announced a merger with **Pharmacopeia**, has designed and built an integrated platform of custom genomic-based tools to discover and validate targets that are highly specific in the treatment of cancer and inflammatory disease. The company has worked with Affymetrix to develop two DNA microarrays based on Affymetrix technology that, it claims, contain most of the genes from the human genome. "We start with the human genome to predict the expressed genome," says

CONTINUED ➢



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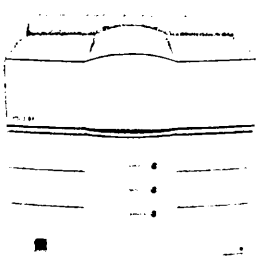

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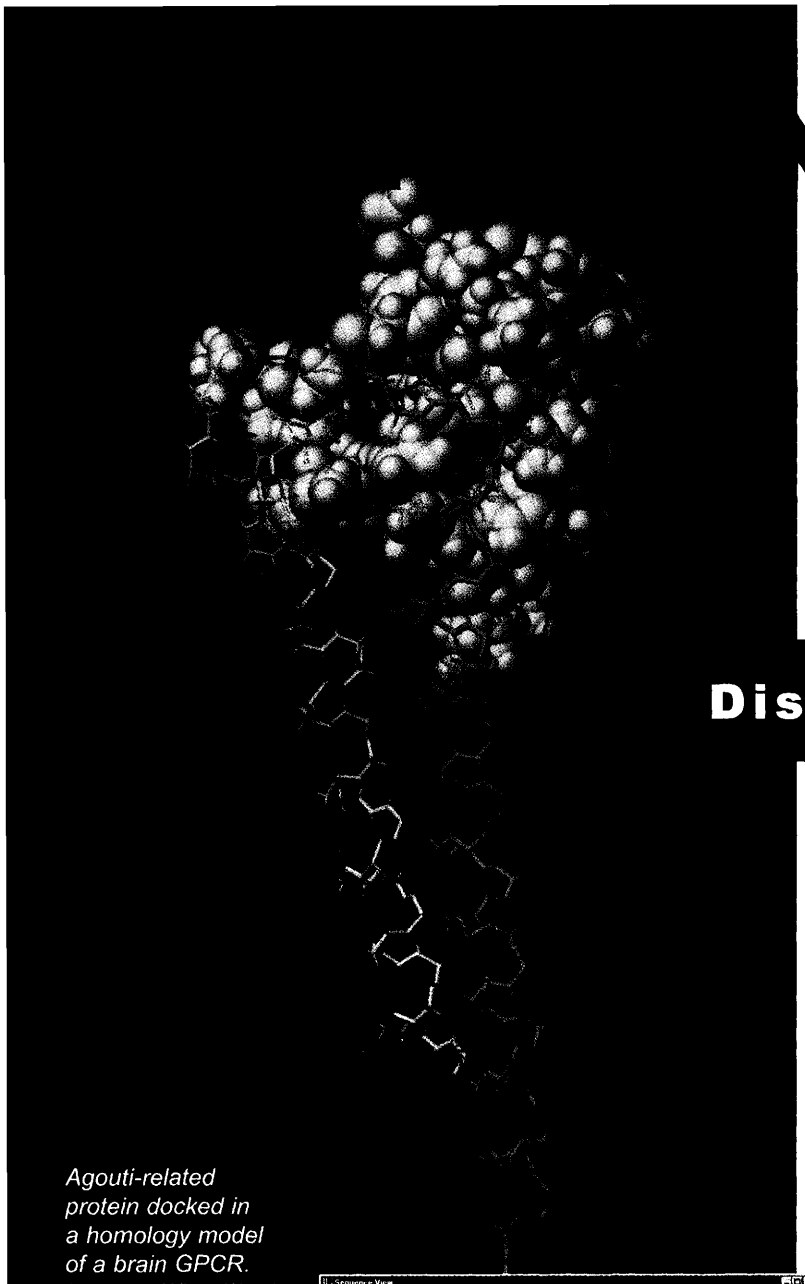
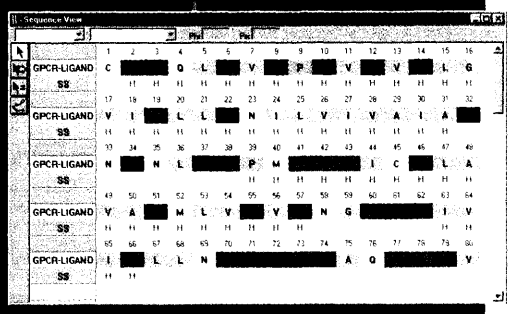


Agouti-related protein docked in a homology model of a brain GPCR.
(courtesy of Xiang Wang)



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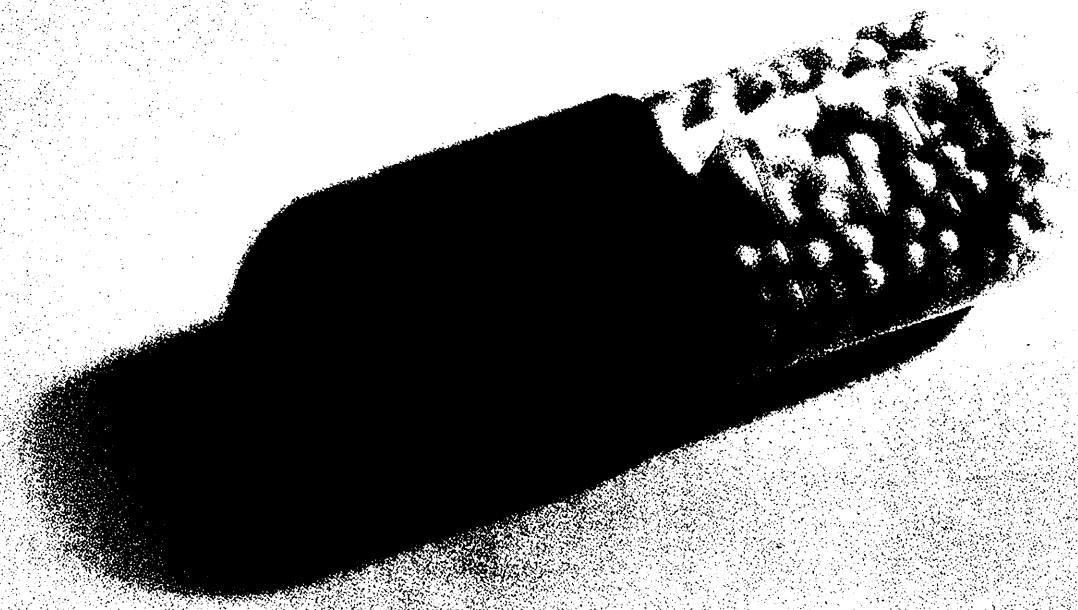

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David Mack, Eos's vice president of genomics research. "Our software and bioinformatic capabilities have allowed us to obtain an increase in gene density through our proprietary technology. We have about 40,000 genes on a single chip, which we believe represents greater than 90 percent of the expressed human genome."

Eos plans to apply its technology to develop therapies for cancer and inflammatory diseases. It will do so by developing collaborations such as an existing partnership with **Biogen** to explore breast cancer. "We're looking for new, very broad-reaching partnerships that will include codeveloping therapeutic antibodies and small molecule drugs, in some cases against the same genome-derived validated targets," says Mack.

WHAT NEXT?

DNA and protein and small molecule chips have moved rapidly from concept to reality. Soon other biochips are likely to appear in the laboratory. Such microdevices will give life science researchers significant benefits including higher throughput, more automation, cost savings, and – ideally – ease of use. One of the keys to making these devices more user friendly will be the development of complete systems to work with the chips from start to finish.

Increasingly, biochips and microarrays will find their way out of the research laboratory and into medical offices and hospitals. "Our vision," says Virtek's Nafekh, "is eventually to have a hand-held test that can be marketed in doctors' offices to detect SNPs, viruses, and any sort of genetic markers." Fodor of Affymetrix has the same general idea. "We will push the technology where the customers want it," he says. "A lot of them will be looking at how they can take the technology into clinical trials and patient care. This is the area that we really think about: pushing these technologies into patient care."

Peter Gwynne is a freelance science writer based on Cape Cod, Massachusetts, U.S.A. Gary Heebner is president of Cell Associates, a scientific marketing firm in Foristell, Missouri, U.S.A.

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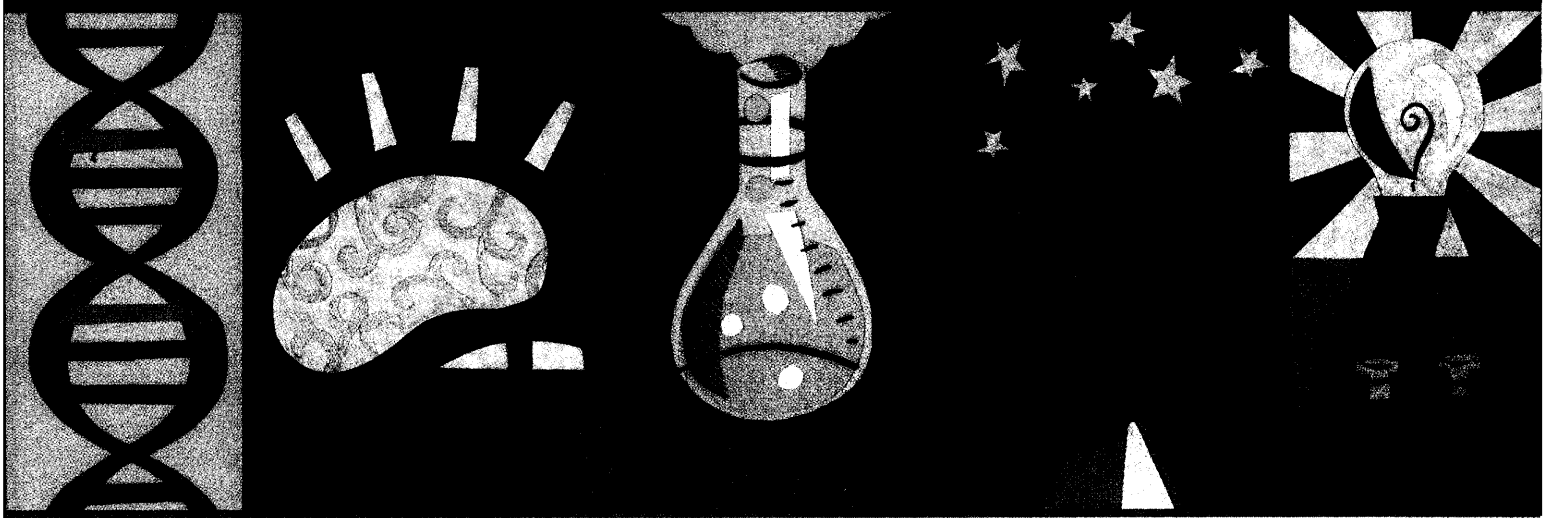

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POSITIONS OPEN

TWO TENURE-TRACK POSITIONS
Integrated Resource Management
Applied Ecosystems Ecology

The Department of Animal and Horticultural Sciences at Berry College is expanding the animal science program and is seeking two tenure-track **ASSISTANT PROFESSORS**. For both positions, establishment of a research program involving undergraduate collaborators is expected, and use of our 28,000 acre outdoor laboratory is strongly encouraged. Student advisement and working with student organizations are also important aspects of these positions. Preference will be given to persons with strong communication skills and the ability to teach a variety of courses.

Integrated resource management: A Ph.D. in animal science or natural resources (or a related field) is required. Teaching responsibilities include lower- and upper-level courses and may include courses such as principles of range management, herbivore-habitat interactions, natural resources ecology, or other related subjects.

Natural resources/applied ecosystems ecology. A Ph.D. in ecosystems ecology, natural resources management, or a related field is required. Teaching responsibilities include lower- and upper-level undergraduate courses and may include courses such as watershed management, nutrient cycling, introductory soil science, range management, or related subjects. Experience with GIS is highly desirable.

Berry College, located on 28,000 acres in the northwest Georgia mountains next to Rome, is an independent, coeducational college with approximately 2,000 undergraduate and graduate students. The college's comprehensive curriculum stresses academic excellence, practical work experience, and an interdenominational religion-in-life program. Closing date for applications is 30 November 2001 or until suitable candidates are found. Applicants should send a complete résumé, transcripts, and three letters of recommendation to: **Dr. R. Allen Scott, Department of Animal Science, Berry College, Mount Berry, GA 30149-5003**. *Equal Opportunity Employer.*

DEVELOPMENTAL MOLECULAR BIOLOGY
TO START FALL 2002

Ursinus College, with grant support from the Howard Hughes Medical Institute (HHMI), is expanding its biology faculty and is actively seeking candidates with innovative ideas for interdisciplinary research, teaching, and curriculum development. The College invites applications for an **ASSISTANT PROFESSOR** position, tenure track, beginning fall 2002. Responsibilities include teaching courses in developmental biology, genetics, and molecular biology and developing a research program that involves undergraduates. The successful applicant will also collaborate with colleagues in other science departments to support our new interdisciplinary program in biochemistry and molecular biology. Ph.D. required; postdoctoral research and teaching experience desirable.

The College, located in a suburban setting 25 miles northwest of center city Philadelphia, is a highly selective, nationally ranked, independent, coeducational, residential liberal arts college of 1,300 students with a long tradition of strength in science. Laboratory facilities in biology and chemistry (supported by numerous grants from NSF, NIH, and HHMI) are outstanding.

Applicants should describe (1) their commitment to and philosophy of undergraduate teaching in a liberal arts setting and (2) a research program that will involve undergraduate collaborators. Send letter of application, curriculum vitae, transcripts, and three letters of recommendation to: **Dr. Robert Dawley, Co-Chair, Department of Biology, Ursinus College, Collegeville, PA 19426-1000**. Review of applications will begin immediately and continue until the position is filled. *Ursinus College is an Equal Opportunity Employer/Affirmative Action Employer. In keeping with the College's historic commitment to Equality, women and minorities are especially encouraged to apply.*

POSITIONS OPEN

FACULTY POSITIONS
IN CLINICAL GENETICS
University of Wisconsin Medical School

The University of Wisconsin Medical School has three tenure-track positions available at the **ASSISTANT PROFESSOR** level in the Departments of Medical Genetics and Pediatrics as part of continued expansion. The candidate should possess an M.D. or M.D./Ph.D. with Board certification or Board eligibility in medical genetics.

The University of Wisconsin–Madison, located on Lake Mendota, ranks among the nation's top universities. It contains a growing, dynamic biomedical community with expanding programs in human genetics, genomics, bioinformatics, biotechnology, gene therapy, and stem cells. There is also access to on-campus diagnostic laboratories, gene and cellular therapy research groups, a GMP biomanufacturing/gene therapy facility, and a biotechnology center. The majority of the successful candidate's time will be devoted to developing an independent research program in human genetics while the remainder will be spent providing clinical care in clinical or biochemical genetics.

Interested applicants should submit curriculum vitae, three letters of recommendation, and a two-page research plan to: **Dr. Jon Wolff, Director of Clinical Genetics, University of Wisconsin–Madison, Waisman Center, 1500 Highland Avenue, Madison, WI 53705-2280. E-mail: gallagher@waisman.wisc.edu**.

UW–Madison is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION
IN TISSUE ENGINEERING
Whitaker Biomedical Engineering Institute
Johns Hopkins University

The Whitaker Biomedical Engineering Institute at Johns Hopkins University seeks highly qualified candidates for a faculty position in tissue engineering. In particular we are seeking candidates with research interests in both nanostructured materials and biotechnology. Specific areas of interest include biologically inspired materials and structures; nanoscale devices; biomimetic structures engineered at molecular- or atomic-length scales; and self-assembling, self-healing hybrid systems involving nanostructured materials and molecules, proteins, and cells. The successful candidate will join the Cell and Tissue Engineering Program in the Whitaker Biomedical Engineering Institute at Johns Hopkins and will have his/her primary appointment in the Department of Materials Science and Engineering. The newly formed Institute provides a highly interactive environment for interdisciplinary research and builds on the internationally recognized research programs based in the School of Medicine and the Whiting School of Engineering including the Department of Biomedical Engineering and the Department of Materials Science and Engineering. Applicants must be able to establish independently funded research programs and will participate in graduate and undergraduate education. It is anticipated that the appointment will be made at the **ASSISTANT PROFESSOR** level, although an appointment at the **ASSOCIATE** or **FULL PROFESSOR** level will be considered. More information on the Institute and Johns Hopkins University, can be found at **websites: http://www.bme.jhu.edu** and **http://www.jhu.edu/~matsci**. Applicants should submit a detailed résumé, statement of research plans, teaching interests, and the names of three references to: **Biomaterials Search Committee, Department of Materials Science and Engineering, Maryland Hall, Johns Hopkins University, 3400 North Charles Street, Baltimore, MD 21218**. *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are strongly encouraged to apply.*

RealityGrid - *Opportunities for Computer,*

A major EPSRC grant has just been awarded to a consortium of universities and collaborating institutions under the U.K. government's new initiative on e-science. Called **RealityGrid**, the project aims to grid-enable the modelling and simulation of complex condensed matter structures at the meso and nanoscale levels as well as the discovery of new materials. The project also involves applications in bioinformatics and its long term ambition is to provide generic technology for grid based scientific, medical and commercial activities.

"Grid computing" refers to an exciting global effort to develop an environment in which individuals can access computers, databases and experimental facilities simply and transparently, without having to consider where those facilities are located. RealityGrid will extend the concept of a Virtual Reality centre across the grid and link it to massive computational resources at high performance computing centres and experimental facilities.

RealityGrid is a collaboration between distinguished teams of physical scientists, computer scientists and software engineers. To meet its objectives, it will utilise a computing environment built around the UK's most advanced computing technology and infrastructure. **We are now looking for a large number of people to join this exciting project**, which also has direct links into various existing scientific programmes in all of these centres.

www.realitygrid.org

The Posts Available

Queen Mary
University of London

Loughborough University

Queen Mary, University of London - *Centre for Computational Science*

Computational steering and molecular dynamics, ref QM/01 - To develop and apply leading-edge visualization techniques within a grid environment for use across the whole domain of scientific applications within RealityGrid. Applicants should have (or be about to obtain) a Ph.D. degree in a physical science, mathematics, engineering or computer science.

Lattice-based mesoscopic methods for soft condensed matter, ref QM/02 - To work on mesoscale simulations of condensed matter, particularly complex fluids. Applicants should have (or be about to obtain) a Ph.D. degree in a physical science or mathematics

Multiscale modelling and simulation, ref QM/03 - To work on the theory, development and implementation of multiscale modelling and simulation methods for condensed matter. Applicants should have (or be about to obtain) a Ph.D. degree in a physical science or mathematics.

Bioinformatics: Atomistic simulations of immunological molecules, ref QM/04 - Will use state-of-the-art massively parallel high performance computing to develop efficient and scalable methods for the atomistic simulation of Major Histocompatibility Complex-peptide and Major Histocompatibility Complex-peptide-T-Cell Receptor complexes. The research will be part of a collaboration with the Edward Jenner Institute for Vaccine Research. Applicants should have (or be about to obtain) a Ph.D. degree in physics, chemistry, or computational biology.

Facilities Director: Combinatorial Materials Science, ref QM/05 - To maintain, innovate and co-ordinate the grid-enablement and use of the London University Search Instrument, a unique robotic high-speed synthesis and screening instrument for materials. Applicants should have (or be about to obtain) a Ph.D. degree in an experimental physical science or engineering discipline.

Computing Officer, ref QM/07 - Applicants must have relevant IT experience, good interpersonal skills and a good science degree. The ideal candidate would also have a Ph.D. in a physical science, and significant experience in web-based applications, high-performance computing, grid-based networking, and Unix.

Starting salary for the above posts will be on the RA1A scale in the range £22,401 to £28,363 including London allowance, depending on qualifications and experience.

Complex fluids modelling, ref QM/06 - This post, based primarily at Schlumberger's Cambridge Research Laboratories, will be concerned with the application of scalable atomistic and mesoscale modelling and simulation methods to surfactant-based complex fluids and to the flow of such complex fluids in porous media. Applicants should have (or be about to obtain) a Ph.D. degree in a physical science.

Starting salary will be on the RA1A scale in the range £20,267 to £26,229, depending on qualifications and experience.

Queen Mary, University of London - *Department of Chemistry*

Three-Year Temporary Lectureship in Physical Chemistry, ref QM/01201 - This post has arisen due to the secondment of Professor Coveney to run the RealityGrid e-Science project. Applicants should have an interest in and ability to teach physical chemistry, and the ability to initiate and carry out research. Preference may be given to candidates with a background in a computational aspect of the subject. **Completed applications for this post must reach us by 8 November 2001.**

Salary will be on the Lecturer Grade A or B scale (£24,433-£37,773 including London allowance) according to qualifications and experience.

Informal inquiries for all these posts may be made to Professor P V Coveney (e-mail p.v.coveney@qmul.ac.uk). See also www.chem.qmul.ac.uk/ccs/. For an application form and further details, please telephone or email Mrs Lesley Lambert (tel: 0207 882 3253, email: l.lambert@qmul.ac.uk)

University of Loughborough - *Advanced Virtual Reality Research Centre*

Human-computer interaction (HCI) research, ref L/01 - To investigate important design aspects of user interaction with RealityGrid and in particular computational steering of local and remote simulations. The successful candidate will have a background in HCI from a computing perspective and will work with leading-edge visualization facilities.

Starting salary will be on the RA1A scale in the range £20,267 to £26,229, depending on qualifications and experience.

Inquiries should be made to Prof Roy Kalawsky (r.s.kalawsky@lboro.ac.uk, tel 01509 223047), Advanced VR Research Centre, Dept of Computer Science, University of Loughborough. Requests for an application form should be made to Mrs Judith Poulton (J.M.Poulton@lboro.ac.uk) clearly marked 'Reality Grid'. See also www.lboro.ac.uk/departments/co/personal_pages/kalawsky.html

University of Loughborough - *Department of Mathematical Sciences*

Large-scale molecular dynamics of materials, ref L/02 - The work will be centred on the development and application of novel real-time visualization techniques and computational steering to large-scale molecular dynamics models of materials systems, in particular nanoindentation and collision cascade processes.

Starting salary will be on the RA1A scale in the range £20,267 to £26,229, depending on qualifications and experience.

Applications should be made to Dr Steven Kenny (S.D.Kenny@lboro.ac.uk, tel 01509 222860), Dept. of Mathematical Sciences, University of Loughborough Loughborough, Leicestershire, LE11 3TU. See also www.lboro.ac.uk/departments/ma/staff/sk/

University of Edinburgh - *Department of Physics and Astronomy*

Computational physicist - To work in the group of Professor M Cates on mesoscale and/or molecular dynamics simulations of condensed matter, particularly complex fluids. Applicants should have (or be about to obtain) a Ph.D. degree in a physical science.

Starting salary will be on the RA1A scale in the range £20,267 to £26,229, depending on qualifications and experience.

Those interested in applying for the above post should contact Professor Mike Cates, Dept of Physics and Astronomy, University of Edinburgh (m.e.cates@ed.ac.uk), in the first instance. See also www.ph.ed.ac.uk/cmatter/index.html

Computational and Experimental Scientists

The university partners, each of which is already exceptionally well resourced, comprise **Queen Mary, University of London; Edinburgh University; Manchester University; Imperial College, University of London; Loughborough University and Oxford University.** The collaborating organisations include the **Computation for Science Consortium** (which operates the UK's national supercomputing facility CSAR in Manchester), **Schlumberger**, the **Edward Jenner Institute for Vaccine Research, Silicon Graphics Inc, Advanced Visual Systems, and Fujitsu**. The project also has a strong international dimension, involving collaborations with US Universities and National Laboratories as well as European supercomputing centres.

RealityGrid

All the available posts are being advertised collectively here but for each post you should apply to the individuals and departments indicated. All appointments will be of three years' duration. You may apply for several posts but, if you do, you should indicate this on each of your applications. **For further information about RealityGrid and more complete information on all these positions, please visit our dedicated website at www.realitygrid.org.**
Candidates should **apply by 15 November 2001**, although later applications may be considered until all posts are filled. All institutions participating in RealityGrid are equal opportunities employers.

www.realitygrid.org

THE UNIVERSITY of MANCHESTER

University of Oxford - *Department of Materials*

Atomistic and multiscale modelling and simulation of materials, ref O/01 - To develop and implement codes for the computational steering and visualization of simulations of fracture at oxide-polymer interfaces. Applicants should have (or be about to obtain) a Ph.D. in a physical science, and have significant experience in quantum chemistry/physics or simulation, with a strong background in computer programming.

Starting salary will be on the RA1A scale in the range £20,267 to £26,229, depending on qualifications and experience.

Applications should be made to Ms Michelle McClung, Deputy Administrator, Department of Materials, Oxford University, OX1 3PH, UK (email: michelle.mcclung@materials.ox.ac.uk). See also www.materials.ox.ac.uk/MML/Research/listres.html

Imperial College, University of London - *Parallel Software Group*

Componentisation and Application Scheduling (two posts), refs IC/01 & IC/02 - The successful candidates will extend an existing component framework for use by Reality Grid's applications scientists and integrate the mapping of these component applications to Grid resources in an optimal and effective manner.

Starting salary will be on the RA1A scale in the range £22,401 to £28,363 including London allowance, depending on qualifications and experience.

Informal inquires should be made to Dr. Steven Newhouse (s.newhouse@doc.ic.ac.uk). Applications, including a CV and the names and addresses of at least two referees, should be sent to Mrs Susan Brookes (smb2@doc.ic.ac.uk) clearly marked 'Reality Grid'. See also www-icpc.doc.ic.ac.uk/components/

University of Manchester - *Manchester Research Centre for Computational Science (Manchester Visualization Centre & Centre for Novel Computing)*

Project Manager for Grid Applications, ref UM/808/01 - The postholder will have the responsibility for coordinating the efforts of a large team of software engineers and computer scientists to link multiple resources into a Grid environment for large-scale computation and visualization. The successful candidate will have a proven track record in software development and deployment in a scientific or engineering environment which includes multiprocessor systems. The post also demands novel and imaginative strategies for coordinating the efforts of a team distributed across several sites, utilising state-of-the-art facilities for video-conferencing and tools for collaborative working. Experience in a subset of the following would be highly desirable: Java, Corba, Grid middleware, parallel programming, visualization. The post requires excellent interpersonal skills and a willingness to travel, both within and outside the UK.

Starting salary will be on the RA2 scale in the range £26,299 - £32,215, depending on qualifications and experience.

Software Engineer for Grid Applications, ref UM/ 809/01 - The postholder will assist the Project Manager in planning and implementing the RealityGrid software and middleware environment. We are seeking candidates with experience of working in a complex distributed computing environment, preferably with scientific and engineering applications. Experience in parallel programming and/or visualization is highly desirable; substantial experience in a high level programming language is essential. Exposure to systems managing resources in cluster or parallel computing would be an advantage.

Parallel Programmer, ref UM/810/01 - This post will investigate optimal methods of parallelising modules for the visualization of large volumes of data. We seek candidates with extensive and successful experience in parallel programming, particularly using MPI. Experience in shared memory techniques such as OpenMP would also be very desirable. The postholder will work closely with the visualization programmer and with computer scientists at Manchester and Imperial College who are investigating issues of software componentisation and performance monitoring.

Visualization Programmer, ref UM/811/01 - We seek candidates with extensive and successful experience in visualization of scientific data. Experience in modular visualization environments, such as AVS, would be highly desirable. The postholder will work closely with the parallel programmer and with computer scientists at Manchester and Imperial College who are investigating issues of software componentisation and performance monitoring.

Starting salaries for the above three posts will be on the RA1A scale in the range £20,267 to £26,229, depending on qualifications and experience.

Informal inquiries for the above four posts should be made to Dr John Brooke (email: j.m.brooke@man.ac.uk, tel: 0161 275 6814 www.csar.cfs.ac.uk/staff/brooke). Further details and application forms can be found at www.man.ac.uk/news/vacancies

Performance Analysis and Improvement of Grid Applications (two posts), ref UM/788/01 - To investigate and prototype methods and techniques to support the analysis and improvement of the performance of applications executing on a Grid. We seek candidates with experience in the analysis of performance and tuning of parallel and/or distributed application software written in a high-level language, probably gained in the scientific domain, and/or in component- or object-based software engineering. Exposure to metadata technologies such as XML and experience of interface design would be an advantage.

Starting salaries for the above two posts will be on the RA1A scale in the range £22,299 - £26,229, depending on qualifications and experience.

Informal enquiries for the above two posts should be made to Dr Len Freeman (tel: 0161 275 7190, email: lfreeman@cs.man.ac.uk) or Graham Riley (tel: 0161 275 5724, email: griley@cs.man.ac.uk) in the Department of Computer Science at the University of Manchester. See also www.cs.man.ac.uk/cnc. Further details and application forms can be found at www.man.ac.uk/news/vacancies

The Posts Available

St. Jude Children's Research Hospital

ALSAC • Danny Thomas, Founder

POSTDOCTORAL POSITION RESEARCH ASSOCIATES
(Job Code: 2982 and 2983)

POSTDOCTORAL POSITION is available to participate in an established research program addressing the regulation of key enzymes in fatty acid and membrane phospholipid synthesis. The research is focused on understanding enzyme structure/function and the biochemical mechanism of action and the development of novel antibacterial drugs that target lipid biosynthesis. Candidates with a recent Ph.D. degree interested in applying contemporary molecular biology, genetics, structural biology and biochemistry technologies to problems related to gene expression, protein structure/function and the regulation of membrane phospholipid biogenesis in bacteria are encouraged to apply. Applicants should submit their curriculum vitae, reprints and names of three references including Job Code to: **Dr. Charles O. Rock, Infectious Diseases Department, St. Jude Children's Research Hospital, 332 N. Lauderdale, Memphis TN 38105-2794. E-mail: charles.rock@stjude.org**

AA/EOE

Drexel UNIVERSITY

ENDOWED PROFESSORSHIP IN NEUROENGINEERING

The School of Biomedical Engineering, Science and Health Systems at Drexel University invites nominations and applications for the Calhoun Endowed Professorship in Neuroengineering. The School, in collaboration with our partner medical school, MCP Hahnemann School of Medicine, seeks to expand its position as a leader in the field of Biomedical Engineering by establishing this Professorship. Candidates must have a distinguished record of performance and well-established potential of providing leadership in research and academic program development. The Chair holder is expected to maintain a highly visible leadership role and will be expected to draw outstanding students to the program, stimulate innovative research and serve as a mentor for other faculty. In addition, (s)he will be expected to lead collaborative ventures with other faculty at Drexel University and MCP Hahnemann University in areas including neuroprosthetics/neurorobotics, neural tissue engineering, computational modeling, neuroinformatics, applied neuropharmacology. The Neuroengineering Program is a joint initiative of the School of Biomedical Engineering at Drexel University and the Department of Neurobiology and Anatomy at MCP Hahnemann University.

Send nominations and requests for applications to:

Karen Moxon
Chair of the Neuroengineering Search Committee
Drexel University
3141 Chestnut Street
Philadelphia, PA 19104
Karen.Moxon@drexel.edu

For additional information, visit our web site at: www.biomed.Drexel.edu.

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SR. SCIENTIST, IMMUNOLOGY

Lead research to understand the biological processes controlling lymphocyte cell activation and elucidate the role of T and B cells in immunological function. You will use our proprietary retroviral cDNA and peptide screening technology to discover novel genes that govern T cell activation in mammalian cells. You will also use genetic approaches (such as dominant negative and antisense) to modify gene expression, determine the role of novel genes in signal transduction, and validate their functional significance in T cell responses while developing lymphocyte-specific assays for testing small molecule compounds discovered in high throughput screens. Requires a PhD in a scientific discipline (or equivalent) and 5+ years of relevant research experience, with some industry experience preferred. Scientific and technical expertise in the strategic design of research projects, cellular immunology, and molecular and cellular biology is essential.

Enjoy an outstanding benefits package, including attractive salaries, benefits, and stock options. For consideration, please email your resume (ASCII format) to careers@rigel.com. Or you may mail to Rigel, Inc., Attn: HR, 240 East Grand Ave., South San Francisco, CA 94080, or fax to 650.624.1101. An Equal Opportunity Employer, Rigel honors the diversity of its workforce.

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RIGEL

WESTFÄLISCHE WILHELMS-UNIVERSITÄT MÜNSTER

The Medical Faculty of the University of Münster invites applications for a tenured faculty position as

Full Professor (C4)
for Molecular Genetics of Cardiovascular Diseases

at the Institute of Arteriosclerosis Research.

The Institute is an independently funded research center, closely associated with the Medical Faculty of the University of Münster. It promotes research on the pathogenesis, prevention and treatment of arteriosclerosis.

Candidates are expected to direct a strong independent research program in an area relevant to Molecular Medicine and Cell Biology of Cardiovascular Diseases, to cooperate in research programs with the three currently existing units (Epidemiology and Lipid Metabolism, Prof. Dr. G. Assmann; Molecular Cardiology, Prof. Dr. G. Breithardt; Cell Biology and Ultrastructure, Prof. Dr. H. Robenek) and to head an independent unit. Applicants should possess an M.D. and/or Ph.D. degree and should have an outstanding record of experience and reputation in Molecular Genetics and/or Molecular Biology and/or Cell Biology preferably in the area of cardiovascular diseases (including the associated risk factors).

Candidates are expected to be qualified by the "Habilitation" or equivalent scientific work.

Applicants should have teaching experience and are required to participate in undergraduate and postgraduate teaching, including the integration of undergraduates into research projects of the institute. The University of Münster intends to increase the percentage of women where they are underrepresented. Therefore, especially qualified women are encouraged to apply. Priority will be given to individuals with disabilities of equal qualification.

Applications should be sent to the **Dean of the Medical Faculty of the University, Domagkstrasse 3, D-48149 Münster, Germany,** before **December 1st, 2001** and include 5 reprints of major publications as well as information about the applicant's present and future research programs, and data on the current funding situation.

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We are forming a dynamic, multidisciplinary viral disease unit centered on HIV/HCV. Join us and innovate medicine.

PRINCIPAL RESEARCH SCIENTIST, HIV Virology

Responsible for developing state-of-the-art HIV antiviral testing methodologies and providing leadership to teams working on novel therapeutics. Requires a PhD, proven academic record, demonstrated scientific leadership skills, and experience in containment level 3. You must have 7+ years postdoctoral experience and industry experience is preferred. Job Code: HIV-BSP

RESEARCH SCIENTISTS, Viral Biochemistry Department

Protein Science

As a senior team member, you will work closely with the Biochemistry and Protein Purification groups to establish a protein science lab, focusing on protein purification, analysis, characterization and expression optimization. Requires a PhD, 0-5 years postdoctoral research and proven track record in the area of protein science and purification. Experience in protein quality control, light scattering, mass spectrometry, amino acid analysis, 2D gel electrophoresis or other protein techniques is a plus. Job Code: 2473-SCI

Enzymology

This senior team member working closely with the Medicinal Chemistry and Structural Biology groups will establish a compound and enzyme analysis lab, focusing on the analysis of enzyme-substrate interactions. Requires a PhD, 0-5 years postdoctoral research and experience in enzymatic assay design and the analysis of enzyme-substrate interactions. Experience with automation and electronic data management is a plus. Job Code: 2472-SCI

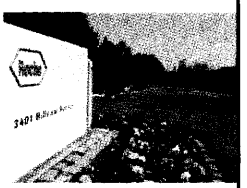
Molecular/Cellular Biology

Working with Cell Biology groups, you will establish and analyze viral replication models and cellular enzyme activities and work with the Protein Expression group to optimize protein expression constructs. Requires a PhD, 0-5 years postdoctoral research and experience in cloning, recombinant DNA and cell culture techniques. Strong knowledge of construct optimization, analysis of cellular enzyme activity and cell fractionation is also required. Job Code: 2471-SCI

Located in Palo Alto, the heart of innovation, our park-like campus offers a wide array of employee services including an on-site fitness center. We also are pleased to provide a competitive compensation program with a generous vacation and holiday schedule, relocation assistance, plus retirement and pension plans. To apply, send your resume, indicating the appropriate Job Code, to paloalto.hr_staffing@roche.com or to Roche Bioscience, 3401 Hillview Avenue, Palo Alto, CA 94304. As an equal opportunity employer, we are committed to workforce diversity.

Visit our website at **http://paloalto.roche.com.**

Keep



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- Experience with in vitro and molecular models of drug metabolism
- BS, MS, PhD and Post Doctorate levels

The collective skills of 40,000 of the world's top talent keep us on the cutting edge. We care for our people by offering rich avenues for advancement, challenging opportunities, competitive compensation, stock options, childcare subsidies, education assistance, flex time and other great benefits. For consideration, please forward your resume and salary requirements via e-mail: **robinsp@war.wyeth.com** fax: **484-865-9327,** or mail: **Wyeth Pharmaceuticals, 500 Arcola Road, Collegeville, PA 19426.** No phone calls. Principals only.

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WAYNE STATE UNIVERSITY

Chair of Biological Sciences

The Department of Biological Sciences at Wayne State University is seeking a dynamic individual to serve as departmental chair. The department is housed in the Biological Sciences Building, which was completed in 1991 and contains state-of-the-art research facilities supporting active research programs in molecular biology, genetics, cell biology, neurobiology, developmental biology, ecology and evolution. Research excellence is combined with a strong commitment to graduate and undergraduate education. The successful candidate is expected to join the department in the summer of 2002. All applicants must have a demonstrated record of excellence in funded research and teaching appropriate to an appointment at the full professor level with tenure. There are no restrictions as to the research area of the successful candidate. Information on the department may be found at **http://www.biosci.wayne.edu**.

An application letter and a *curriculum vitae* should be sent to: **Professor Shahriar Mobashery, Biological Sciences Chair Search Committee, Department of Chemistry, Wayne State University, 5101 Cass Avenue, Detroit, MI 48202.**

Wayne State University is an Affirmative Action/Equal Opportunity Employer. Women and members of minority groups are encouraged to apply.

PROFESSOR OF NEUROSCIENCE

Applications are invited for this newly created Chair of Neuroscience in the **Department of Physiology and Pharmacology**, which was recently re-housed alongside the University's other Health Science departments in a new £14M building with state of the art laboratory and teaching facilities.

Suitably qualified candidates will be researchers of international calibre, with drive and vision and an integrative approach to neuroscience, aligned with technologies exploiting information uncovered by human genome research. An interest in the education of Pharmacists is welcomed.

For application form and further particulars (available on request in alternative formats for applicants with a disability) contact the Personnel Office, University of Strathclyde, Glasgow G1 1XQ, Tel 0141 548 4133 (24 hour Voicemail), quoting reference number 72/01.
Information on the department is available at http://www.strath.ac.uk/Departments/PhysPharm/.

Applications closing date: Mon, 19 November 2001.

INVESTOR IN PEOPLE

UNIVERSITY OF STRATHCLYDE
Committed to Equal Opportunities

TENURE-TRACK FACULTY POSITION
Assistant/Associate Professor

Crump Institute for Molecular Imaging and Department of Molecular and Medical Pharmacology UCLA School of Medicine

The Crump Institute for Molecular Imaging (www.crump.ucla.edu) is seeking a faculty member with research experience in the development of murine models of disease and/or imaging probes for cancer diagnostics/management. The individual we seek would have the ability to interact with a diverse group of scientists who have come together to advance molecular imaging through the merger of fundamental advances in molecular biology, cell biology, and manipulation of the murine genome with those in biological imaging. The Crump Institute faculty includes scientists with strengths in positron emission tomography (PET), optical imaging, cryo-electron microscopy, confocal microscopy, pharmacology, synthetic chemistry, nuclear medicine, molecular biology, imaging physics, and biomathematics. Active areas of current research which bring together various faculty include reporter gene technology for use in living subjects. The ideal candidate will bring to the Institute skills in the development of murine models of disease, engineering of molecular probes for cellular interrogation, and share with the members of the Institute an interest in imaging molecular events in these animals in real time, in a non-invasive manner.

Candidates should have a Ph.D. in Molecular Biology, Cell Biology, Pharmacology, or another relevant field. Foremost, the applicant should be a highly qualified biologist with a strong desire to study biological models in vivo with rapidly evolving imaging modalities (e.g., PET, optical). Research interest in the areas of engineered aptamers and phage display is preferred. Exposure to *in vivo* imaging and image guided therapeutics is preferred. The successful candidate will have made significant scientific contributions and will be expected to develop a well-funded research program. Teaching of graduate students and M.D./Ph.D. students is expected.

Send curriculum vitae and a description of research accomplishments and plans to: **Dr. Sam Gambhir, Chair, Faculty Search Committee, Crump Institute for Molecular Imaging, UCLA School of Medicine, B3-399A BRI, PO BOX 951770, LA, CA 90095-1770.** Applicants should also arrange to have three letters of recommendation sent to the same address.

Call for Applications for Team Leaders
RIKEN Research Center for Allergy and Immunology (RCAI)

Outline of RCAI

The Institute of Physical and Chemical Research, known as RIKEN, is one of the foremost research organizations in life science and comprised of the Brain Science Institute, the Center for Developmental Biology, the Genomic Sciences Center, the SNP Research Center, the Plant Science Center and the Bio-Resource Center. RIKEN has established a new institute, the Research Center for Allergy and Immunology, fully supported by the Japanese Government this year.

This Center is to be founded for the purposes of creating a new paradigm in allergy and immunology and developing strategies to solve immunological problems, such as allergic disorders, autoimmune diseases, cancer, Graft-versus-Host diseases, and organ transplantation, by clarifying their basic mechanisms. This is a national project, but it also aims to contribute to the international community. Applications from non-Japanese are welcomed. In order to achieve these purposes we call for applications for the team leaders from throughout the world.

Site of RCAI

A new building will be opened in FY 2003 in Tsurumi-ku, Yokohama, Japan. For about 2 years until the new building will be completed, the laboratories of RIKEN Tsukuba Institute or other available sites will be offered.

Support Laboratories:

Animal resources (capacity of 50,000 mice) and genetic engineering, FACS analysis and sorting with 6-11 colors, DNA chip, transcriptomic/ proteomic technology, bioinformatics, & immunological joint ventures

Call for Applications

The RCAI has already appointed 8 team leaders and will invite several team leaders to enhance the project.

1. Research teams and working conditions of team leaders

We invite applications for leaders of several teams. Each team will consist of a team leader, researcher(s), technical staff, and an assistant/ secretary if necessary. Total budget for each team is approximately one million US dollars. A contract of 5-year employment is offered at first and can be prolonged after evaluation. A working contract for every team member will be entered into annually. The team leaders are requested to be full-time RIKEN employees, but it is possible to hold it as an additional position if it is deemed necessary.

2. Application deadline

Thursday, October 25, 2001. All applications must be received by this time. E-mail submissions are acceptable from outside of Japan.

3. Reviewing application document

(1) Curriculum Vitae , including affiliation, position, birthday, title, nationality, present address & phone/fax/e-mail address, research and working history (2) List of publications and patents in the past 10 years (3)Names and addresses of 3 references with phone/fax numbers and e-mail addresses
(4) Proposal (double-spaced in A4 paper)
Title/purpose of your research/ summary/and keywords (1 page).
Overview of proposed research (<4 pages)
Proposed Research (<15 pages): Scientific background of the proposal/Research Projects/References
Budget proposal (Equipment/Salaries, etc)
Current research support/grants

4. Mail addressed to

RIKEN Immunology and Allergy Science Promotion Division 2-1 Hirosawa, Wako, Saitama 351-0198 Japan.
Att: Ms. Noriko Iwasaki/ Mr. Koji Yokoyama
Phone: 81-48-467-8563 FAX: 81-48-467-8091
e-mail: rcai@postman.riken.go.jp

Director
Masaru Taniguchi, MD, PhD

Senior Advisor to the Director
Kimishige Ishizaka, MD, PhD

Core Research Program

Osamu Ohara, PhD
Immunogenomics
Akira Shibuya, MD, PhD
Immune Receptor
Takashi Saito, PhD
Cell Signaling
Tomohiro Kurosaki, MD, PhD
Lymphocyte Differentiation
Haruhiko Koseki, MD, PhD
Developmental Genetics
Yousuke Takahama, PhD
Immune-System Development
Masaru Taniguchi, MD, PhD
Immune Regulation
Toshio Hirano, MD, PhD
Cytokine Signaling
*Several teams are invited.

Creative Research Program

*Several teams are Invited.

Support Labortories

Osamu Ohara, PhD
DNA chip, transcriptomic/ proteomic technologies
Haruhiko Koseki, MD, PhD
Animal facilities with knockout and transgenic technologies
*Staff for FACS & Bioinformatics will be appointed.

Advisory Council

Ken' ichi Arai, IMSUT
Shigetaka Asano, IMSUT
Max D. Cooper, Alabama
Antonio Coutinho, Gulbenkian Inst
Mark I. Greene, Pennsylvania
Sonoko Habu, Tokai
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DALHOUSIE UNIVERSITY
DEPARTMENT OF BIOCHEMISTRY & MOLECULAR BIOLOGY
ASSISTANT PROFESSOR POSITION

The Department of Biochemistry & Molecular Biology invites applications for a probationary tenure-track position at the rank of assistant professor on or around July 1, 2002. Preference will be given to applicants whose research interests have biomedical importance and complement those of current members of the department. Research activities in the department encompass three general themes: (i) molecular cell biology and molecular genetics; (ii) comparative genomics, computational biology and molecular evolution; and (iii) structure, function and metabolism of biomolecules.

The ability to collaborate across disciplines is encouraged. The department is closely affiliated with the Evolutionary Biology Program of the Canadian Institute for Advanced Research and the newly established Genome Atlantic Centre which are jointly creating a major centre in comparative microbial genomics. An active affiliation also exists with the lipid biochemistry and signal transduction group in the Atlantic Research Centre. Candidates for this position may also be considered for appointment in these active research groups. More details about the research activities of the department and the Faculty of Medicine can be found on our web sites: www.biochem.dal.ca and www.medicine.dal.ca. The successful applicant will be expected to develop a strong, externally funded research program and contribute to the undergraduate, graduate and professional teaching programs of the department.

Applicants must have a Ph.D., at least 2 years of post-doctoral experience and a strong publication record. Applicants should submit a curriculum vitae, reprints of several recent publications, a one- to two-page statement outlining their research plans and the names of three referees to:

Dr. F. B. St. C. Palmer
Head, Department of Biochemistry & Molecular Biology
Faculty of Medicine, Sir Charles Tupper Medical Building
Dalhousie University, Halifax, NS B3H 4H7

Closing date for receipt of applications is December 31, 2001. The Academic Planning and Appointments Committee will commence reviewing applications in January 2002.

In accordance with Canadian Immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

Dalhousie University is an Employment Equity/Affirmative Action Employer. The University encourages applications from qualified Aboriginal Peoples, persons with a disability, racially visible persons and women.

Bioinformatics Research Assistant Professor

The Center for Biotechnology of the University of Nebraska-Lincoln seeks a Manager for its Bioinformatics Core Facility. The Facility, funded in part by a grant from the National Science Foundation, will cooperate with the UNL faculty to develop and exploit state of the art bioinformatic tools; e.g., molecular modeling, mining genomic and proteomic databases, as well as microarry and complex systems data. The Manager will support life sciences research and act as a liaison among UNL computational biologists and with other computational biology groups in the State to foster bioinformatics program development. Excellent computer laboratory facilities will be available for conducting collaborative extramurally funded research. A doctoral degree and demonstrated expertise in computational biology are required in addition to a solid background in computer science.

Submit curriculum vitae and the names and addresses of these references by November 30, 2001 to: **Dr. Ruben Donis, Center for Biotechnology, University of Nebraska-Lincoln, 19th Street & Vine Street, Lincoln, Nebraska 68588. Fax: 402/472-3139. E-mail: rdonis@unl.edu.** We will accept applications until this position is filled.

The University of Nebraska is committed to a pluralistic campus community through affirmative action and equal opportunity and is responsive to the needs of dual career couples. We assure reasonable accommodation under the Americans with Disabilities Act: contact Ruben Donis at (402) 472-2635 for assistance.

Children's Hospital Medical Center Cincinnati

Director, Child Neurology Research

The Division of Neurology at Children's Hospital Medical Center of Cincinnati, Ohio, is recruiting a child neurologist/neuroscientist (MD, MD/PhD or PhD) at the associate to full professor level to direct a research laboratory to expand and support our academic mission. This person will recruit up to four additional basic research faculty in neuroscience in areas of neurological disorders. We seek candidates with an active, innovative research program in any of the areas of child neurology who have the administrative skills to develop and direct such a program.

The division currently consists of 12 neurologists, one neuropsychologist and one neuropharmacologist. We have active clinical research programs in epilepsy, headache, movement disorders, neuro-muscular disorders, tuberous sclerosis, neurometabolic disorders, neuro-developmental disorders and clinical neurophysiology.

Cincinnati Children's is a major teaching hospital affiliated with the University of Cincinnati. Neuroscience is a main focus of expansion in the coming years. Excellent opportunities exist to collaborate with colleagues in the Divisions of Developmental Biology, Human Genetics and Psychiatry, as well as the Imaging Research Center.

The preferred candidate should be board eligible/certified in child or adult neurology with area of research focus relevant to child neurological disorders. However, PhD candidates with applicable experience will be considered. Send letter of interest (including description of research area and future plans), CV and names of three or more references to:

Ton J. DeGrauw, M.D., Ph.D., Head of Search Committee
Division of Neurology
Children's Hospital Medical Center
3333 Burnet Ave.
Cincinnati, OH 45229
(513) 636-4222
ton.degrauw@chmcc.org

Visit our website at www.cincinnatichildrens.org.
Children's Hospital Medical Center is an Affirmative Action/Equal Opportunity Institution. Women and minorities are encouraged to apply.

Medical Technologist
Molecular Diagnostics Laboratory

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As a vital member of the laboratory team, you will enjoy exposure to educational opportunities through conferences and clinical research trials. Major duties will include performing various molecular diagnostics procedures, including PCR.

To qualify, the candidate must have an experience in research and with PCR techniques. Minimum B.S. degree is required.

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The Samuel Roberts
NOBLE FOUNDATION

The Samuel Roberts Noble Foundation's Plant Biology Division is a leader in basic plant biology research, with particular emphasis on the integration of biochemistry, molecular biology and genomics for understanding plant microbe-interactions and the biosynthesis and manipulation of plant natural products. Excellent facilities exist for all aspects of functional genomics research, from global gene expression profiling to high throughput mass spectrometry-based proteomic and metabolic profile analyses. Funding for several important new positions focusing on the model legume *Medicago truncatula* is now available through internal sources and a National Science Foundation Plant Genome Program award in collaboration with the Virginia Bioinformatics Institute.

Positions in Functional and Structural Genomics of the Model Legume *Medicago truncatula*

Staff Scientist, Structural Biology

You will lead a new structural biology group to solve the structures of proteins involved in natural product biosynthesis, nutrient uptake and DNA repair, and collaborate on larger scale, high throughput *M. truncatula* protein structure projects. Excellent start-up package and several support positions will be available for the successful candidate.

Job # **PB1RD500**

Programmers or Research Associates, Bioinformatics

We are seeking two individuals to join our expanding bioinformatics group. Successful candidates will design databases and software tools for the analyses of microarray, proteomic and metabolic profiling data.

Job #s **PB1LW501A and B**

Postdoctoral Research Fellow, Gene Expression Profiling

You will develop DNA microarray and SAGE analysis for global gene expression profiling of elicited *M. truncatula* cell cultures. In the first year, you will also lead an effort in EST sequencing of *Vanilla planifolia* and *Acacia victoriae* as part of a natural product gene discovery project.

Job # **PB1RD503**

Two Postdoctoral Research Fellows, Bioanalytical Mass Spectrometry and Functional Genomics

You will investigate the response of *M. truncatula* to biotic and abiotic elicitors at the proteome and metabolome level using state-of-the-art instrumentation. Responsibilities for methods development, methods validation and profiling analysis. Techniques will include 2D PAGE, HPLC/MS, CE/MS, capillary chromatography MALDI/TOF, ESI/ITMS, and Q-TOFMS.

Job #s **PB1LS504A and B**

Two Research Assistants, Bioanalytical Mass Spectrometry and Functional Genomics

You will investigate the response of *M. truncatula* to biotic and abiotic elicitors at the proteome and metabolome level using state-of-the-art instrumentation. Technologies include GC/MS, 2D PAGE, and HPLC/MS.

Job #s **PB1LS505A and B**

Postdoctoral Fellow, Integrated Functional Genomics

You will develop an independent research project in *M. truncatula* functional genomics and assist in methods development for data integration between RNA, protein and metabolite profiling.

Job # **PB1GM506**

Research Assistant, Sequencing Group

You will assist in the analysis of expressed sequence tags. Highly motivated individuals with experience in the use of robotics and ABI automated capillary sequencers in a team setting are encouraged to apply.

Job # **PB1GM507**

Research Assistant, Gene Tagging Group

You will participate in a team effort to develop T-DNA activation-tagged *M. truncatula* populations for functional genomic analysis.

Job # **PB1GM508**

Research Assistant, Plant Cell Culture

You will optimize *M. truncatula* cell suspension cultures for production of specific classes of plant natural products in response to biotic and abiotic elicitation.

Job # **PB1RD502**

To learn more about the positions listed above, including full qualification requirements, and for on-line application forms, please visit our Web Site at

www.noble.org or call (580) 224-6231

CHAIR IN STEM CELL BIOLOGY OR DEVELOPMENTAL PLASTICITY

Paterson Institute for Cancer Research

We are seeking to recruit an established investigator to lead the further development of stem cell research in Manchester. The successful applicant will have access to world class facilities to pursue their research programme.

The post will be joint between the Paterson Institute for Cancer Research and UMIST, and will be based at the Paterson (http://www.paterson.man.ac.uk) which is a multidisciplinary research institute attached to the Christie Hospital (the largest specialist cancer hospital in the UK). The Institute receives core funding from the Cancer Research Campaign supporting a range of basic and translational research programmes in cell and molecular biology. Investigators have access to a wide range of excellent service facilities and generous core funding for personnel and running expenses. The successful applicant will have access to the facilities available at the UMIST, where they will hold the professorship. UMIST is a major research university with an active involvement in biomedical research (http://www.bi.umist.ac.uk and http://www.dias.umist.ac.uk) This research will shortly be housed in a purpose-built Life Sciences Centre which will offer unique opportunities to explore exciting new avenues of multidisciplinary biological research. Facilities will include those for structural biology, proteomics, generation of microarrays and a range of other techniques and disciplines. The successful candidate would have access to the facilities and space within the Life Science Centre.

The Paterson and UMIST are committed to an appropriately funded academic research venture that explores fully the potential of stem cells and/or developmental plasticity for the benefit of those suffering from a range of illnesses, an activity that can be fully developed in the UK.

If you wish to discuss this opportunity further, please contact Professor Nic Jones (Director, Paterson Institute) at Njones@picr.man.ac.uk or Professor Tony Whetton (Head, Biomolecular Sciences, UMIST) at Tony.Whetton@umist.ac.uk Applicants should send a full curriculum vitae, with the names of three referees and a research plan, either by post or via the above email, to Professor Jones, Director, PICR; Christie Hospital NHS Trust, Wilmslow Road, Manchester M20 4BX.

UMIST

The closing date for applications is 8th November 2001.

UMIST is an equal opportunity employer

UMIST

FACULTY POSITIONS IN SPINAL CORD INJURY UNIVERSITY OF MIAMI SCHOOL OF MEDICINE

The Miami Project to Cure Paralysis/Department of Neurological Surgery at the University of Miami School of Medicine is seeking two outstanding neuroscientists to join its comprehensive spinal cord injury research program. Academic appointments will be at the Assistant, Associate, or Full Professor levels. A significant record of accomplishment, as well as the potential to attract independent research funding are important considerations for these positions. The Miami Project offers an excellent and dynamic basic science/clinical research program directed toward clarifying the pathophysiology of spinal cord injury and developing novel treatments to promote functional recovery after injury. The successful applicant will collaborate as a member of a multidisciplinary program and will have access to a large state-of-the-art facility. Candidates should have an interest in development of novel strategies to promote spinal cord repair or an interest in human studies utilizing physiological techniques to assess recovery of function after spinal cord injury. Salaries and benefits are commensurate with experience. The positions are available for June, 2002.

Those interested should send their Curriculm Vitae and a brief summary of interests and goals to: **W. Dalton Dietrich, PhD, Scientific Director, The Miami Project to Cure Paralysis, University of Miami School of Medicine, P.O. Box 016960 (R-48), Miami, FL 33101.**

The University of Miami School of Medicine is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.

OGL-OCEAN GENOME LEGACY

Team Leader

A new not-for-profit foundation devoted to the preservation, distribution and evolutionary genomics of DNA from marine organisms is seeking a Team Leader.

The successful candidate will have a Ph.D. in cell or molecular biology, 2+ years experience in molecular biology, and be highly motivated to work at the bench. Responsibilities will include the assembly of a small team of scientists for the long-term preservation of marine organism DNA, the development of tissue culture techniques for marine invertebrate cells, the construction of genome libraries, and evolutionary genomics of special marine transition groups.

The OGL laboratory will be temporarily located at New England Biolabs, Inc., Beverly, MA until a new facility is constructed in Ipswich, MA.

Applicants should send a resume and three references to: ***Carol Ann Zapustas, New England Biolabs, Inc., 32 Tozer Road, Beverly, MA 01915.***

OCEAN GENOME LEGACY

An Equal Opportunity Employer.

Tenure Track Position in Computational Biology and Bioinformatics Ref: CB#2

We are seeking applicants at all ranks 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.

Further information about the department is available on the World Wide Web at URL: **http://www.cs.cornell.edu/**

The Department is administered by the Office of Computing and Information Science (CIS), a larger unit that can co-sponsor faculty positions in the Faculty of Computing and Information with any department on campus. Applications that are not appropriate for the Department of Computer Science will automatically be evaluated in this larger context by the CIS. In particular, there is a campus-wide initiative in information science that involves the Department of Communication, the Department of Economics, the Department of Science & Technology Studies, and the School of Operations Research & Industrial Engineering. CIS and the College of Architecture, Art, and Planning are also interested the Digital Arts and Graphics.

Applicants should submit a vita and the names of at least three references to:

CORNELL

Chair, Faculty Recruiting Committee
Department of Computer Science
4130 Upson Hall
Cornell University, Ithaca, NY 14853-7501

Please include reference number with application.

Cornell University is an equal opportunity employer and educator and welcomes applications from women and ethnic minorities.

http://www.cornell.edu
http://chronicle.com/jobs/profiles/2377.htm

fellowships

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

AAAS Science + Technology Policy Fellowships, 2002:03 >>>

What >>> Help shape science and technology policy in Washington, DC: Contribute scientific and technical information and external perspectives to federal decision-making, while learning how government works. The AAAS fellowship programs provide a unique participatory public policy experience for scientists and engineers, through one-year assignments involving domestic and international science policy issues in the Congress and several executive branch agencies. Stipends begin at $55,000.

Who >>> Applicants must have a Ph.D. or an equivalent doctoral-level degree by the application deadline from any physical, biological or social science, any field of engineering or any relevant interdisciplinary field. Individuals with a master's degree in engineering and at least three years of post-degree professional experience also may apply. U.S. citizenship is required. Federal employees are ineligible. Approximately 50 fellowships are awarded in 10 different programs. Underrepresented minorities and persons with disabilities are encouraged to apply.

When >>> The fellowship year begins September 1, 2002. Fellows attend a two-week orientation before beginning their assignments and participate in a year-long seminar series on topics relevant to science, technology and public policy. **Application deadline is January 10, 2002.**

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

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

+ Congressional Fellows
+ AAAS/NIH Science Policy Fellows
+ AAAS/NSF Science and Engineering Fellows
+ Diplomacy Fellows
+ Defense Policy Fellows
+ Science, Justice, and Public Policy Fellows
+ Environmental Fellows
+ AAAS/NTI Fellows in Global Security
+ Risk Policy Fellows
+ Roger Revelle Fellows in Global Stewardship

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

www.fellowships.aaas.org

AAAS

THE UNIVERSITY *of* EDINBURGH

CENTRE for SCIENCE at EXTREME CONDITIONS (CSEC)
and DIVISION of ENGINEERING and ELECTRONICS

RESEARCH FELLOWSHIP LEADING TO A LECTURESHIP IN INSTRUMENTATION ENGINEERING

CSEC is a new multi-disciplinary centre, located in Edinburgh, for research on extreme conditions phenomena in materials science, condensed matter physics, chemistry, earth sciences and biology. The CSEC project, led by Professor Richard Nelmes, will combine strong experimental and theoretical in-house projects with wide-ranging use of neutron and synchrotron facilities worldwide.

In this key role, you will develop and lead a world-class research-based activity in instrumentation engineering to support the long-term programme of the Centre. This will include design and construction of novel pressure cells for diffraction, spectroscopic, magnetic and transport property measurements; reactors; and flow cells for laboratory and Central Facilities use.

A PhD or equivalent in science or engineering is required, as is a record of achievement in instrumentation design and use, or innovative experimentation. The initial appointment is to an EPSRC-funded Research Fellowship with conversion to a Lectureship in the Division of Engineering and Electronics in 2004.

Informal enquiries should be directed to Professor Andrew Harrison, tel: +44 (0)131 650 4745, e-mail: a.harrison@ed.ac.uk, www.csec.ed.ac.uk.

Salary scale: £24,193 - £32,215 p.a. Please quote REF: 310862SI. Closing date: 9 November 2001.

For further particulars and an application pack visit our website (www.jobs.ed.ac.uk) or telephone the recruitment line on 0131 650 2511.

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Scripps Institution of Oceanography
University of California, San Diego

The Graduate Department of the Scripps Institution of Oceanography seeks a faculty member in Biological Oceanography who uses innovative experimental or observational approaches at sea to understand ecological processes in the ocean. Candidates with expertise in the field of Pelagic Ecology, who actively pursue field investigations and have strong quantitative skills, are particularly encouraged to apply. The successful candidate will be expected to develop a vigorous, extramurally supported research program; to teach, advise, and support graduate students; and to contribute to university and public service. The successful candidate must have a Ph.D. degree or equivalent and a record of accomplishment that demonstrates capabilities as an independent researcher and skillful teacher.

Rank and salary will be commensurate with qualifications and experience based on the UC pay scale. Associate and Full Professorial (tenured) candidates must show evidence of a strong research record; Assistant-level (tenure-track) candidates will be expected to show evidence of their potential through a publication record appropriate to their experience. Applications received by **January 1, 2002** will receive full consideration. Send letter of application including description of research interests, list of publications, résumé of teaching experience, and names/addresses of three referees to: **Chair, Biological Oceanography Search Committee, SIO Graduate Department, University of California, San Diego, 9500 Gilman Drive, La Jolla, CA 92093-0208.**

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- **Sr. Process Engineer**
- **Process Development Chemist**
- **Sr. Financial Analyst**

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

GENICON SCIENCES.

Director – Drug Discovery Technology

Genicon Sciences is an established biotech company located in San Diego focusing on the research and development of reagent assay "tool kit" systems incorporating proprietary signal generation and detection technology and other proprietary assay chemistries to enable the burgeoning areas of microarrays, microfluidic and other nano-technologies in the life sciences fields of genomics, proteomics and systems biology.

The position will be responsible for the creation, leadership, development and implementation of the company's drug discovery and screening technology program focusing on the application of RLS (resonance light scattering) technology into various drug discovery/HTS assay formats. Broad technology development and assay validation experience across a variety of drug discovery assay formats including cell-based, ligand-receptor/binding, enzymatic, protein-protein interaction in solution, homogenous and solid phase assays essential. Practical applied experience with a wide variety of detection technologies and familiarity with HTS instrumentation components, software and integrated robotic systems highly desired. Familiarity with patent processes and intellectual property in the drug discovery/assay area an advantage. Other areas of responsibility include developing and managing program priorities and project timelines while effectively interacting with other project leaders and Pharmaceutical/corporate collaborators. Requires a Ph.D. degree in a biological science and 7-10 years industry experience including the recruitment and hiring of personnel and at least 3 years managerial experience of 5 or more scientists.

Genicon Sciences offers competitive salaries and excellent benefits. For consideration email your resume to **hr@geniconsciences.com** or fax to **858-793-6791**. *EOE*

Opportunities

Children's Hospital Medical Center Cincinnati

Visual Systems Development

Children's Hospital Research Foundation in Cincinnati, Ohio, has begun a well- funded initiative in Visual Systems Development as a combined endeavor of the Divisions of Ophthalmology, Developmental Biology and Human Genetics. The Visual Systems Development group will comprise four basic research labs working in areas relevant to the eye. To establish this group, three tenure-track faculty positions are offered. Applications are invited for:

Position 1: Assistant or Associate Professor in Human Genetics of the Eye

The successful candidate will hold M.D. and/or Ph.D. degrees and will establish a vigorous research program investigating the genetic basis of eye or visual system disorders using the strategies of human genetics. The position will provide a generous package of remuneration and startup support, as well as access to the patient resources of the Division of Ophthalmology. The successful candidate will be encouraged to work closely with clinical and bioinformatics faculty. This position will be a joint appointment in the Divisions of Pediatric Ophthalmology, Human Genetics and Developmental Biology.

Positions 2 and 3: Assistant Professors in Visual Systems Development

The successful candidates will hold M.D. and/or Ph.D. degrees and will establish vigorous research programs investigating some aspect of eye development. Individuals using both vertebrate and invertebrate systems are encouraged to apply. The positions will provide generous packages of remuneration and startup support. These two positions will be joint appointments in the Divisions of Pediatric Ophthalmology and Developmental Biology.

To Apply

Interested candidates should submit a CV, bibliography, and two-page summary of past research accomplishments and future goals. In addition, we request letters of recommendation from three references. Send to:

Richard A. Lang, Ph.D.
Emma and Irving Goldman Scholar
Division of Developmental Biology and
Department of Ophthalmology
Children's Hospital Research Foundation
3333 Burnet Avenue
Cincinnati, OH 45229-3039
EyePositions@chmcc.org

Visit our website at www.cincinnatichildrens.org

Children's Hospital Medical Center is an Affirmative Action/Equal Opportunity Institution. Women and minorities are encouraged to apply.

PENNSTATE

University Park

PROFESSOR AND DIRECTOR SCHOOL OF FOREST RESOURCES

The College of Agricultural Sciences at The Pennsylvania State University seeks to hire a dynamic, energetic individual as Professor and Director of the School of Forest Resources. The Director will lead a diverse faculty recognized nationally and internationally for excellence in forest science, wood products, hydrology, and wildlife and fisheries science. Key teaching, research, and cooperative extension and outreach programs include: wood science; forest biology and management; wood products marketing, management, and manufacturing; fisheries and wildlife science and management; urban and community forestry; watershed science and management; wetlands ecology; and genetics and systematics. The School enjoys excellent collaborative relations within Penn State's College of Agricultural Sciences, one of the largest agricultural colleges in the nation.

Responsibilities: The person filling this position is the School's administrative officer and program leader reporting directly to the Dean of the College of Agricultural Sciences. Duties include:

- Leadership and coordination of resident instruction, cooperative extension/outreach, and research
- Coordination and administration of intracollege and intercollege programs
- Administrative responsibility for School personnel, budget, and physical facilities
- Leadership and coordination of an advisory board and the School's interactions with forest and wood product industries, natural resource agencies, resource professionals, the general public, alumni, and professional societies
- Leadership in development of other fund-raising activities for School programs and capital improvements

Qualifications: All candidates must possess a Ph.D. and satisfy tenure requirements of Penn State at the rank of professor within the disciplines of natural resources or wood science and technology. The following attributes are highly desirable:

- A significant period of professional and/or academic experience in natural resources or wood science and technology
- Experience in, and in-depth knowledge of, university teaching, research, and cooperative extension/outreach functions in the land-grant university system
- Experience and/or skill in personnel management and professional development for faculty, staff, and students
- Administrative leadership experience with outstanding ability to communicate and serve as an advocate for the School
- Experience in working with constituents and clientele in areas of relevance to the School
- Leadership in pursuing interdisciplinary and international opportunities

The School of Forest Resources: Please visit our website at: http://www.sfr.cas.psu.edu

Salary and Benefits: Salary will be commensurate with the qualifications and experience of the applicant. An excellent benefits package is provided.

Closing Date: Consideration of applications will begin December 3, 2001, and will continue until a suitable candidate is selected.

Application: Persons interested in this position and possessing the necessary qualifications are invited to submit a letter of application and supporting information (including complete curriculum vitae with documentation of academic training and professional leadership, a statement of leadership philosophy and vision and the names, addresses, telephone numbers, and e-mail addresses of five individuals who can be contacted for recommendations). Nominations are also welcome.

Send Applications and Nominations to: **Dr. J. R. Stauffer, Chair Advisory Search Committee, School of Forest Resources, The Pennsylvania State University, 2C Ferguson Building-Box SCI, University Park, Pennsylvania 16802, Phone: 814-863-0645, E-mail: vc5@psu.edu**

Penn State is committed to affirmative action, equal opportunity and the diversity of its workforce.

EUKARYOTIC CELL BIOLOGIST

Tenure-track **ASSISTANT PROFESSOR**, Ph.D., in cell biology or a closely related discipline in biology completed by 28 August 2002. Graduate coursework/background in eukaryotic cell biology and molecular biology/biochemistry and research utilizing molecular approaches to answer fundamental questions in eukaryotic cell biology required. A strong commitment to college teaching also required. Preference given to applicants with broad training in biology. Prior teaching at the college level and experience working with diverse groups desirable. Duties: teaching upper-division and graduate courses in cell biology/physiology and introductory courses in biology, engaging in scholarly activities, supervising undergraduate and Master's student research, participating in graduate and undergraduate course development, advising, serving on Department and University committees, and engaging in community service. Duties may also include participation in Department and University programs designed to recruit and retain students in science. Submit curriculum vitae, all transcripts, names and telephone numbers of three references, and statements of teaching and scholarly interests. Applicants must also arrange to have three letters of recommendation sent to: **Laurel Heffernan, Chair, Biological Sciences, California State University, Sacramento, CA 95819-6077. CSUS Employment website: http://www.csus.edu/fas/nsmvac/htm**. To ensure consideration, applications should be received by November 30, 2001; position open until filled.

Affirmative Action/Equal Employment Opportunity.

COMPUTATIONAL/ MOLECULAR EVOLUTION

The Department of Biology and Biochemistry at the University of Houston invites applications for **TENURE-TRACK FACULTY POSITIONS** at any rank in the area of evolutionary biology. We are especially interested in candidates using molecular and computational approaches to address evolutionary questions. Candidates should be able to interact with at least one of the existing groups in infectious disease, computation, development, or genomics. The position requires a Ph.D. and postdoctoral experience. Faculty are expected to develop nationally competitive research programs and participate in graduate and undergraduate teaching. The Department has spacious research laboratories and encourages research collaborations. Submit curriculum vitae, a reseach plan, and have three letters of recommendation sent to: **Molecular Evolution Search Committee, University of Houston, Department of Biology and Biochemistry, 369 Science and Research Building 2, Houston, TX 77204-5001**. Applications will be reviewed as they are received. *UH is an Equal Opportunity/Affirmative Action Employer. Minorities, women, veterans, and persons with disabilities are encouraged to apply.*

ASSISTANT PROFESSOR NEUROBIOLOGY
Boston University

The Biology Department of Boston University invites applications for a tenure-track Assistant Professor in neurobiology. We have special interest in applicants whose research would complement current strengths in neural development, visual and olfactory processing, synapse structure and function, and behavioral neurobiology. The successful applicant will be expected to establish an externally funded research program and participate in teaching at the undergraduate and graduate levels. Please submit curriculum vitae; a statement of research and teaching interests; representative reprints; and three letters of reference by December 1, 2001, to: **Chair, Neurobiology Search Committee, Department of Biology, Boston University, 5 Cummington Street, Boston, MA 02215. E-mail: biosrch@bu.edu;** Biology Department **website: http://bio.bu.edu**; Program in Neuroscience **website: http://www.bu.edu/neuro/**. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSORSHIPS
Ecology, Evolution, and Behavior
University of Minnesota

Continuing a several-year recruiting campaign for 11 faculty lines in ecology, evolution, and behavior, we invite applications for the following tenure-track positions:

Behavioral ecology: We seek an Experimental Behavioral Ecologist who will complement our existing strengths in social behavior, foraging, and evolutionary studies of behavior. We especially encourage applications from those whose research utilizes mechanistic or physiological approaches to behavioral ecology.

Population biology: We encourage applications from any Biologist pursuing questions and issues in the ecology and/or evolution of populations.

The successful candidates will be expected to develop and maintain a vigorous research program and to contribute to quality undergraduate and graduate teaching. They will join a respected department that will increase to capacity 32 faculty members, a third of whom will be recent hires. Information about the Department is available at **website: http://www.cbs.umn.edu/eeb**.

To apply, send curriculum vitae, statements of teaching and research interests, copies of five publications, and names and addresses of three references to: **Chair (appropriate Search Committee), Ecology, Evolution, and Behavior, University of Minnesota, 100 Ecology, 1987 Upper Buford Circle, St. Paul, MN 55108**. Application review will begin on December 1, 2001.

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.

NEUROBIOLOGY FACULTY POSITION
University of Alabama at Birmingham

The Department of Neurobiology at the University of Alabama at Birmingham has an opening for a tenure-track or tenured faculty position at either the **ASSISTANT PROFESSOR**, **ASSOCIATE PROFESSOR**, or **PROFESSOR** level commensurate with experience. We seek an individual with outstanding research productivity or promise in molecular neurobiology. Investigators addressing issues related to signaling including genomics or proteomics in nervous system development are encouraged to apply. The successful candidate at the Assistant Professor level will have completed highly productive postdoctoral training and be capable of running an active, extramurally funded laboratory. The successful candidate at the Associate or Full Professor level will have an established record of scientific leadership with consistent extramural funding of their research program. Generous start-up funds and salary are available. The Department of Neurobiology has 13 primary faculty with over $8 million in annual extramural research funding and participates in training graduate students through interdisciplinary neuroscience, cellular and molecular biology, and M.D./Ph.D. programs. The Department also houses NIH program project and center grants on nervous system development and a wide array of core facilities for imaging, electrophysiology, molecular biology, and genetics. Deadline for receipt of applications is December 1, 2001. Please send curriculum vitae, statement of research plan, and have three letters of reference sent to: **Michael Friedlander, Ph.D., Chairman, Department of Neurobiology, University of Alabama at Birmingham, 1719 Sixth Avenue South, 516 CIRC, Birmingham, AL 35294-0021.** *UAB is an Equal Opportunity Employer.*

POSITIONS OPEN

CHAIR OF THE SCHOOL OF EARTH AND ATMOSPHERIC SCIENCES
Georgia Institute of Technology

Georgia Institute of Technology invites nominations and applications for Chair of the School of Earth and Atmospheric Sciences to begin in fall 2002. We seek an individual with a Ph.D. in atmospheric science, Earth science, or a related discipline. Candidates should have demonstrated leadership and research excellence and the ability to build an interdisciplinary program of research and education.

The School of Earth and Atmospheric Sciences at Georgia Tech is a dynamic and growing department with diverse research activities that focus on the geosphere, atmosphere, and biosphere. The school has 22 tenure-track faculty and 17 senior research faculty and offers M.S. and Ph.D. degree programs in atmospheric chemistry, atmospheric sciences, and geochemistry and geophysics and has a rapidly growing undergraduate program. We seek a Chair who can manage this growth effectively. For further information about faculty research interests, see our **website: http://www.eas.gatech.edu/**.

Construction is underway on a new Environmental Sciences and Technology (ES&T) building, which will be the home for the School of Earth and Atmospheric Sciences and other environmental programs on campus. The new Chair will have the opportunity to direct the research in this state-of-the-art facility and to forge new interactions with environmentally oriented Scientists and Engineers at Georgia Tech.

Nominations and applications should be sent to: **Dr. Laren Tolbert, Chairman, Earth and Atmospheric Science Chair Search Committee, Dean's Office, College of Sciences, Georgia Institute of Technology, Atlanta, GA 30332-0365 U.S.A.**

The Search Committee anticipates beginning interviews in January 2002; however, applications will be accepted until the position is filled. Applications should include complete curriculum vitae and the names, addresses, and telephone numbers of at least five references.

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

PHYSICAL/INORGANIC CHEMIST

ASSISTANT PROFESSOR, tenure-track, Ph.D., September 1, 2001; teach physical and inorganic chemistry as well as introductory and general chemistry. The candidate's potential as a Teacher and Researcher for an undergraduate program is essential. Preference given to individuals with research background and resultant publication in refereed journals. Review of applications will begin December 1, 2001. Midwestern State University is a liberal arts university with an enrollment of 5,900 students. The Chemistry program is American Chemical Society certified offering the Bachelor's of Science in chemistry. Submit curriculum vitae, description of proposed research, a statement of educational philosophy, and three letters of recommendation to: **Dr. Rodney Cate, Chair, Chemistry Program, Midwestern State University, 3410 Taft Boulevard, Wichita Falls, TX 76308-2099**. *Equal Opportunity/Affirmative Action Employer.*

Beloit College seeks applications for a tenure-track position at the rank of **ASSISTANT PROFESSOR**. Ph.D. required. Teaching includes biochemistry, organic chemistry, and general chemistry as well as participation in a biology and chemistry interdisciplinary program and in all-college programs. The successful candidate will be expected to develop an active undergraduate research program at the interface between biology and chemistry. Send curriculum vitae, undergraduate and graduate transcripts, a statement of teaching and research interests, and three letters of reference to: **Professor George Lisensky, Department of Chemistry, Beloit College, 700 College Street, Beloit, WI 53511**. Review of applicants will begin November 1, 2001, and continue until the position is filled. *Beloit College is committed to cultural and ethnic diversity and urges all interested individuals to apply. An Equal Employment Opportunity Employer.*

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Director-Level Positions

Both of these senior-level research opportunities require a PhD in Molecular Biology, Biochemistry or a related discipline with extensive supervisory experience leading highly productive groups of 4-10 scientists. Experience in pharmaceutical discovery research is preferred, although all highly qualified candidates will be considered. An established track record of accomplishment reflected in a substantial publication record in peer-reviewed journals and outstanding leadership, communication, and writing skills are essential.

Director, Molecular Biology

The successful candidate will have extensive experience with a broad range of molecular biology techniques, including cDNA cloning and site-directed and/or random mutagenesis. Preference will be given to candidates who have experience with phage and/or other display technologies, *in vitro* evolution of proteins, and gene and/or protein array technologies. Background in genomic databases to aid gene discovery is beneficial.

Director, Protein Biochemistry

The successful candidate will have broad experience in the purification and characterization of recombinant proteins produced using a variety of protein expression systems. Strong preference will be given to candidates with experience in proteases and protease inhibitors. Familiarity with state-of-the-art microanalytical methodologies to identify novel proteins is desired.

The compensation package for these positions reflects our strong commitment to hiring truly exceptional scientists. For consideration, please mail, fax, or email CV and letter to: Corvas International, Inc., 3030 Science Park Road, San Diego, CA 92121, Attn: HR; fax: (858) 455-0457; email: careers@corvas.com. EOE.

Visit our website at

www.corvas.com

CORVAS
INTERNATIONAL

St. Jude Children's Research Hospital

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POSTDOCTORAL POSITION IN MOUSE GENETICS OF NEURODEGENERATIVE DISORDERS

(Job Code: 1256)

A postdoctoral position is available for NIH-NEI/NIDCD funded projects studying mouse models of neurological disorders that affect several neuronal cell types: cerebellar Purkinje cells, retinal photoreceptors, and inner ear hair cells (Nature, 388: 769; Nature Genetics, 22: 255; PNAS 96: 14100). Projects will utilize multifaceted approaches including positional cloning, BAC transgenic and ES cell knockout technologies to elucidate the degenerative mechanisms. Several mouse models of these diseases have already been created, and another novel mouse mutant gene has been recently identified. This position is ideal for candidates who have been well trained in molecular genetics or other related areas with recent Ph.D. and/or MD degrees, and wish to make an immediate impact on research of neurological disorders.

Interested candidates should send a C.V., statement of research interests, and three references including job code to: **Jian Zuo, Ph.D., Dept. of Developmental Neurobiology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38015-2794. E-mail: jian.zuo@stjude.org**

POSTDOCTORAL POSITION IN CELL BIOLOGY OF PARKINSON'S DISEASE

(Job Code: 1263)

A postdoctoral position is available immediately to join an interactive lab exploring several aspects of the cell biology of Parkinson's disease. At this time, studies in the lab include identifying the role of glia in PD (Smeyne and Smeyne, GLIA, 34: 73-80. 2001), genetics of PD (using mouse models) and mechanisms for neuroprotection in PD. Applicants should have a Ph.D. or M.D. with experience in molecular biology and practical knowledge of gene chip arrays. A background in neurosciences is preferable, but those applicants looking to move into this area of research will also be considered.

To apply for this position, send a C.V. and three letters of recommendation including job code to: **Richard Smeyne, Ph.D., Department of Developmental Neurobiology, Mail Stop 323, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105 USA. E-mail: Richard.Smeyne@stjude.org**

St. Jude Children's Research Hospital provides a state-of-the-art research environment including core laboratories for bioinformatics, a brand-new mouse facility, transgenic core, and genechip technology (http://www.stjude.org). The Department of Developmental Neurobiology is dedicated to the studies of fundamental questions in neurobiology using multifaceted approaches including molecular biochemistry, cell biology, genomics, histology, cellular electrophysiology, and system physiology (http://www.stjude.org/newhp/DevelopNeuro.html). In addition, a genome-wide recessive mouse mutagenesis program, funded by NIH-NIMH, is actively underway including identification of new neurological mutants (http://tnmouse.org). St. Jude offers a very competitive salary, benefits, relocation package and annual personal educational fund. AA/EOE

TENURE-TRACK POSITIONS
Animal Physiology and Developmental Biology

The Biology Department of Hobart and William Smith Colleges invites applications for two tenure-track positions at the level of **ASSISTANT PROFESSOR**.

Animal Physiologist: Individuals with broad experience in animal physiology are encouraged to apply. Responsibilities include teaching a course in general physiology, a course in the applicant's specialty that complements the Department's current offerings, participating in an introductory biology course, and contributing to the Colleges' general curriculum.

Developmental Biologist: Individuals with broad experience in development are encouraged to apply. Responsibilities include teaching a course in development, a course in the applicant's specialty that complements the Department's current offerings, participating in an introductory biology course, and contributing to the Colleges' general curriculum.

Successful candidates will be expected to demonstrate excellence in teaching and establish a productive research program that involves undergraduates. Applicants must have a Ph.D. by the starting date. Hobart College for men and William Smith College for women are coordinate residential colleges that share a campus on Seneca Lake in the Finger Lakes region of New York. For more information, see the departmental **website: http://www.hws.edu/aca/depts/bio/index.html**. Applicants should send curriculum vitae, statements of teaching philosophy and research interests, official transcripts for all degrees received, and three letters of reference to: **Dr. Elizabeth Newell, Biology Department, Hobart and William Smith Colleges, Geneva, NY 14456. E-mail: newell@hws.edu. Telephone: 315-781-3590; FAX: 315-781-3860**. To ensure full consideration, applications should be received by December 7, 2001. *Hobart and William Smith value diversity and especially encourage applications from women and people of color.*

ASSISTANT/ASSOCIATE PROFESSOR

Applications are invited for a tenure-track position (90% research, 10% instruction) supported by a generous start-up package including technical support and a competitive salary. A Ph.D. or Ph.D./D.V.M. in a biomolecular discipline and postdoctoral experience are required for all candidates. The potential to establish or show evidence of a competitive, independent research program is required for candidates at the Assistant Professor level. Candidates at the Associate level are expected to have already established extramurally funded research programs. Outstanding Scientists using biochemical, cellular, and/or genetic approaches to investigate infectious disease or host response to disease are encouraged to apply. Interested applicants should send letter of application, curriculum vitae, selected reprints, a summary statement concerning research plans and grant proposals, and a list of at least three references to: **Chair, Search Committee, Veterinary Molecular Biology, Montana State University, Bozeman, MT 59717-3610**. Screening will begin November 8, 2001, and continue until a suitable applicant is hired. For a full job description and additional information about our Department, visit our **website: http://vmb.montana.edu**. *Americans with Disabilities Act/Equal Opportunity/Affirmative Action/Veterans Preference.*

The University of Wisconsin Whitewater (UWW) seeks four tenure-track **ASSISTANT PROFESSORS** in biological sciences (two positions in genetics, development, and/or physiology and two in aquatic biology and/or invertebrate zoology) starting August 25, 2002. UWW has a strong tradition of undergraduate research. **Website: http://facstaff.uww.edu/biology/search02.html**. Deadline: December 3, 2001. Contact: **Biological Sciences, UW-Whitewater, 800 West Main Street, Whitewater, WI 53190. Telephone: 262-472-1092**. *UW-Whitewater is an Affirmative Action/Equal Employment Opportunity Employer.*

POSITIONS OPEN

PROFESSOR IN MARINE SCIENCES
University of Puerto Rico Mayagüez Campus

The Department of Marine Sciences, University of Puerto Rico, is a graduate department (23 faculty, 90 students) offering M.S. and Ph.D. degrees. Excellent access facilities and proximity to habitats offer unique opportunities for field and laboratory research. Applications are invited for a tenure-track position available for January 2002 at the **ASSISTANT/ASSOCIATE PROFESSOR** level in the area of invertebrate zoology. Candidates preferred with interests spanning traditional boundaries of the discipline (e.g., behavior, ecology, molecular vs. organismal approaches) and whose expertise complements that of existing faculty.

Job requirements include teaching of graduate-level courses in marine invertebrate systematics, marine invertebrate biology, developing additional courses in area of expertise, and developing research program through external funding. Salary ($39,444 or $44,712 according to rank) can be augmented with external funding. Ph.D. required; knowledge of English and Spanish desirable. Send statement of research and teaching interest and representative reprints; curriculum vitae; and three letters of recommendation by October 24, 2001, to:

Director, Department of Marine Sciences
University of Puerto Rico
P.O. Box 9013
Mayagüez, PR 00681-9013

Affirmative Action/Equal Opportunity Employer.

CELL BIOLOGIST: Penn State Abington College in suburban Philadelphia seeks a Cell Biologist for a tenure-track position at the **ASSISTANT PROFESSOR** level. Applicants must have a Ph.D. degree and prior teaching experience at the college/university level. Position responsibilities include teaching introductory and advanced courses in cell biology, microbiology and genetics, and others in area of expertise; establishment of an active research program using current techniques that will involve undergraduate students and will be published in peer-reviewed journals; active participation in departmental and university service; and undergraduate advising. Individuals with an expertise in molecular biology and plant systems are especially encouraged to apply. Experience with computer-based teaching and laboratory experimentation and multimedia institution are also preferred. Please send a résumé and cover letter; a statement of teaching philosophy and description of research interests; the names of three references; and graduate and undergraduate transcripts to: **Dr. Paul Hutta, Science Divisions Head, Position Number C-11918, Penn State Abington College, 1600 Woodland Road, Abington, PA 19001** by November 9, 2001. *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT or **ASSOCIATE PROFESSOR**. The Department of Biology, The University of Tampa, invites applications for a tenure-track position beginning in August 2002 to teach biology of plants, introductory biology for majors, and environmental science, plus a course in the candidate's specialty. The Department is interested in attracting a Terrestrial Botanist with broad training to complement the faculty in biology and marine science. The candidate is expected to engage in research activities that involve undergraduates. Send curriculum vitae, statement of teaching philosophy and research interests, official transcripts, and three references who are willing to provide letters of recommendation. All materials should be addressed to: **The University of Tampa, Office of Human Resources, c/o Terrestrial Botanist Search, 401 West Kennedy Boulevard, Tampa, FL 33606-1490**. Additional information about the University, the Department of Biology, and the application procedure can be found at **website: http://www.ut.edu** (directory/employment). *The University of Tampa is an Equal Opportunity/Affirmative Action Employer and welcomes the applications of minorities and women.*

POSITIONS OPEN

TENURE-TRACK FACULTY POSITIONS
BIOENGINEERING
Rice University

The Department of Bioengineering at Rice University invites applications for two tenure-track faculty positions. Applicants should have a strong multidisciplinary background in their respective fields and substantial experience in independent research and in obtaining competitive funding. For both positions, we are particularly interested in Researchers with exceptionally strong research expertise and interest in working at both the macro level of tissues and micro/nanoscale level of cells, organelles, and molecules. Expertise in either experimental or computational bioinformatics approaches or both is appropriate.

The successful applicant would establish research collaborations with institutions at the adjacent Texas Medical Center, groups at the Institute of Biosciences and Bioengineering at Rice University, and with the Keck Center for Computational Biology in Houston. Applicants would be expected to develop and teach courses in the areas of biomedical engineering at the undergraduate and graduate levels. Applicants should send curriculum vitae, which includes a list of publications, a statement describing their proposed research, and names of at least three references, to:

Rice University
Department of Bioengineering MS–142
Attention: Professor Larry V. McIntire, Chair
P. O. Box 1892
Houston, TX 77251-1892

For full consideration, applications should be received by December 16, 2001.

Rice University is an Equal Opportunity Employer.

FACULTY POSITIONS
BIOINFORMATICS

The Albert Einstein College of Medicine of Yeshiva University solicits applications for tenure-track faculty appointments in bioinformatics, interpreted broadly. With the establishment of The Seaver Foundation Program in Bioinformatics at The College of Medicine, we seek to appoint new faculty who will establish vigorous research programs at the cutting edge of theoretical analysis as it applies to genomics and proteomics. We expect to make a number of appointments at the **ASSISTANT PROFESSOR** rank, but more senior appointments will be considered commensurate with experience. For junior appointments, please provide curriculum vitae, a statement of research interests, and three letters of reference. For senior appointments, please forward curriculum vitae and description of research interests. Send to: **Professor Steven Schwartz, Director, Seaver Foundation Program in Bioinformatics, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461**. *Equal Opportunity Employer; Minorities/Females.*

ASSISTANT PROFESSOR
Neuroscience

The Department of Anatomy and Cell Biology at the Oklahoma State University Center for Health Sciences (**website: http://www.healthsciences.okstate.edu/center**) invites applications for a tenure-track faculty position. Applicants must have a Ph.D. in neurobiological science (neuroanatomy preferred), at least two years of postdoctoral research experience, and demonstrated teaching skills. The successful candidate will be expected to develop an independent research program with external funding and participate in teaching neuroanatomy to medical and graduate students. Laboratory space and start-up funds are available. Send curriculum vitae, statement of current and future research plans, teaching experience, and three letters of reference to: **Human Resources, OSU Center for Health Sciences, 1111 West 17th Street, Tulsa, OK 74107**. Human Resources **website: http://osu.com.okstate.edu/center/support/hr**. Review of applications will begin December 1, 2001. *OSU is an Affirmative Action/Equal Opportunity Employer.*

Seton Hill College

Biology Teaching Position

The Division of Math, Science, and Computer Technology of Seton Hill College is seeking an individual for a full-time, tenure-track teaching position in the Biology Program beginning August 2002. Applicants must have a strong interest in liberal arts education at the undergraduate level and have a Ph.D. in ecology or a related biological discipline. The appointment will be at the Assistant Professor level. Individuals with ongoing research suitable for student involvement will be given preference.

Teaching responsibilities include: Ecology, Environmental Science, General Biology, and course(s) in an area of expertise such as Invertebrate Zoology, Limnology and Botany. Two lecture courses with associated labs are to be taught per semester as well as participation in a team-taught course on research methods and direction of student research. Additional responsibilities include committee service and academic advising.

Seton Hill is committed to having our faculty and student body reflect the racial diversity of the global population, women and men of color are encouraged to apply. Send letter of application, curriculum vitae, transcripts, 3 letters of recommendation, statement of teaching philosophy and research goals no later than December 1, 2001 to: yochum@setonhill.edu; Fax (724)-830-1571

Susan Yochum, SC, Ph.D.
Chair, The Division of Math, Science,
and Computer Technology
Seton Hill College
Greensburg, PA 15601

Seton Hill is a Catholic, liberal arts college located 35 miles east of Pittsburgh, PA and is an Equal Opportunity Employer.

Eastern Virginia Medical School

CHAIR
DEPARTMENT OF MICROBIOLOGY AND MOLECULAR CELL BIOLOGY
Eastern Virginia Medical School

Applications are invited for the position of Chair, Department of Microbiology and Molecular Cell Biology at the Eastern Virginia Medical School. The department is a rapidly growing, well funded division comprised of faculty examining molecular mechanisms of tumorigenesis, viral or cellular pathogenesis, and basic cellular processes. Translational research programs in proteomic diagnosis and gene therapy of prostate and breast cancers provide an additional strength to the department. Candidates must have a Ph.D. and/or M.D. degree with research interests and training in molecular biology and/or biochemistry, an active and internationally recognized research program, a distinguished record of scholarly achievement, and a commitment to graduate and medical education. In addition, the successful applicant must display excellent interpersonal and leadership skills and an ability to promote faculty development, recruit talented research scientists, and establish interdisciplinary Program Project initiatives that will enhance national recognition and scholarly achievement. Additional information about the medical school and department may be viewed at www.evms.edu.

Eastern Virginia Medical School is an affirmative action/equal opportunity employer and encourages application of women and minorities. Interested candidates should send their curriculum vitae and names of at least three references to:

G. J. Pepe, Ph.D.
Chair, Microbiology Chair Search Committee
c/o Diana B. Tollaksen
Office of the Dean and Provost
Eastern Virginia Medical School
Post Office Box 1980
Norfolk, VA 23501-1980
Fax (757) 446-8444

All inquiries, nominations, and applications will be held in strictest confidence.

NIGMS
National Institute of General Medical Sciences
National Institutes of Health
Bethesda Maryland

DIRECTOR, CENTER FOR BIOINFORMATICS AND COMPUTATIONAL BIOLOGY

The Challenge: As biomedical research enters the post-genomic era, the challenge will be to integrate the vast amount of scientific data that has been accumulated in order to understand basic biological processes. The ability to meet this challenge will be critically dependent on advances in bioinformatics and computational biology. To this end, NIGMS has formed a Center which will be responsible for stimulating and funding research in areas of importance for NIGMS. The Center also has the responsibility for managing the Biomedical Information Science and Technology Initiative Consortium (BISTIC), **(http://grants.nih.gov/grants/bistic/bistic.cfm).** This position is for the Director of that Center.

The Requirements: You must have a doctorate or equivalent degree in a field relevant to the position. The ideal candidate will have an established research program in either bioinformatics or computational biology (or a closely related area). In addition, you should possess recognized management and leadership abilities. The position will be filled under Title 42, offering a competitive salary commensurate with qualifications and experience. A recruitment or relocation bonus may be available. An intramural research program is possible, subject to negotiation.

For further information, contact the Chairman of the search committee:

James Cassatt, Ph.D.
(301) 451-6446
cassattj@nigms.nih.gov

To apply, send a curriculum vitae, which includes a list of publications, a statement expressing your vision for research in bioinformatics and computational biology related to the mission of NIGMS **(see especially http://www.nigms.nih.gov/news/reports/planning.html#vision),** and two letters of recommendation to:

Lynn Pupkar
NIGMS Personnel Office
45 Center Drive - MSC 6200
Bethesda, MD 20892-6200
(301) 594-2749; fax (301) 480-0850
by e-mail: NIGMSAPPS@NIGMS.NIH.GOV
TDD (301) 402-6327

Closing date: November 20, 2001 – All applications must be postmarked by the closing date.

NIH is an equal opportunity employer

POSITIONS OPEN

TENURE-TRACK POSITION
Ecology

California State University, Fullerton, Department of Biological Science, is seeking applicants for a full-time, tenure-track position at the **ASSISTANT PROFESSOR** level with expertise in ecology to begin August 2002. Applicants must have a Ph.D., the ability to teach a junior-level course in evolutionary ecology, and have preferably at least two years of post-doctoral or equivalent professional experience. We are especially interested in candidates who can contribute to the multidisciplinary biological study of arid land or coastal ecosystems as part of two new departmental emphases in marine biology and environmental biology. The successful candidate will be expected to develop an active, externally funded research program involving undergraduate- and Master's-level students and must be committed to excellence in teaching at both levels. The successful candidate will also be expected to teach upper-division/Master's-level elective courses in an area of expertise and to contribute to inquiry-based core courses in evolution and biodiversity and/or principles of physiology and ecology. CSUF is located in a coastal Mediterranean climate within two hours' traveling time of desert, montane, coniferous forest, chaparral, coastal sage scrub, marine, estuarine, and island habitats and is in close proximity to other major universities that offer a wide variety of possibilities for collaboration. Send curriculum vitae (including a history of grant support); research plans and reprints of peer-reviewed publications; a statement about teaching (including teaching philosophy, experience, and upper-division elective course preferences); and have three letters of recommendation sent to: **Chair, Ecology Search Committee, Department of Biological Science, California State University, Fullerton, P. O. Box 6850, Fullerton, CA 92834-6850. Website: http://biology.fullerton.edu/**. Review of applicants will begin January 1, 2002, and continue until a suitable candidate is appointed. Salary is competitive and commensurate with experience and qualifications. *CSUF is an Affirmative Action/Equal Opportunity/Title IX/Americans With Disabilities Act Employer. Women and minority candidates are particularly encouraged to apply.*

ASSOCIATE/FULL PROFESSOR IN NEUROBIOLOGY
Department of Neurobiology and Behavior
University of California, Irvine

The Department of Neurobiology and Behavior is seeking outstanding candidates in the field of neurobiology with an emphasis on neuronal plasticity. Current departmental research themes include learning and memory, integrative neuroscience, and development and neuronal reorganization following injury and disease. Please submit curriculum vitae; research plans; and the names and addresses of three potential references by December 1, 2001, to: **Chair, Department of Neurobiology and Behavior, University of California, 2205 Bio Sci II, Irvine, CA 92697-4550. Website: http://neurobiology.uci.edu**.

The University of California, Irvine, has an active career partner program and is an Equal Opportunity Employer committed to excellence through diversity.

BIOLOGICAL OCEANOGRAPHERS

We seek two Ph.D.-level Biological Oceanographers for nine-month, tenure-track appointments at the **ASSISTANT PROFESSOR** level to begin as soon as August 2002. The positions involve research, teaching (primarily at the graduate level), and service. Area of specialization is open, but we are particularly interested in a Microbial Ecologist and a person who studies the role of nekton in ecological processes. Send a letter of application; curriculum vitae; and the names, addresses, and e-mail addresses of three references to: **Biological Oceanography Search Committee, Department of Oceanography, Florida State University, Tallahassee, FL 32306**. Application review will begin immediately. *The University is an Equal Opportunity/Access/Affirmative Action Employer.*

POSITIONS OPEN

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

Applications are invited to fill two tenure-track faculty positions in the Department of Pharmacology at the rank of **ASSISTANT** or **ASSOCIATE PROFESSOR**. We seek two research-oriented individuals who have Ph.D. or equivalent graduate degrees to expand our well-funded faculty. We are particularly interested in candidates with a focus on neuropharmacology but welcome applications from individuals interested in cell signaling, cell death, cancer, and drug discovery who will complement existing research interests in the Department.

We expect successful candidates to develop outstanding, independent research programs and to 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 2002. 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 15216

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

BIOLOGY PROFESSORS: Denison University, a selective liberal arts college located 25 miles east of Columbus, Ohio, invites applications for three tenure-track positions at the **ASSISTANT** to **FULL PROFESSOR** levels to commence August 30, 2002. For all of the positions, a strong potential for excellence in teaching and an active research program involving undergraduates is essential. For each of the positions, the Ph.D. is required; postdoctoral experience and demonstrated teaching ability are assets. The three positions are:

Animal Physiologist: Teaching responsibilities include animal physiology, general zoology, and team-taught courses in neuroscience. Research focusing on neurophysiology is preferred.

Microbiologist: Teaching responsibilities include general microbiology, introductory cell and molecular biology, and an introductory course in either general zoology or plant biology or nonmajors biology. Research focused on a noneukaryotic system is required.

Developmental Biologist: Teaching responsibilities are developmental biology, introductory cell and molecular biology, and an introductory course in either general zoology or plant biology or nonmajors biology. Research focused on a developing system is required.

Denison offers competitive start-up funds, summer support for student and faculty research, a 350-acre biology reserve with field station near campus and, in fall 2003, we shall 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 positions and the program. Candidates for the three positions 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, Search Committee, Biology Department, Denison University, Granville, OH 43023**. Please clearly indicate the position desired. Application deadline for all three positions is December 1, 2001. *Denison is an Affirmative Action/Equal Opportunity Employer. Women and minorities are especially encouraged to apply.*

POSITIONS OPEN

ENVIRONMENTAL MICROBIOLOGIST

The Savannah River Ecology Laboratory (SREL) of the University of Georgia invites applications for a tenure-track appointment at the **ASSISTANT/ASSOCIATE PROFESSOR** level. We are seeking an outstanding Scientist with interest in environmental microbiology. We are particularly interested in individuals whose research interests integrate geochemical and microbiological processes.

SREL is located on the Department of Energy's Savannah River site near Aiken, South Carolina, on the southeastern coastal plain. The site, while largely undisturbed by industrial operations, has areas with metal, radionuclide, and organic wastes (alone and in combination).

The successful candidate will work with an interdisciplinary team of Scientists including Ecologists, Ecotoxicologists, and Geochemists in research programs addressing Department of Energy needs relevant to environmental remediation and restoration activities. SREL has well-equipped molecular biology, microbial ecology, and analytical laboratories. The successful applicant must have a strong record of research accomplishments and a commitment to graduate student training and will be required to contribute to the laboratory's effort to secure additional extramural research funds. A Ph.D. and ability to obtain a DOE security clearance are required. Additional information about this position and SREL can be found at **website: http://www.uga.edu/srel**. Applicants should send curriculum vitae including a complete publication list; a statement of current and future research plans; and the names, telephone numbers, addresses, and e-mail addresses of four references to: **Ms. Brenda Rosier, SREL, Drawer E, Aiken, SC 29802. E-mail: rosier@srel.edu; FAX: 803-725-3309; Telephone: 803-725-5735**. To ensure full consideration, complete applications should be received by 7 December 2001. *The University of Georgia is an Equal Opportunity/Affirmative Action Employer and strongly encourages applications of women and members of minority groups.*

SCIENCE EDUCATION PROGRAM
College of Natural Sciences and Mathematics
California State University, Fullerton

The Science Education program has two tenure-track positions: **ASSISTANT PROFESSOR/ASSOCIATE PROFESSOR** level. The College of Natural Sciences and Mathematics consists of the Departments of Biological Science, Chemistry, and Biochemistry; Geological Sciences; Mathematics; Physics; and the Science Education program. The faculty in the Science Education Program teach K–12 preservice teachers and conduct research. There is an active graduate program leading to a Master of Arts in teaching science (MATS) degree. The successful candidates will be appointed into one of the departments. One appointment will be in the Department of Biological Science. The successful candidate will teach science education courses for elementary and/or secondary preservice teachers and graduate students and courses in one of the sciences. Individuals will be expected to have a strong commitment to teaching, engage in scholarly/creative activities leading to publication, and develop and submit proposals for funding. The minimum qualifications include a Ph.D. or Ed.D. in science education from an accredited institution of higher education. Alternatively, a successful applicant could have a Ph.D. in one of the sciences and extensive work in science education. Salaries are competitive and commensurate with qualifications and experience. The effective date is August 14, 2002. Applicants should send curriculum vitae, research plans, a summary of teaching philosophy, and the names and contact information of three references to: **David Fromson, Chair, Search Committee, College of Natural Sciences and Mathematics, California State University, Fullerton, P.O. Box 6850, Fullerton, CA 92834-6850. Website: http://nsm.fullerton.edu/about.htm**. Applications must be postmarked by December 31, 2001. *Cal State Fullerton is an Affirmative Action/Equal Opportunity/Title IX/Americans With Disabilities Act Employer.*

POSITIONS OPEN

The Biology Department at Concordia University invites applications for two faculty positions in genomics. One, at the **ASSISTANT 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 techniques to study microbial or plant 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 15, 2001, 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.

DIRECTOR
MOUSE GENETICS CORE

The Scripps Research Institute (TSRI) is seeking a Director to oversee a core established by the Consortium for Functional Glycomics (**website: http://glycomics.scripps.edu**) to produce knockout and transgenic mice. The Director and staff will construct targeting vectors and perform genetic screening of mouse strains created by other existing TSRI core facilities. Other duties include tracking the breeding and distributing of mice and tissues and maintaining progress reports. Requires a Ph.D. or M.S. in a biological science, strong organizational skills, and excellent written and oral communication skills. Previous experience in developing knockout and/or transgenic mice strongly preferred. TSRI is the largest private nonprofit biomedical research institute in the world. Apply to: **TSRI, 10550 North Torrey Pines Road, TPC-11, La Jolla, CA 92037. E-mail: resumes@scripps.edu; FAX: 858-784-8071**. Reference *Science. Equal Opportunity Employer; Minorities/Females/Veterans/Disabled.*

The Botany/Microbiology Department seeks a Plant Physiologist to fill a full-time tenure-track position at the **ASSISTANT PROFESSOR** level beginning August 2002. We anticipate final approval for the position by mid-November 2001. Teaching responsibilities are 10 to 12 contact hours per semester and (over a two-year period) classes offered will include advanced courses in plant physiology, mycology, a course in general botany, and laboratory sections of molecular genetics and biotechnology. Individuals with expertise in the molecular aspects of plant physiology, plant molecular biology, plant-fungus interactions, genetic regulation of plant development, or experience with confocal microscopy are particularly encouraged to apply. Candidates must have a Ph.D., a demonstrated commitment to undergraduate teaching, and an ability to include undergraduate students in research projects. Submit curriculum vitae; a statement of teaching and research interests; reprints of selected publications; official college transcripts; and three letters of recommendation by November 9, 2001, to: **Dr. Jerry Goldstein, Botany/Microbiology Department, Ohio Wesleyan University, Delaware, OH 43015**. *Ohio Wesleyan University is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and minorities.*

POSITIONS OPEN

General Mills **ENDOWED CHAIR IN GENOMICS** for healthful foods. **ASSISTANT** or **ASSOCIATE PROFESSOR**. The Department of Food Science and Nutrition, University of Minnesota, has a 12-month, tenured or tenure-track position in the area of genomics for healthful foods. See **website: http://fscn.che.umn.edu**. *The University of Minnesota is an Equal Opportunity Educator and Employer.*

TWO FACULTY POSITIONS
Molecular Genetics
Community Ecology

The Department of Biology, Skidmore College, invites applications for a tenure-track **ASSISTANT PROFESSOR** position in molecular genetics beginning in fall 2002 to teach courses in molecular biology, molecular genetics, and either microbiology or developmental biology.

Also invited are applications for a two-year **VISITING ASSISTANT PROFESSOR** position in community ecology. The Ecologist will teach population biology, general ecology, specialty courses in community ecology, and may also offer supporting courses for our environmental studies program.

Applicants for both positions must have a Ph.D. in biology or a related discipline, teaching experience, demonstrated potential for independent research, and interest in teaching undergraduates at a liberal arts and sciences institution; postdoctoral experience is preferred. Yearly course load is composed of courses within the major and a nonmajors' laboratory science or interdisciplinary liberal studies course. Establishment of a strong research program that involves undergraduates is expected; excellent teaching and research facilities and support are available. Send curriculum vitae, statements of teaching and research interests, and three letters of recommendation to: **Dr. Monica Raveret Richter, Chair, Department of Biology, Skidmore College, Saratoga Springs, NY 12866**. See **website: http://www.skidmore.edu/academics/biology/positions.htm**. *Review of applications will begin on 31 October 2001. Skidmore College encourages applications from women and men of diverse racial, ethnic, and cultural backgrounds.*

ASSISTANT/ASSOCIATE PROFESSOR. The Neuroscience Program in the Department of Veterinary and Comparative Anatomy, Pharmacology, and Physiology (VCAPP) at Washington State University seeks to fill a tenure-track position to begin July 1, 2002. Required: Ph.D. or equivalent. Preferred: three years of postdoctoral research experience. Those with a research program in the area of sleep will be given preference. Experience and interest in effectively teaching undergraduate and graduate students. Willingness and ability to engage in collaborative research; interest and graduate training in neurobiology; publications in high-impact, peer-reviewed journals; and demonstrated communication and interpersonal skills. Review of applicants will begin December 15, 2001, and will continue until the position is filled. The application must include a cover letter; curriculum vitae; description of teaching experience; summary of research interests and potential projects; and the names, addresses, e-mail addresses, and telephone numbers of three references. Mail application materials to: **Sleep Search Committee, Department of VCAPP, Washington State University, Pullman, WA 99164-6520. E-mail: bmorton@vetmed.wsu.edu**. Sleep Research Societies, J. Christian Gillin Endowment. *Washington State University is an Equal Opportunity/Affirmative Action Educator and Employer. People of color, women, persons of disability, Vietnam-era and disabled veterans, and/or persons between the ages of 40–70 are encouraged to apply. Reasonable accommodation provided upon request with adequate prior notification.*

POSITIONS OPEN

PROTEIN STRUCTURAL BIOLOGY
Michigan State University
Department of Biochemistry and Molecular Biology

The Department of Biochemistry and Molecular Biology seeks applications for a tenure-track position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. Applicants at the Assistant Professor level should have postdoctoral experience that demonstrates productivity and outstanding potential for independent research applying modern biophysical and computational methodology in the area of protein structure, function, and design. The successful candidate will complement and enhance existing expertise in these areas. Applicants for the Associate Professor level should have already demonstrated superior accomplishment in protein structural research. The Department has a large faculty conducting research on many aspects of contemporary biochemistry and molecular biology with other research emphases in the areas of plant biochemistry and biochemistry of the cell nucleus. This provides both a stimulating environment and opportunities for research collaboration. Further information about the position and Department including research activities and interdisciplinary interactions with faculty in other departments/units is available at **website: http://www.bch.msu.edu**.

The Department occupies a building with well-equipped research and teaching laboratories and support facilities and has vigorous undergraduate, graduate, and postdoctoral training programs. Applicants should submit curriculum vitae, a description of research accomplishments and future interests, and have three letters of recommendation sent on their behalf to: **Chairperson, Department of Biochemistry and Molecular Biology, Box PSWWW, Michigan State University, East Lansing, MI 48824-1319**. To ensure consideration, applications and supporting documents must be received by December 14, 2001.

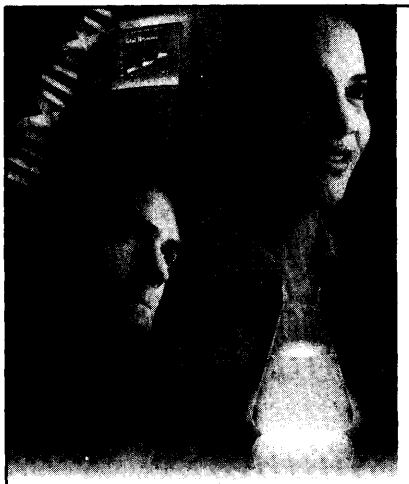
Michigan State University is an Equal Opportunity/Affirmative Action Employer. Persons with disabilities have the right to request and receive reasonable accommodation. The faculty has explicitly endorsed efforts to increase the diversity of its ranks. Accordingly, candidates from groups currently underrepresented in academic science are encouraged to apply.

TENURE-TRACK ASSISTANT PROFESSOR
Faculty Positions in Animal Physiology and Plant Taxonomy

The Biology Department, University of Wisconsin–Stevens Point offers two tenure-track, nine-month faculty positions in animal physiology and plant taxonomy beginning August 2002. Responsibilities include undergraduate teaching, research program involving undergraduates, and advising. We require Biologists with Ph.D. in specialization indicated plus training and commitment to undergraduate teaching and education. Demonstrable teaching and research experience preferred. Postdoctoral research, publications, grant history, and educational creativity are viewed favorably. Animal Physiologist: teaching animal physiology, introductory biology, and senior seminar. Plant Taxonomist: teaching vascular plant taxonomy and related courses and senior seminar. This person will curate the UWSP vascular plant herbarium (currently 180,000 specimens).

Appointment at **ASSISTANT PROFESSOR**; salary commensurate with qualifications. Applications must include (1) curriculum vitae, (2) statement of teaching philosophy, (3) three letters of recommendation, and (4) official transcripts. All applications, supporting materials, and correspondence should be addressed to: **(Position Title), Attention: Dr. Robert Bell, Chair, Biology Department, University of Wisconsin–Stevens Point, Stevens Point, WI 54481-3897**. Review of applications begins 26 November 2001 until filled. For additional information, **Telephone: 715-346-2074; FAX: 715-346-3624; e-mail: rbell@uwsp.edu**.

UWSP is an Affirmative Action/Equal Opportunity Employer and encourages applications from any and all qualified candidates.



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The Face *of* Pfizer

careers that matter

The best is getting even better! As the world's largest pharmaceutical research enterprise, Pfizer is dedicated to providing the best innovations in medicine while pursuing tomorrow's discoveries in research and development. With an R&D budget of $5.1 billion, our team has spurred Pfizer's exceptional performance in 30 countries and across 6 continents. If you share our dedication to discovering, developing and delivering medicines to improve the health of both people and animals worldwide, we want yours to be the newest face of Pfizer. Consider the following opportunities at Pfizer Global Research and Development facilities in La Jolla, California.

Senior Scientist

We currently are seeking an experienced scientist to join our Molecular Biology Department. Your responsibilities will cover a broad scope of techniques and expertise, including acting as lead scientist; conducting cloning, fermentation, protein expression and purification; and employing the state-of-the-art tools and techniques used in molecular biology. This position requires a PhD, 8+ years postdoctoral experience in Molecular Biology, Biochemistry or a related field, and solid supervisory skills. A successful background as a project leader in the fields of virology, obesity, diabetes, oncology or ophthalmology is highly desirable. Req. #01-0467-5V105SL

Associate Scientist

In this role, you will assume responsibility for the *E. coli* fermentation facility in our Molecular Biology Department. This hands-on position requires operating bioreactors (5-120 L) for research projects in oncology, virology, ophthalmology, obesity and diabetes. You'll need a PhD in Biochemistry, Molecular Biology or a related field and 3 years experience in bacterial fermentation. A working knowledge of other fermentation systems for recombinant protein production (including yeast and insect cells/baculovirus) is preferred. Req. #01-0542-5V105SL

Pfizer offers an exceptional work environment complete with competitive salaries, excellent benefits and training opportunities designed to develop your professional talents. We encourage all applicants to apply by emailing your resume, indicating the appropriate Req. # in the subject field, to SCI@pfizerresumes.com. If necessary, you may also mail your resume, indicating Req. #, to Pfizer Resume Processing Center, 630 Boston Road M-104, Billerica, MA 01821, Attn: Softshoe Resumes. An equal opportunity employer, Pfizer offers a workplace rich with diversity and potential.

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Pfizer

Life is our life's work.

The Mary E. and Darrell L. Calhoun Endowed Chair in Pharmacology
College of Pharmacy
The University of Louisiana at Monroe

The College of Pharmacy at The University of Louisiana at Monroe proudly announces the establishment of the Mary E. and Darrell L. Calhoun Endowed Chair in Pharmacology, as a result of the generosity of Dr. Milburn Calhoun and his wife Nancy. The individual selected for the Calhoun Endowed Chair will serve as a senior member of the College of Pharmacy at the rank of Professor with eligibility for tenure, and be provided with an attractive recruitment package of salary, start-up, laboratory space, as well as, a discretionary fund to support the individual's research program. The search committee seeks candidates with an earned doctorate from an established institution of higher learning with a sustained record of research publications, independent grant funding, an established national/international reputation of intellectual leadership in their field of expertise, and other academic accomplishments consistent with the expectations of an Endowed Chair. The Chair will have the opportunity to collaborate with faculty in the Departments of Basic Pharmaceutical Sciences and Toxicology within the College of Pharmacy in a productive research and collegial environment.

Interested candidates should submit an application portfolio that includes: a letter of interest summarizing the candidate's past record and future goals in research, education and service; curriculum vitae; copies of three recent publications; and the names and contact information for five references. Candidate screening will begin in December 2001, candidate interviews will start during early Spring 2002, and continue until the position is filled. Questions regarding the position and submission of application portfolios should be sent to: **Paul W. Sylvester, Ph.D., Pfizer Endowed Professor of Pharmacology, Department of Basic Pharmaceutical Sciences, College of Pharmacy, The University of Louisiana at Monroe, Monroe, LA 71209-0470, Telephone: 318-342-1958, Fax: 318-342-3255, E-mail: pysylvester@ulm.edu.**

The University of Louisiana at Monroe is an Equal Opportunity/ Affirmative Action Employer.

Think what's possible

NOVARTIS

Labhead Analytical NMR Lab
Basel, Switzerland

Solid background in NMR spectroscopy and chemical structure elucidation (PhD and PostDoc required) • Familiarity with spectroscopy software tools (ACD, WinNMR, WinSpecEdit) is desired • Strong communication and training skills as well as working knowledge in database maintenance • Experience in Unix and NT administration • German essential + fluent in English.

You will be responsible for a central analytical NMR lab, while providing efficient support in structure elucidation and verification to research. You will manage our own NMR environment team as well as the supervision and education of coworkers. You will join a multidisciplinary team with other specialists. You will participate in global projects of analytical data management system.

For more details about this and other opportunities visit our careers website, quoting job ref N01179. Please send your CV by e-mail to willy.kinzy@pharma.novartis.com.

www.novartis.com

POSITIONS OPEN

CARDIOVASCULAR PHARMACOLOGIST
University of Wyoming
School of Pharmacy

The School of Pharmacy (**website: http://uwadmnweb.uwyo.edu/pharmacy/**) invites applications for a tenure-track faculty position at the level of **ASSISTANT PROFESSOR** of pharmacology. We seek an individual who employs molecular or cellular approaches to study the regulation of cardiovascular function in normal or disease states. The successful applicant is expected to develop an externally funded research program that complements existing areas of research: gene analysis of heart and brain after myocardial infarction, neural systems controlling blood pressure, hypoxia-sensing mechanisms, and dietary salt effects on blood pressure regulation.

Qualifications: must have a Ph.D. (or equivalent) and postdoctoral experience and demonstrated expertise in the use of cellular/molecular approaches to study cardiovascular function. Approaches might include but are not limited to the use of transgenic and/or knockout animals in which genes are inactivated or substituted to provide information about CNS control of cardiovascular function; molecular pharmacology of receptor systems in brain, heart, or vasculature; and the effects of cardiovascular pathology on receptor structure and function and DNA microarray technology to study cariovascular function.

The successful candidate will be expected to be a member of the NIH-funded Cardiovascular Center of Biomedical Research Excellence (**website: http://uwadmnweb.uwyo.edu/cardio-cobre/**) and contribute to teaching pharmacology to pharmacy students. The position also provides an opportunity to teach first-year medical and nursing students and to teach and direct graduate students in the neuroscience program and other interdisciplinary graduate programs.

Send a letter explaining your research interests, curriculum vitae, representative publications, and three letters of recommendation to: **Search Committee, Cardiovascular Pharmacology, School of Pharmacy, University of Wyoming, Laramie, WY 82071**. Review of applications will begin December 1, 2001, and continue until the position is filled. *The University of Wyoming is an Affirmative Action/Equal Employment Opportunity Employer.*

ENDOWED CHAIR IN COMPUTATIONAL BIOPHYSICS
Wake Forest University

Wake Forest University invites applications for an Endowed Chair with the title of Reynolds Professor of Physics and Computer Science. Wake Forest is a highly ranked, private university with about 3,800 undergraduates; 600 graduate students; and 1,500 students in the professional schools of medicine, law, and business. The Physics Department has a significant focus in biophysics and is recruiting for an **ASSISTANT PROFESSOR** in computational biophysics in addition to the Reynolds Professor position with computer science. A significant number of the faculty in computer science focus their research on scientific computing with applications in astrophysics, biophysics, and biomedical imaging. The successful candidate will have received international recognition of excellence in the area of computational biophysics, preferably in functional genomics. The candidate should also have demonstrated excellence in the teaching of courses relating to topics in physics, biophysics, and computer science at the undergraduate and graduate levels. Continued excellence in research, teaching, and obtaining external funding will be expected. Collaboration with Researchers in other departments such as chemistry, biology, mathematics, and the WFU Medical School will be encouraged. Applicants should send a copy of their curriculum vitae and statements regarding their research interests and teaching philosophy to: **Reynolds Professor Search Committee, Box 7507, Wake Forest University, Winston–Salem, NC 27109-7507**. Applications are due January 5, 2002. More information is available at **website: http://www.wfu.edu/csphy/recruiting**. *Wake Forest University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

MOLECULAR GENETICIST/GENOMICIST
Cancer Research Center of Hawaii

The Cancer Research Center of Hawaii, an NCI-designated cancer center at the University of Hawaii, invites applications for a tenure-track faculty position in the area of genomics and human genetics. Applicants with outstanding accomplishments, particularly in the areas of complex disease gene mapping and large-scale approaches to functional genomics, are encouraged to apply. The successful applicant will be expected to establish an independent research program that will complement existing genetic research in population sciences and to serve as the Director of the Center's Genomics Shared Resource. The unique ethnic diversity of Hawaii's population and the availability of large biorepositories and DNA array and sequencing facilities provide for excellent opportunities. Minimum requirements: M.D. or Ph.D. degree and an excellent record of active research and publications. Rank (**ASSISTANT, ASSOCIATE** or **FULL PROFESSOR**) and salary commensurate with qualifications and experience. To apply: Send letter of application, curriculum vitae, statement of research interests, and the names and addresses of three references to: **Loïc Le Marchand, M.D., Ph.D., Chair, Genomicist Search Committee, Cancer Research Center of Hawaii, 1236 Lauhala Street, Honolulu, HI 96813. Telephone: 808-586-2988; e-mail: loic@crch.hawaii.edu; website: http://www.crch.org**. Closing date: Position will remain open until filled; however, first review of applications will begin December 15, 2001. *Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN BIOLOGY
Loyola Marymount University

The Department of Biology seeks candidates from the fields of ecology and vertebrate biology for a tenure-track position at the rank of **ASSISTANT PROFESSOR**. Qualifications include a Ph.D. in biology, zoology, or equivalent. Responsibilities include involvement in lower-division courses; teaching field-oriented, upper-division courses in ecology; courses in the candidate's area of specialization; and a senior-level seminar. Special emphasis is placed on teaching effectiveness, research involvement and scholarly endeavors with undergraduates, and service to the University.

Loyola Marymount University, established in 1911, is the only private Catholic university in metropolitan Los Angeles. Over 6,000 students are enrolled in the Colleges of Liberal Arts, Business Administration, Science and Engineering, Communication and Fine Arts, and the Law School. The campus is situated on a bluff overlooking the Pacific Ocean and Los Angeles' west side and is within a day's drive or boat ride of beaches, deserts, mountains, the California Channel Islands, and the wilds of Baja California, where the Department has a field station. The Biology Department has 10 faculty dedicated to undergraduate teaching and research and welcomes candidates who desire to work in such an environment. The University particularly invites applicants who desire to participate in a mission based on the Jesuit and Marymount traditions of higher education. Send letter of application, curriculum vitae, graduate transcripts, selected publications, and three letters of reference by December 1, 2001, to: **Ecology Search Committee, Department of Biology, Loyola Marymount University, 7900 Loyola Boulevard, Los Angeles, CA 90045-8220**. For additional information, contact: **Dr. Roy S. Houston; Telephone: 310-338-7343; e-mail: rhouston@lmu.edu** or **Dr. Martin G. Ramirez; Telephone: 310-338-5120; e-mail: mramirez@lmu.edu**. Salaries are competitive and commensurate with background and experience. *LMU is an Equal Employment Opportunity/Affirmative Action Employer. Women and minorities are strongly encouraged to apply.*

POSITIONS OPEN

FACULTY POSITIONS
ECOLOGIST AND ZOOLOGIST

The Department of Biology at Coastal Carolina University seeks to fill two full-time, tenure-track positions at the **ASSISTANT PROFESSOR** level for fall 2002. The Ph.D. is required. Successful candidates will be expected to emerge as exemplars of teaching and to develop potentially fundable research programs involving undergraduates. These positions involve collaboration with colleagues and a contribution to the introductory courses for majors. For departmental information, go to: **website: http://coastal.edu**.

Ecologist: Applicants should have a strong background in one or more of the following areas: physiological ecology of aquatic plants or animals; community, ecosystem, or landscape ecology of wetlands or rivers. The research program developed at Coastal Carolina University should focus on coastal systems. Participation in a new M.S. degree in coastal marine and wetland studies is expected. Teaching responsibilities include general ecology and other courses developed to strengthen existing programs. Preference will be given to individuals with a plant focus.

Zoologist: We seek a broadly trained Zoologist capable of using molecular biology techniques to address questions in one or more of the following areas: physiology, endocrinology, or evolution. Teaching responsibilities include comparative vertebrate anatomy and other courses developed to strengthen existing programs.

Applicants should submit a letter of interest indicating the desired position; curriculum vitae; statement of teaching and research goals; and names, addresses, and telephone numbers of three references to: **Dr. James O. Luken, Department of Biology, Coastal Carolina University, P.O. Box 261954, Conway, SC 29528-6054**. Application deadline is December 15, 2001.

Coastal Carolina University is an Equal Opportunity Employer.

FACULTY POSITIONS IN BIOLOGY
The University of New Orleans

The Department of Biological Sciences at the University of New Orleans invites applications for two positions at the **ASSISTANT PROFESSOR** level in support of our new Doctoral program in conservation biology. (1) Genetics or dynamics of populations. We especially encourage applicants working on conservation genetics but will consider applicants working on metapopulation dynamics, theoretical modeling, or disease ecology. (2) Conservation biology or related field; area of specialization open. The successful candidates will be expected to establish a strong, externally funded research program and teach at the graduate and undergraduate levels. Applicants should send current curriculum vitae, statement of research and teaching interests, and three letters of reference to: **Search Committee, Department of Biological Sciences, University of New Orleans, New Orleans, LA 70148**. For information about the Department see **website: http://www.uno.edu/~bios**. Questions may be directed to **e-mail: jsrogers@uno.edu**. Review of applications will begin November 26, 2001, and will continue until the positions are filled. *The University of New Orleans is an Equal Opportunity/Affirmative Action Employer.*

Shimer College (**website: http://www.shimer.edu**) is a small, independent college featuring a core curriculum based on the Great Books of the Western World. Classes average eight students and are conducted as seminars. The College has an opening for a **FULL-TIME FACULTY POSITION** in the natural sciences to begin August of 2002. Faculty members teach across the curriculum and have administrative responsibilities. Shimer's resources are limited but opportunities for personal satisfaction are great. If interested, send a cover letter; curriculum vitae; transcripts; and three letters of recommendation (one from a student) to: **Steven Werlin, Dean of the College, Shimer College, Box 500, Waukegan, IL 60079** by November 30, 2001. *Shimer is Equal Opportunity Commission compliant.*

Biomedical Informatics...Towards Disease Prevention

GE Corporate Research and Development Center (GE CRD) is one of the world's first and most diversified industrial R&D laboratories. We work closely with all GE businesses to harvest innovation and to provide leading edge technology for new products and services. To realize this vision, we are building a world-class research team and invite you to join us.

BIOMEDICAL INFORMATICS RESEARCH SCIENTIST

The Advanced Computing Technologies Center at GE CRD is hiring individuals interested in a **permanent position as a Biomedical Informatics Research Scientist.** We are in a growth mode, and we're also interested in hearing from potential **postdoctoral fellows** and **faculty interested in spending a Sabbatical** with us to shape new areas of advanced research in Biomedical Informatics.

GE CRD is developing a state-of-the-art research program in Biotechnology and is interested in advanced technology development towards preventive medicine. You will work with a world-class, cross-disciplinary team developing new concepts and systems for "smart" diagnostic drug development, biomarker discovery, biocomputing, and molecular medicine. You will have a chance to network with experts at GE Corporate Research & Development and at GE Medical Systems. **Job Code CRD/259601/AN527**

We are looking for candidates having a Ph.D. in Computer Science and an advanced degree in Biological Sciences. Extensive informatics experience in searching, retrieving and correlating biological & medical data is required. Important technology areas include natural language processing, decision-support technologies, and statistical analysis, specifically for biological and medical data.

You must be a strong team player, possess strong analytical and communication skills, and have a passion for developing leading edge technology to improve healthcare.

Don't miss this chance to be a part of groundbreaking Biomedical Informatics research. Please send us your resume if you would like to be considered for this opportunity at the Advanced Computing Technologies Center at GE.

What we offer: At GE CRD, you'll enjoy the rewards of a competitive salary, an outstanding benefits package and the professional advantages of an environment that supports your development and recognizes your achievements.

How to apply: For confidential consideration, please send an e-mail with the text of your resume to: **opportunities@gecareers.com** Please reference Job Code CRD/259601/AN527 in the subject line of your e-mail. You may also mail your resume to our processing center at: **GE Resume Processing, 37 Whitcomb St., Waltham, MA 02453.** An equal opportunity employer.

GE Corporate Research & Development Center

www.crd.ge.com

RESEARCH ASSISTANT PROFESSOR/ RESEARCH ASSOCIATE

Molecular Biology / Drug Discovery Program

The University of South Florida College of Medicine's Interdisciplinary Oncology Program and the H. Lee Moffitt Cancer Center & Research Institute are seeking applications from Research Assistant Professor / Research Associate level individuals to participate in the Drug Discovery Program. This position requires a Ph.D. degree and applicants must have a demonstrated track record in molecular biology. Special emphasis is placed on transgenic and knock out mouse models. Experience in the areas of growth factor signal transduction, oncogenes, tumor suppressor genes, cell cycle or apoptosis is preferred but not required. The main focus of the Drug Discovery Program is to stimulate interactions among intercomplementary and interdependent basic science programs with the ultimate goal of identifying and validating molecular targets and designing small molecules for cancer therapy and prevention.

Candidates must hold a Ph.D. and / or M.D. degree and at least 2 years of postdoctoral experience. (The salary range is $40,000 to $55,000 per year) Salary is negotiable with competitive benefits and relocation allowance. This is a non-tenure-track twelve-month position.

Send current curriculum vitae and a brief statement of major academic interests to: **S. M. Sebti, Ph.D., Director, Drug Discovery Program, H. Lee Moffitt Cancer Center, 12902 Magnolia Drive, Tampa, FL 33612. sebti@moffitt.usf.edu** Open until filled.

www.moffitt.usf.edu

H. LEE MOFFITT Cancer Center & Research Institute
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At the University of South Florida

USF University of South Florida College of Medicine

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NATIONAL INSTITUTES OF HEALTH

Tenured Position

National Institute of Allergy and Infectious Diseases

The Respiratory Viruses Section of the Laboratory of Infectious Diseases seeks an M.D. scientist to develop an independent research program related to the development of means to prevent disease caused by pandemic influenza viruses. The position will involve (1) the use of molecular virologic techniques to identify the genetic basis of attenuation of existing live attenuated virus vaccines, (2) the generation of a series of live attenuated virus vaccines that are designed to anticipate the next pandemic strain of influenza A virus, (3) production and characterization of experimental lots of vaccines for evaluation of their level of attenuation and immunogenicity in humans, and (4) evaluation of the candidate vaccines in humans. The ideal candidate will have an M.D. degree with training in Internal Medicine or Pediatrics with preference given to candidates who are board certified in Infectious Diseases and who have considerable experience with influenza viruses, with molecular virology, and with performing clinical trials of experimental viruses in humans. Space, technical and postdoctoral Fellow support, supply budget, and salary are committed.

A curriculum vitae, bibliography, three letters of reference, a detailed statement of research interests, and selected publications must be submitted by **November 9, 2001,** to: **Dr. Alan Sher, c/o Lakesha Mingo, Executive Secretary, Building 10, Room 4A26, 10 Center Drive MSC 1356, Bethesda, Maryland, 20892-1356.** All applicants will be notified by e-mail or phone when their application is received.

The NIH is an Equal Opportunity Employer.

FACULTY POSITION
Environmental Chemistry/Geochemistry
McMaster University

The Department of Chemistry and the School of Geography and Geology at McMaster University invite applications for a joint tenure-track position in the area of environmental analytical chemistry, environmental chemistry, or environmental geochemistry. The successful candidate will be appointed at the level of **ASSISTANT PROFESSOR** and must hold a Ph.D. degree in chemistry or geochemistry, preferably with relevant postdoctoral experience. Candidates will be expected to develop a strong research program and to participate in the teaching of analytical chemistry and geochemistry courses at both the undergraduate and graduate levels. The position will be available beginning July 1, 2002.

Applicants should send curriculum vitae, a research proposal, and a statement of teaching philosophy to the address below. The evaluation of candidates will begin on December 1, 2001, and will continue until the position is filled. Applicants should also arrange for letters from three references to be sent to the attention of:

Dr. Brian E. McCarry
Chair, Environmental Geochemistry
Search Committee
Department of Chemistry
McMaster University
Hamilton, Ontario L8S 4M1 Canada
E-mail: mccarry@mcmaster.ca
Telephone: +1 905-525-9140, Extension 24192

McMaster University is committed to Employment Equity and encourages applications from qualified men and women, members of visible minorities, aboriginal peoples, and persons with disabilities. In accordance with Canadian immigration requirements, Canadian citizens and permanent residents will be considered first for this position.

BIOLOGY: Microbiologist. **ASSISTANT PROFESSOR** to teach microbiology, plant physiology, parts of the introductory biology sequence, and a nonmajors course in her/his area of expertise; to teach in the College's interdisciplinary programs including First-Year Seminar; and to direct undergraduate research in the College's required undergraduate research program. Applicants should have a Ph.D.; postdoctoral research and/or teaching experience preferred. After completing a preapplication at **website: http://www.wooster.edu/biology/application.html**, send curriculum vitae; transcripts; and three letters of recommendation to: **Dr. William Morgan, Chair, Department of Biology, 1189 Beall Avenue, The College of Wooster, Wooster, OH 44691** by November 30, 2001, to receive full consideration. For express delivery, companies use **931 College Mall**. The College of Wooster is an independent college of the liberal arts and sciences with a commitment to excellence in undergraduate education. *Wooster seeks to ensure diversity by its policy of making appointments without regard to age, sex, race, creed, national origin, disability, handicap, sexual orientation, or political affiliation. The College of Wooster is an Equal Opportunity/Affirmative Action Employer. The College values diversity, strives to attract qualified women and minority candidates, and encourages individuals belonging to these groups to apply.*

Aquila Inc. is looking for a **CLIMATOLOGIST** in its Kansas City, Missouri, location to develop stochastic and dynamic predictive models for seasonal and long-term predictions; manage the Aquila forecast contest; and develop statistical tools to measure city-specific weather trends and volatility parameters. The position will work closely with traders and portfolio managers in trade valuation and portfolio risk management.

This position requires a Ph.D. in physics, atmospheric sciences, or related degree; experience in data analysis, financial modeling, and numerical analysis; and a strong, applied quantitative analysis background. Meterological knowledge and practical business experience strongly preferred. Please apply online at **website: http://www.aquila.com**.

POSITIONS OPEN

LILLIAN FOUNTAIN SMITH ENDOWED CHAIR IN HUMAN NUTRITION
Department of Food Science and Human Nutrition
Colorado State University
Fort Collins, Colorado

The Department of Food Science and Human Nutrition in the College of Applied Human Sciences at Colorado State University invites applications from outstanding Scientists to fill the Lillian Fountain Smith Endowed Chair in Human Nutrition. We seek an accomplished mentor and experienced communicator with global perspectives for this position. Required are Doctorate or M.D. degree in nutrition or health-related field; strong, active extramurally supported basic nutrition research program in area such as cellular and molecular nutrition, obesity and diabetes, functional foods and risk mitigation, optimizing physical and neurological development, metabolic endocrinology and physiology, or other nutrition-related chronic disease; demonstrated track record of excellence consistent with appointment at the **PROFESSOR** rank. The successful candidate will provide leadership in the development of collaborative research, communicate scientific knowledge, and contribute to graduate and postdoctoral training. Send letter describing your qualifications, description of your research program, future goals, complete curriculum vitae, up to five recent publications, and names of three to five references with addresses and telephone numbers to: **Dr. Chris Melby, Search Chair, Department of Food Science and Human Nutrition, Colorado State University, Fort Collins, CO 80523-1571. E-mail: smithchairsearch@cahs.colostate.edu**. Applications accepted until position is filled; initial review of applications will begin December 1, 2001. *Colorado State University is an Equal Employment Opportunity/Affirmative Action Employer.*

The Division of Biology of Kansas State University invites applications for a tenure-track **ASSISTANT PROFESSOR** position beginning in the 2002/2003 academic year. We seek an individual who will establish a strong, extramurally funded research program in the general area of prokaryotic infectious disease microbiology. This individual will contribute to undergraduate instruction in microbiology as well as graduate instruction in areas of interest. A Ph.D. or equivalent and postdoctoral training are required. The position will include a competitive salary and start-up package. The Division of Biology is a large, diverse unit with a strong record of research productivity and funding with established Investigators and seven recently hired faculty in molecular and cellular areas of virology, immunology, and plant and animal development (**website: http://www.ksu.edu/biology**). Applicants should submit curriculum vitae, selected reprints, summaries of research and instructional interests, and have three letters of reference sent to: **Stephen K. Chapes, Chair, Microbiology Search Committee, Division of Biology, Kansas State University, 232 Ackert Hall, Manhattan, KS 66506-4901**. Review of complete applications will begin on November 19, 2001, and continue until the position is filled. *KSU is an Equal Opportunity Employer and actively seeks diversity among its employees.*

The Cardiovascular Division of the Brigham and Woman's Hospital, a major teaching affiliate of the Harvard Medical School, seeks an established Scientist for a **TENURE-TRACK FACULTY POSITION**. Applicants may have a Ph.D. and/or M.D. degree or equivalent with experience in disciplines broadly related to cardiovascular biology. The successful candidate should have a record of scientific accomplishment, mentoring, and peer-reviewed funding. Academic rank of the appointment at Harvard Medical School will depend on the applicant's qualifications. Interested candidates should send their curricula vitae to: **Peter Libby, M.D. Chief, Cardiovascular Division, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115**. *Brigham and Woman's Hospital is an Equal Opportunity Employer and encourages applications from female and minority candidates.*

POSITIONS OPEN

ASSOCIATE/FULL PROFESSOR OF BIOCHEMISTRY
Indiana University, Bloomington

The Departments of Biology and Chemistry are holding a joint search with the goal of filling two positions in biochemistry over the next two years at either the **ASSOCIATE** or **FULL PROFESSOR** level. Successful candidates can choose to have their primary affiliation in either the Biology or Chemistry Departments and will also become members of a newly recognized interdisciplinary biochemistry degree program. Specific information about the Chemistry and Biology Departments can be obtained at **websites: http://www.chem.indiana.edu** and **http://www.bio.indiana.edu** respectively. Information about the Interdisciplinary Biochemistry Program can be obtained at **website: http://www.indiana.edu/~bchem**. Indiana University is undergoing vigorous hiring in several science departments. Consequently, we welcome two-career applicants including those partners that may be in other areas of biology, biochemistry, chemistry, or biophysics. Applicants should send curriculum vitae and a letter of intent to: **Biochemistry Search Committee, Interdisciplinary Biochemistry Program, Myers Hall, 915 East Third Street, Indiana University, Bloomington, IN 47405-7107**. Additional information regarding this position can be obtained by contacting: **Carl Bauer, Director of the Interdisciplinary Biochemistry Program; Telephone: 812-855-6595; e-mail: cbauer@bio.indiana.edu**.

A review of applicants will begin November 1, 2001, and will continue until the positions are filled. *Indiana University is an Affirmative Action/Equal Opportunity Employer. Women, minority candidates, and couples are encouraged to apply.*

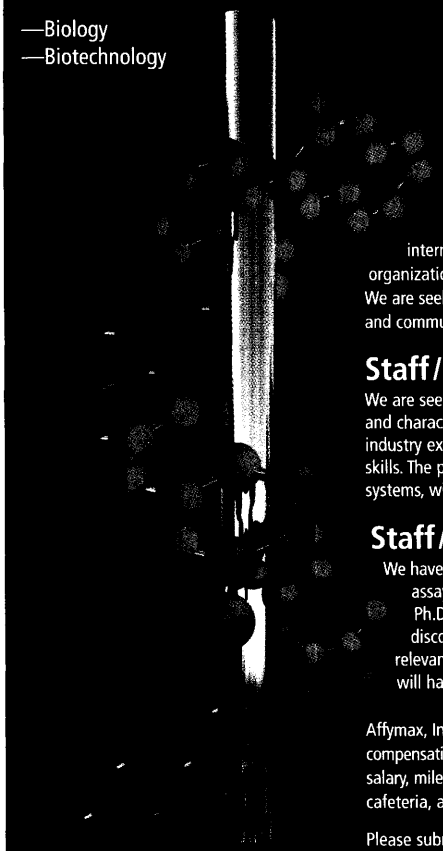
FACULTY POSITION IN MICROBIOLOGY
University of Maryland, Baltimore

A full-time tenured or tenure-track faculty position is available. The position is primarily at the **ASSOCIATE** or **ASSISTANT PROFESSOR** levels. We are interested in outstanding individuals who have already established or will establish independent research programs in prokaryotic or eukaryotic microbiology focused on molecular mechanisms of pathogenesis. The successful applicant for this position would also be well qualified to contribute to departmental teaching efforts in graduate and professional school courses. For more information about research in microbiology at the University of Maryland, please visit our **website: http://www.umaryland.edu/dental/OCBS/**. Minimum qualifications: Ph.D. in microbiology or a related biological science discipline or an M.D. or D.D.S. degree with extensive postdoctoral experience. Position will remain open until a qualified candidate is identified. The deadline for the application is February 1, 2002. To apply, please submit curriculum vitae, summary of research and teaching interests, and the names and addresses of three references to: **Chair, Search Committee, Room 5-A-06, Department of OCBS, University of Maryland, Baltimore, 666 West Baltimore Street, Baltimore, MD 21201**. *The University of Maryland is an Affirmative Action/Equal Employment Opportunity/Americans With Disabilities Act Employer. We especially encourage women and minorities to apply.*

TRANSGENIC/CELL TECHNOLOGIST
Louisiana State University
Health Sciences Center, New Orleans

LSU Health Sciences Center in New Orleans is recruiting an individual at the **RESEARCH ASSOCIATE III** level to manage a new mouse transgenic core facility. The individual will be responsible for managing the daily operations of the facility including generation of transgenic/chimeric mice and the training of new technical staff. Individuals with experience in generating transgenic mice will be trained in ES technologies. Send curriculum vitae including names of three references to: **Dr. P. Cserjesi, Department of Cell Biology and Anatomy, 1901 Perdido Street, New Orleans, LA 70112. E-mail: pcserj@lsuhsc.edu**. *LSUHSC is an Equal Employment Opportunity/Affirmative Action Employer. Women and underrepresented minority candidates are encouraged to apply.*

—Biology
—Biotechnology



Discover the next billion-dollar molecule.

No other company is better positioned than Affymax to make a significant near-term mark on the drug discovery marketplace. Affymax, Inc., is uniquely poised to leverage our high-throughput chemistry and screening platforms to rapidly identify new leads for drug development. Affymax, as a pioneer in combinatorial chemistry, phage display, intermediate molecular weight chemistry, and ultrahigh-throughput screening, has evolved into a product-focused organization with the leading-edge advantage of an intellectual-property portfolio of more than 300 patents and applications. We are seeking individuals with drug discovery experience who are creative and highly motivated, possess excellent interpersonal and communication skills, and have the passion to be part of a unique opportunity that Affymax is presenting.

Staff/Senior Scientist—Cell Culture

We are seeking a leader for our cell-culture facility to play a critical role in the development of cell-based assays for the discovery and characterization of drugs. This position requires a Ph.D. in cell biology, biochemistry, or related discipline, with 2-4 years of industry experience or a BS/MS in a similar field with 6-10 years of industry experience with proven managerial and laboratory skills. The position also requires familiarity with mammalian cell transfection and culture methodologies, with protein expression systems, with construction of reporter cell lines, and with cell differentiation *in vitro*. **Job code: GLA001**

Staff/Senior Scientist—Cytokine Biology

We have an exciting opportunity for an expert in cytokine biology and signal transduction to play a leading role in target selection, assay development, screening, and characterization of novel cytokine mimetics and antagonists. This position requires a Ph.D. in cell biology, molecular biology, immunology, or related discipline, with 3-10 years of industry experience in drug discovery and development. Additional knowledge of cell adhesion molecules, cell–cell signaling, or other medically relevant extracellular protein–protein interactions is desired. The successful candidate will have proven scientific, leadership, and managerial skills. **Job code: PSC001**

Affymax, Inc., offers an exceptional drug discovery environment, including an excellent compensation and benefits program that includes start-up stock options, competitive base salary, milestone bonus program, medical/dental/vision/life benefits, employer-subsidized cafeteria, and on-site library with access to the latest drug discovery resources.

Please submit your CV, along with job code, to: careers@affymax.com or to Affymax, Inc., Human Resources, 4001 Miranda Avenue, Palo Alto, CA 94304. EOE

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When you believe anything is possible, it is.

At Immunex, we have the vision and potential to achieve great things. In 20 years, we have grown to be one of the largest biotech firms in the world and Immunex has been named one of the "Top 100 places to work" by Fortune Magazine! Based in Seattle, Washington, our employees enjoy all the benefits, resources, support, and freedom to accomplish great science.

STAFF SCIENTIST/BONE BIOLOGY

The Cancer Biology Department is devoted to defining new therapeutic approaches in Oncology. This program is employing leading edge technologies in the discovery and validation of new product candidates. Immunex invites individuals with a scientific background in bone biology to participate in both basic and applied research projects. The scope of the projects will range from preclinical development of proprietary molecules in in-vivo models of bone pathologies (especially tumor-induced bone pathologies) to the discovery of molecules that regulate bone cell function/activation.

Competitive applicants will have expertise in one or more of the following areas: animal models of pathologic bone diseases (bone metastases, multiple myeloma, osteoporosis, or arthritis); in-vitro and/or in-vivo models of osteoblast, osteoclast and cartilage function, differentiation and activation; bone histology/pathology; quantitative histomorphometry. Excellent communication skills coupled with the ability to work in a fast paced collaborative team environment are essential. The ideal candidate will have five to ten years of laboratory experience in the biopharmaceutical industry or in an academic medical context. Ph.D. in a relevant scientific discipline (Immunology, Cell Biology, Molecular Biology), or M.D., followed by post-doctoral bench research experience required. (#01-0446)

In addition to the tremendously rewarding environment, we offer an exceptional compensation and benefits package. Please submit a scanable resume specifying job code to: **immunexcareers@webhirerpc.com**

Immunex is an Equal Opportunity Employer committed to diversity.

Surface Nanotechnologies

Nyx

SuNyx is a nanotechnology-based company focused on R&D of proprietary functional surfaces and devices with international cooperation partners. People are SuNyx most valuable assets. We are seeking enthusiastic, creative individuals to strengthen our multi-disciplinary team. Immediate openings are:

You will be responsible for a research project focused on the development of novel hydrophobic polymer surfaces located in Cologne, Germany. Successful candidates will have a Ph.D. and 3+ years experience in the field of polymer diffusion and surface segregation phenomena. Experience in thin polymer films, wetting and surface characterization is highly desirable.

You will work at Cornell University, Department for Materials Science and Engineering with one of our cooperation partners (Prof. C. K. Ober). We are looking for skilled persons qualified in polymer synthesis and characterization. Experience in polymer surfaces is a plus.

SuNyx offers a stimulating scientific environment in addition to competitive salaries and benefits. If you are ready to discover a new challenge send your resume to:

SuNyx Surface Nanotechnologies GmbH, Stolbergerstr. 370, 50933 Köln, Germany, Phone: +49 221 485 2453, Fax: +49 221 485 2479, mail@sunyx.de

CELL BIOLOGIST, tenure track. The Department of Biology at California State University, Fresno, seeks a broadly educated Cell Biologist (all areas of specialization considered) for a tenure-track teaching and research appointment beginning August 2002. Teaching responsibilities will include rotations through major core courses (e.g., cell biology), undergraduate, and graduate courses in area of expertise and may include teaching introductory biology if the departmental need arises. The Department participates in a graduate-level, interdisciplinary biotechnology certificate program that offers both teaching and collaborative opportunities to the successful candidate. The successful candidate will develop a research program that involves both undergraduate- and Master's-level students and pursue external funding necessary to maintaining a successful research program. Applicants must have a Ph.D. in an appropriate field and scholarly accomplishments commensurate with experience. Request forms at **website: http://www.csufresno.edu/aps/vacancy/vacancy.html**. Submit the official application along with curriculum vitae, e-mail address, statement describing teaching and research plans, and three letters of recommendation. Send to: **Dr. Brian Tsukimura, Cell Biologist Search Committee Chair, Department of Biology, California State University, Fresno, 2555 East San Ramon Avenue, M/S SB73, Fresno, CA 93740-8034. E-mail: briant@csufresno.edu; FAX: 559-278-3963; website: http://www.csufresno.edu/biology**. For full consideration, have application in by January 15, 2002. *Affirmative Action/Equal Employment Opportunity Employer.*

PLANT PHYSIOLOGIST, tenure track. The Biology Department at CSU Fresno seeks a tenure-track Plant Physiologist with expertise in ecological physiology; plant responses to the environment; or impacts of anthropogenic increases in carbon dioxide, temperature, and pollutants on plant functions. The successful candidate should be able to address phenomena from the molecular to global scale. The candidate will teach an undergraduate course in plant physiology; an undergraduate majors course in botany, physiology, or ecology; and a graduate course in their specialty. The candidate may be required to teach introductory biology for majors or nonmajors as the need arises. The successful candidate may develop a research program that involves both undergraduate- and Master's-level students and pursue external funding necessary to maintaining a successful research program. The Department has a growing group of funded Researchers in ecology and plant science with whom the successful candidate can interact. Request forms at **website: http://www.csufresno.edu/aps/vacancy/vacancy.html**. Send to: **Dr. Dave Grubbs, Plant Physiologist Search Committee Chair, Department of Biology, California State University, Fresno, 2555 East San Ramon Avenue, M/S SB73, Fresno, CA 93740-8034. E-mail: davidgr@csufresno.edu; FAX: 559-278-3963; website: http://www.csufresno.edu/biology**. For full consideration, have application in by November 19, 2001. *Affirmative Action/Equal Employment Opportunity Employer.*

CELLULAR BIOLOGIST POSITION AVAILABLE

The Creighton University Biomedical Engineering (CUBE) Center and the Division of Orthopaedics, Omaha, Nebraska, are presently in the process of recruiting a Cellular Biologist to join our faculty. Candidates should have extensive training in cellular biology with an emphasis on cartilage and/or intervertebral disc. The successful candidate will be offered a highly competitive salary and availability of tenure commensurate with academic rank. The overall package will include funds for laboratory start-up and relocation. Our goal is to develop a joint program centered within the Division of Orthopaedics and the CUBE Center. Creighton University is committed to fostering collaboration between basic sciences and the clinical aspects of orthopaedic research. For more information, please contact: **Reginald Knight, M.D.; Telephone: 402-280-4342; FAX: 402-280-4584; e-mail: rqknight@creighton.edu**.

POSITIONS OPEN

FACULTY POSITIONS
Boston University
Department of Biomedical Engineering

The Department of Biomedical Engineering (BME) at Boston University announces the receipt of a $14 million Whitaker Foundation Leadership Award in biomedical engineering. The Department has 26 full-time primary faculty generating over $15 million annually in external support. Over the next five years, the Leadership Award will fund major expansions including the addition of 12 faculty at all ranks and new facilities for bioMEMs, imaging, and computational biology and physiology.

We are currently searching for new faculty members (rank open) in the following areas: (1) neuroengineering with expertise in computational neuroscience and/or neuroinformatics, (2) protein and genomic engineering with expertise in protein engineering with applications to cellular regulation, and (3) hearing research that combines computational modeling with experimental work in auditory neuroscience and that complements existing activities in the Boston University Hearing Research Center.

Qualified candidates must have a Ph.D. degree and are expected to develop a program of funded research in their area of expertise and contribute to planned innovations in our graduate and undergraduate curricula. BME currently has approximately 90 graduate students and 350 B.S. majors. The graduate program is expected to grow by 50% in the next five years. Excellent opportunities exist for collaboration throughout all of Boston. For more on the BME Department, visit our **website: http://bme.bu.edu**.

Send curriculum vitae, names of at least three references, and statements of research and teaching goals to the appropriate Search Committee Chair: **Chair, Neuroengineering/Protein and Genomic Engineering/Hearing Research Search Committee, Department of Biomedical Engineering, Boston University, 44 Cummington Street, Boston, MA 02215 U.S.A.**

ASSISTANT PROFESSOR OF BIOLOGY

Hofstra University invites applications for a full-time, tenure-track Assistant Professor position in the Department of Biology. We are looking for a Community or Systems Ecologist with interests in plants or microbes. Demonstrable microscopy skills are a plus. We seek individuals who are able to teach undergraduate majors and nonmajors as well as Master's students and to maintain an active research program accessible to both undergraduate and Master's students. The Department of Biology is a medium-sized but diverse department. Applicants must have the Ph.D. and demonstrated teaching ability; postdoctoral experience is preferred. Please submit a letter of application, curriculum vitae, statements of research and teaching interests, and have three letters of recommendation sent to the following address (no e-mail submissions): **Faculty Search, Department of Biology, Hofstra University, Hempstead, NY 11549-1140**. Application materials are due 10 December 2001. Additional information is posted on **website: http://people.Hofstra.edu/faculty/dorothy_e_pumo/facsearch.htm**. *Hofstra University is an Equal Opportunity Employer.*

PROFESSOR AND HEAD, Department of Pathobiology and Veterinary Sciences. A 10-month, tenure-track position requiring a D.V.M. and Ph.D. in pathobiology-related discipline and demonstrated excellence in research, teaching, and/or extension are required. Department website and full description are at **website: http://patho.uconn.edu/**. To apply, send a statement of research and teaching and extension interest with curriculum vitae and names and contact information for three references to: **Department Head Search, Department of Pathobiology and Veterinary Sciences, Unit 3089; e-mail: patadm05@uconnvm.uconn.edu**. *University of Connecticut actively solicits applications from minorities, women, and people with disabilities.*

POSITIONS OPEN

The Department of Biological Sciences at the State University of New York at Binghamton, a Doctoral-granting university in the SUNY system, seeks faculty to fill positions in cell and molecular biology and ecosystem ecology.

The Cell and Molecular Biologist should develop a strong, externally funded research program and be interested in extending to applications in biotechnology. Research emphasis in gene regulation and proficiency in application of bioinformatics tools are desirable. The State University of New York at Binghamton has strategically positioned its research program for significant expansion and development of multidisciplinary programs in biomedical technology and bioengineering. Candidates for this open-rank, **TENURE-TRACK POSITION** are expected to have postdoctoral experience and strong commitment to both graduate and undergraduate education.

The Ecosystem Ecologist should focus on watersheds and be at the **ASSOCIATE** or **FULL PROFESSOR** level. Research area should involve both basic and applied dimensions and may include the biogeochemistry of essential nutrients across landscapes, integration of terrestrial and aquatic processes, ecosystem responses to environmental change, and watershed management. The successful candidate is expected to maintain substantial external funding and to assume a leading role in an expanding multidisciplinary environmental science program.

Applications will be reviewed beginning December 1, 2001, and will be accepted until the positions are filled. Salary will be commensurate with rank and experience. Submit curriculum vitae, representative reprints, statements of research and teaching interests, and three letters of reference (under separate cover) to: **Dr. John G. Baust, Chair, Cell and Molecular Biology Search** or **Dr. John E. Titus, Chair, Ecosystem Ecology Search, Department of Biological Sciences, Binghamton University (SUNY), Binghamton, NY 13902-6000**. For more information about the Department and links to information about the University and the Binghamton community, see **website: http://www.binghamton.edu/biology**. *State University of New York is an Equal Opportunity/Affirmative Action Employer.*

TENURE-TRACK FACULTY POSITION
Biological Sciences

The Division of Cell Biology and Biophysics, School of Biological Sciences, University of Missouri–Kansas City, invites applications for a full-time, tenure-track faculty position at the **ASSISTANT PROFESSOR** level. Preference will be given to individuals working in an area of molecular cell or developmental biology. The successful candidate will be required to establish a strong research program compatible with the School's focus on molecular recognition (including disciplines of molecular genetics and structural biology). We seek an outstanding scholar with significant accomplishments in research, teaching experience in an English-language institution, and exemplary communication and supervisory skills. State-of-the-art core facilities are available and competitive salary, start-up funds, and laboratory space will be provided. Review of applications will begin immediately and continue until the position is filled. Applications including curriculum vitae, reprints of publications, one-to-two-page summaries of present and future research plans, and three letters of recommendation solicited by the applicant should be forwarded to: **CBB Search Committee, Division of Cell Biology and Biophysics, BSB 403, University of Missouri–Kansas City, 5100 Rockhill Road, Kansas City, MO 64110-2499**. *Equal Opportunity/Affirmative Action Employer.*

The Department of Environmental Science at the University of San Francisco (USF) invites applications for a tenure-track **ASSISTANT PROFESSOR** position in environmental science and studies with a specialty in land use planning and resource management to begin fall 2002. For details, please see **website: http://www.usfca.edu/envsci/**. *University of San Francisco is an Affirmative Action/Equal Opportunity Employer.*

COLUMBIA EARTH INSTITUTE

POSTDOCTORAL PROGRAM

The goal of the Columbia Earth Institute (The Institute) is to better understand Earth to enhance sustainability. In order to achieve this, the Institute fosters collaboration of physical, biological, and social scientists who work at the intersection of these disciplines to better understand Earth systems and to link this understanding to the policy process to benefit society. The Institute is committed to knowledge generation and institutional innovation in achieving its goals.

The Institute postdoctoral program is designed to provide young innovative scholars with the opportunity to build a foundation for a career in science that addresses critical issues related to the study of environmental problems using approaches that go beyond those typically confined by traditional disciplines. Specifically, we are seeking applications from candidates interested in working on problems positioned at the intersections between physical, biological, and social/economic fields. These positions are also expected to catalyze new research directions at Columbia. The Institute postdocs will be guided by multidisciplinary teams of two or more senior scholars. Applicants are encouraged to visit the Earth Institute postdoc Web site (www.earthinstitute.columbia.edu/postdoc/) to review a list of the Institute's units and several Columbia University and Barnard College departments. The positions will ordinarily be granted for a period of 24 months.

Candidates should submit a proposal for multidisciplinary research and an appropriate work plan following instructions found at the Institute postdoc Web site. The proposal should suggest a composition for a small multidisciplinary mentoring team. Proposals will be evaluated by the Institute Academic Committee on the basis of the strength of the research plan and its relevance to the Institute's goals.

Application forms may be printed from the Web:
http://www.earthinstitute.columbia.edu/postdoc/
or by contacting:

Postdoc Search Committee
Columbia Earth Institute
Columbia University
535 West 116th Street (Mail Code 4335)
New York, NY 10027

Telephone: (212) 854-3893
Fax: (212) 854-6309

Applications submitted by January 18, 2002, will be considered for fellowships starting in the summer or fall of 2002, and fellowship offers will be made about March 15, 2002.

COLUMBIA UNIVERSITY

Columbia University is an affirmative action/equal opportunity employer. Minorities and women are encouraged to apply.

The Government of the Hong Kong Special Administrative Region

Senior Biotechnology Officer in the Innovation and Technology Commission

(Remuneration : around HK$1,000,000 per year)

The Government of the Hong Kong Special Administrative Region is committed to promoting innovation and technology development in Hong Kong. The Innovation and Technology Commission of the Government is seeking to recruit a Senior Biotechnology Officer to provide specialist advice on matters related to innovation and technology development in the field of biotechnology.

The Senior Biotechnology Officer, reporting to the Science Advisor (Biotechnology) and Assistant Commissioner of Innovation and Technology (Funding Schemes), will lead a small team and carry out the following duties:

(i) to tender professional and technical advice on biotechnology-related matters;
(ii) to examine and evaluate biotechnology–related project proposals and monitor the progress of approved projects under the Innovation and Technology Fund;
(iii) to provide secretarial and technical support to the Biotechnology Projects Vetting Committees of the Commission;
(iv) to propose and implement programmes that facilitate the development of biotechnology-related industries;
(v) to develop and maintain regular contacts with other government departments, the research and education communities, local and overseas manufacturers, industry associations, and other relevant bodies;
(vi) to undertake ad hoc projects or studies supporting biotechnology development; and
(vii) to tender advice on environmental project-related matters and provide secretariat and technical support to the Environment Projects Vetting Committee of the Commission.

Qualified candidates should possess a Ph.D. degree in the field of life science or medicine and have a minimum of 8 years post-qualification experience. He/she should have a strong research and technical background in the development and application of biotechnology and related areas and have good scientific and/or business networks. R&D-based industrial experience or experience in assessing the technical and commercial merits of projects in biotechnology-related fields is preferred. Besides, he/she should be able to demonstrate business awareness, leadership, initiative and interpersonal abilities, as well as the necessary presentational and language skills to tender advice in both expert and lay fora.

Successful candidate will be appointed on non-civil service contract terms for 2 1/2 years.

Fringe benefits such as rest days, statutory holidays (or substituted holidays), annual leave, maternity leave, sickness allowance, where appropriate, will be granted in line with the provisions of the Employment Ordinance of Hong Kong.

Interested candidates should send their full C.V. and a covering letter to the Human Resources Section, Innovation and Technology Commission, Room 1439, 14/F., Ocean Centre, 5 Canton Road, Tsim Sha Tsui, Kowloon, HONG KONG no later than **3 November 2001** (copies of academic qualification certificates and record of previous employment should be provided). Candidates who are selected for interview will normally receive an invitation in about six weeks from the closing date for application. Only shortlisted candidates will be notified of the result of application. For enquiry, please send e-mail to mabelwong@itc.gov.hk or fax to (852) 2314 7988. (Note : overseas candidates will be required to make travel and accommodation arrangements at their own cost for attending selection interview in Hong Kong.)

Personal data provided by job applicants will be used strictly in accordance with the Commission's personal data policies. You may obtain a copy of the policies by contacting Executive Officer (Human Resources) at (852)2737 2253 or by fax at (852)2314 7988.

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR IN PROTEOMICS
Dana–Farber Cancer Institute and Harvard Medical School

Dana–Farber Cancer Institute and Harvard Medical School's Department of Biological Chemistry and Molecular Pharmacology invite applications for a tenure-track Assistant or Associate Professor specializing in proteomics. The applicant should have expertise in the application of state-of-the-art proteomic technologies to the study of protein expression, broadly including structure, function, and posttranslational modification in biological systems. The successful candidate will have a unique opportunity to set up an innovative academic program using the latest proteomic technologies focused on cancer-relevant proteins. Areas of expertise include production and comparison of proteome maps and rapid-throughput identification of proteins. Technologic expertise would include but not be limited to mass spectrometry and protein chips, analysis of secondary modifications of proteins, and bioinformatic analyses. The incumbent will be expected to develop an independently funded research program and participate in graduate and medical school education including mentoring graduate students and other activities of the BCMP Department. DFCI offers a very attractive start-up package including salary and supply support and dedicated laboratory space coupled with the financial support to establish core technologies. Applicants should send curriculum vitae, a one- to-two-page statement of research accomplishments and future plans, and names of three references to: **Pamela Silver, Chair, Proteomics Search Committee, Dana–Farber Cancer Institute, One Jimmy Fund Way, Boston, MA 02115. E-mail: pamela_silver@dfci.harvard.edu**.

Dana–Farber Cancer Institute and Harvard Medical School are Equal Opportunity/Affirmative Action Employers. Women and minority candidates are particularly encouraged to apply.

BIOLOGY FACULTY POSITION ZOOLOGIST

The Biology Department at SUNY Fredonia seeks applications for a tenure-track **ASSISTANT PROFESSOR** position to begin August 2002. Zoologist: The successful candidate will teach animal biology (zoology)/evolution, nonmajors courses, and contribute to upper-level/graduate courses in subjects of expertise. We expect excellence in teaching and an active research program that promotes scholarship and involves undergraduate and M.S. students. Candidates must possess a Ph.D., and postdoctoral experience is required. Located 45 miles west of Buffalo, New York, close to the shores of Lake Erie, SUNY Fredonia is a selective, public undergraduate liberal arts college. The complete application includes an application letter, curriculum vitae statements of research interests and teaching philosophy, unofficial copies of undergraduate and graduate transcripts, and three letters of reference. Review of complete applications will begin November 15, 2001. Send materials to: **Zoologist Search Committee, Department of Biology, SUNY Fredonia, Fredonia, NY 14063. Website: http://www.fredonia.edu/biology/index.htm; e-mail: biology@fredonia.edu**.

SUNY Fredonia is an Equal Opportunity/Affirmative Action Employer and actively seeks and encourages nomination of and expressions of interest from minorities, females, and persons with disabilities.

Environmental Studies at California State University, Sacramento, seeks to fill probationary, entry-level **TENURE-TRACK FACULTY POSITION** in the Environmental Studies Department, an interdisciplinary undergraduate program. Review of applications begins November 15, 2001; position open until filled. See **website: http://csueb.sfsu.edu** for a complete vacancy announcement or contact: **Environmental Studies Department, CSUS, 6000 J Street, Sacramento, CA 95819-6001. Telephone: 916-278-6620**.

CSUS is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

FACULTY POSITION
San Diego State University Heart Institute

The Department of Biology and the Heart Institute will hire a Molecular Cardiovascular Physiologist to fill a tenure-track position at the level of **ASSOCIATE PROFESSOR** or **PROFESSOR**. Applicants should have an established, externally funded research program in cell and molecular physiology relating to cardiovascular function and/or disease. Research expertise must include transgenic and/or knockout mouse model systems. Desirable research interests include gene therapy, cardiac growth and development, genetic models of cardiovascular disease, lipid and lipoprotein disorders, and cell physiology. The successful candidate will be a member of our M.S. and Ph.D. programs and will be expected to teach at the undergraduate and graduate levels. For more information, visit **website: http://www.bio.sdsu.edu/fac-recruitment**. Review of applications will begin on November 15, 2001, and will continue until the position is filled. Applicants should submit curriculum vitae, statements of research and teaching interests, three representative publications, and arrange for three letters of recommendation to be sent to: **Molecular Cardiovascular Physiology Search Committee, Department of Biology, San Diego State University, San Diego, CA 92182-4614**. *SDSU is an Equal Opportunity Employer and does not discriminate against persons on the basis of race, religion, national origin, sexual orientation, gender, marital status, age, or disability. Women, ethnic minorities, and persons with disabilities are encouraged to apply. SDSU is proud of our diverse student population.*

PROFESSOR OF GENETICS UNIVERSITY OF CALIFORNIA, DAVIS

The Division of Biological Sciences, University of California, Davis, invites applications for a position in the Section of Molecular and Cellular Biology and the Center for Genetics and Development at the rank of **PROFESSOR** in the field of genetics. Candidates must have a Ph.D. (or equivalent), an outstanding record of achievement in research, and a commitment to excellence in teaching genetics at the undergraduate and/or graduate levels. Individuals working with higher eukaryotic model systems including mouse, zebrafish, *Drosophila*, or *Caenorhabditis* are especially encouraged to apply. Candidates should submit curriculum vitae, a statement of current and proposed research, and arrange to have three letters of recommendation sent to: **Chair, Genetics Search Committee, Section of Molecular and Cellular Biology, University of California, Davis, CA 95616-8519**. The position is open until filled, but all application materials including letters of recommendation must be received by December 1, 2001, to be assured full consideration. *The University of California, Davis, is an Affirmative Action/Equal Opportunity Employer with a strong institutional commitment to the development of a climate that supports equality of opportunity and respect for differences.*

BIOLOGIST. TENURE-TRACK FACULTY POSITION to begin 1 June 2001 in the Department of Biology, Xavier University, a Catholic historically black institution. Ph.D. in any area of modern molecular or cellular biology plus two years of postdoctoral experience or equivalent required. Eligible for tenure in the College of Arts and Sciences at Xavier; jointly appointed to the School of Public Health and Tropical Medicine at Tulane University. Guaranteed support for research and for release from teaching for the first three years. Expectations include teaching appropriate to the area of specialization, advising students, development of an extramurally funded research program, and committee service. Ability to work collegially in a department primarily dedicated to undergraduate teaching essential. Supported in part by Louisiana Board of Regents Joint Faculty Appointment Program. Send curriculum vitae, description of research and teaching interests, and the names of three references to: **Chair, Search Committee, Department of Biology, Xavier University, New Orleans, LA 70125**. Review of applications will begin immediately and will continue until the position is filled. *Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT to **ASSOCIATE PROFESSOR** in environmental studies, tenure track, with research experience in water pollution or water quality. Position requires a Ph.D. in environmental science or in the environmentally related subfields of ecology, health, chemistry, biochemistry, or geology. Teaching includes introduction to pollution, water quality methodology courses, and upper-division and/or graduate courses in specialty. Credentials to teach toxicology, water chemistry, or environmental health a plus. Supervision of graduate students and maintenance of an active granting and research program are expected. Successful candidate would join a group of over 20 faculty already engaged in water studies at Baylor University. Applications will be reviewed beginning October 15, 2001, and will be accepted until the position is filled. To ensure full consideration, applications must be submitted by November 30, 2001. Initial applications shall include a detailed letter of interest, curriculum vitae, and names and telephone numbers of at least three references. Please mail application packets to: **Chair of the Search Committee, Department of Environmental Studies, Baylor University, P.O. Box 97266, Waco, TX 76798-7266**. For further information, please refer to **website: http://www.baylor.edu/~Envir_Studies**.

Baylor University is a Baptist University affiliated with the Baptist General Convention of Texas. As an Affirmative Action/Equal Employment Opportunity Employer, Baylor encourages minorities, women, veterans, and persons with disabilities to apply.

FACULTY POSITION EVOLUTIONARY GENETICIST

The College of William and Mary invites applicants for a tenure-track position at the **ASSISTANT PROFESSOR** level in evolutionary genetics, especially in the area of population genetics. The successful candidate will be expected to maintain an extramurally funded research program that will incorporate both Master's-level and undergraduate student involvement. The teaching responsibilities include one course per semester covering such topics as evolutionary genetics and genetic analysis. We are particularly seeking candidates interested in maintaining a very strong research program along with a serious commitment to undergraduate teaching. The position includes a competitive start-up package, and postdoctoral experience is expected.

Review begins on November 26, 2001, and will continue until an appointment is made. Submit a letter of application, curriculum vitae, statements of research interests, teaching philosophy, and three letters of reference to: **Evolutionary Genetics Search Committee, Department of Biology, Millington Hall, The College of William and Mary, P.O. Box 8795, Williamsburg, VA 23187-8795. Website: http://www.wm.edu**.

The College of William and Mary is an Equal Employment Opportunity/Affirmative Action University.

ECOLOGIST. Tenure-track **ASSISTANT PROFESSOR** position to begin 16 August 2002. Plant and Animal Ecologists with strength in statistics are encouraged to apply. Establishment of a productive, independent research program and direction of graduate students are expected. Will instruct the core course in ecology and either participate in a team-taught introductory biology course or teach an upper-level course in biometry. Ph.D. required and postdoctoral experience desirable. For additional information about our department, consult **website: http://www.und.edu/dept/biology/jobs.html**. Send curriculum vitae, statements of teaching and research interests, three representative reprints, a list of relevant coursework, and have three letters of reference sent to: **Dr. Robert Newman, Ecology Search Committee, Department of Biology, University of North Dakota, Grand Forks, ND 58202-9019**. Review of applications will begin 30 November 2001 and continue until the position is filled. *UND is an Affirmative Action/Equal Opportunity Employer.*

Founded in March 2000, our first industrial-scale integrated proteomics facility in Switzerland already counts a significant force in Europe of over 100 employees and houses 51 mass spectrometers, a hundred HPLC machines, a world-class supercomputer and five solid phase peptide synthesizers. We will open our second site in New Jersey in early 2001. We are recruiting at all levels from expert technicians to internationally known independent scientists.

New Jersey based

100 Protein Chemists, Biochemists, Physicists and Bioinformaticians

We want to hear from you if you have an exceptional track record, or exceptional potential, in the areas of Protein Separation by chromatography, Large Scale Gel Separation, Mass Spectrometry, Liquid Handling and Robotics, Peptide and Protein Synthesis, Computer Science, Protein Annotation and Bioinformatics.

This is your opportunity to develop your career with an organization that aims to be the world leader in its field. Please send your full career details by e-mail to hrus@geneprot.com, or to GeneProt Inc., Technology Center of New Jersey, 671 Highway One, North Brunswick, NJ 08902.

Geneva based

Protein Chemists and Biochemists

You hold a Ph.D. degree and have experience in: protein refolding for our Synthesis group; 1- and 2-D gel electrophoresis for the Gel group; extraction of protein from tissues for our Protein Separation group, or peptide LC-MS and LC-MS/MS for our Mass Spectrometry group.

If you feel you meet our criteria, please send your full career details by e-mail to hrge@geneprot.com, or to Human Resources, GeneProt Inc. (Swiss branch), 2, Pré-de-la-Fontaine, BP 125, 1217 Meyrin, Switzerland.

To find out more about GeneProt Inc., please visit our website at www.geneprot.com.

THE SALK INSTITUTE
10010 North Torrey Pines Road
La Jolla, CA 92037
www.salk.edu

Faculty Position in The Salk Institute Infectious Disease Laboratory

The Salk Institute is seeking outstanding candidates for a faculty position in the Infectious Disease laboratory at the assistant or associate professor level. Applications are invited from researchers focusing on immunology, virology, and AIDS. The level of appointment will be commensurate with experience. Applicants must be legally employable in the United States.

The Salk Institute offers a competitive salary and excellent benefits.

Qualified candidates should submit a curriculum vitae, a summary of research plan, and list of references to:

Search Committee
Infectious Disease Laboratory
The Salk Institute for Biological Studies
10010 North Torrey Pines Road
La Jolla, CA 92037 USA
www.salk.edu
http://www.salk.edu/labs/idl/idlb/idlbfram.html

The Salk Institute is an Equal Opportunity Employer

McGowan Institute for Regenerative Medicine

The University of Pittsburgh and UPMC Health System have established the McGowan Institute for Regenerative Medicine (MIRM). The MIRM is serving as a single base of operations for the university's leading scientists, engineers and clinical faculty working to develop tissue engineering, cellular therapies, biosurgery, and artificial & biohybrid organ devices. MIRM is devising innovative clinical protocols as well as pursuing rapid commercial transfer of its technologies related to regenerative medicine.

The MIRM is recruiting faculty with expertise in stem cells, cellular therapy, or tissue engineering. Primary areas of interest for the candidates can be from any discipline but should focus on cellular therapy and/or tissue engineering. The Institute seeks individuals interested in translating this expertise as part of a larger effort to address a variety of tissue and organ insufficiencies. Emphasis on liver regeneration, wound healing or nervous system injury or degeneration are particularly encouraged. Priority will be given to individuals who have worked with animal disease models.

Applicants must have a Ph.D. and/or M.D. degree, with relevant postdoctoral or other research experience.

The MIRM provides excellent research support facilities and the potential to work within one of the nation's top ten NIH-funded clinical research centers.

Applications will be accepted until March 1, 2002. Candidates should submit their CV, research interests and three references to:

MIRM Search Committee
McGowan Institute for Regenerative Medicine
3550 Terrace Street
Suite 401 Scaife Hall
Pittsburgh, PA 15261

The University of Pittsburgh is an Affirmative Action, Equal Opportunity Institution

FACULTY POSITIONS
Molecular and Cell Biology
University of Massachusetts Medical School

A major expansion of the Program in Molecular Medicine at the University of Massachusetts Medical School includes immediate openings for **SENIOR TENURED** and **JUNIOR TENURE-TRACK** faculty positions. The Program consists of Basic and Physician Scientists representing a broad range of disciplines in the biomedical sciences. The Program will expand to fully occupy its current modern building of approximately 80,000 square feet. Core facilities for tissue culture, media preparation, DNA sequencing, protein chemistry and proteomics, fluorescence-activated cell sorting, digital imaging and confocal microscopy, genomics, and transgenic/knockout mice are also available. The positions will be highly competitive with regard to start-up funds, laboratory space, and salary. The Program also seeks individuals of outstanding research potential in the broadly defined areas of developmental or structural biology, genomics, bioinformatics, and chemical biology.

Applicants should send curriculum vitae, statement of research interests, and names and addresses of three references to:

Dr. Roger Davis
Search Committee Chair
or
Dr. Michael P. Czech, Director
Program in Molecular Medicine
University of Massachusetts Medical School
373 Plantation Street
Worcester, MA 01605

An Equal Opportunity/Affirmative Action Employer.

TENURE-TRACK FACULTY POSITION IN BIOPHYSICS
Rice University
Department of Physics and Astronomy

The Department of Physics and Astronomy at Rice University invites applications for a tenure-track **ASSISTANT PROFESSORSHIP** from persons with research interests and expertise in the experimental and/or theoretical study of the physics of biological systems or materials. Currently the Department has two faculty members in this area (please see our **website: http://www.rice.edu**) but this is projected to increase to four in the near future. Applicants should send a dossier that includes curriculum vitae, a statement of research and teaching interests, a list of publications, and two or three selected reprints/preprints. Applicants should also arrange for three letters of reference to be sent to: **H. W. Huang, Chair, Faculty Search Committee, Physics and Astronomy Department, MS 61, Rice University, P.O. Box 1892, Houston, TX 77251-1892.** The appointment is expected to be available July 2002. Review and interview will begin in December 2001. *Rice University is an Affirmative Action/Equal Opportunity Employer; women and underrepresented minorities are encouraged to apply.*

ASSISTANT PROFESSOR
Field Biology

Washington & Jefferson College (W&J) invites applications for a tenure-track position in field biology at the **ASSISTANT PROFESSOR** level beginning August 2002. A Ph.D. and a strong commitment to undergraduate education are required. Preference will be given to candidates with a background in aquatic biology and experience in systematics. Teaching duties may include introductory biology, invertebrate zoology, ecology, and entomology. The successful candidate will have the potential to develop an externally funded research program involving undergraduates. We are especially seeking an individual interested in participating in the College's interdisciplinary environmental studies program and assisting in the development of our 57-acre field station.

For more information on this position including application instructions, please visit us at **website: http://www.washjeff.edu/campus_services_jobs.asp.**

POSITIONS OPEN

FACULTY POSITION IN CELLULAR AND MOLECULAR NEUROSCIENCE
University of Maryland

As part of a continuing expansion in the biological sciences at the University of Maryland, College Park (UM), the Department of Biology invites applications for a tenure-track position. Although the search is focused at the **ASSISTANT PROFESSOR** level, higher-level appointments of outstanding faculty will be considered. Salary and start-up packages are competitive. The successful candidate will direct an innovative and competitively funded research program and be part of the campuswide neuroscience program (**website: http://www.life.umd.edu/NACS**). The candidate will also participate in the instructional program at both the graduate and undergraduate levels (**website: http://www.life.umd.edu/biology**). UM is the flagship campus of the University of Maryland system and is located in the heart of the Baltimore–Washington research corridor. Applications should be received by November 15, 2001, to receive full consideration, but the search will continue until the position is filled. A letter of application, curriculum vitae, statements of research and teaching interest, and the names and e-mail addresses of four references should be directed to: **Neuroscience Search, Department of Biology, University of Maryland, Collge Park, MD 20742-4415.** *The University of Maryland is an Affirmative Action/Equal Opportunity Employer. Women and minorities are strongly encouraged to apply.*

ASSISTANT PROFESSOR of physiology and biophysics. The Department of Physiology and Biophysics at the Albert Einstein College of Medicine invites applications for a tenure-track faculty appointment at the Assistant Professor level. Applications from candidates with exceptional strength in any area of biophysics or physiology are welcome. The major responsibility of successful candidates will be research supported by extramural sources; demonstrated productivity in research is therefore essential. Evidence of ability to interact productively with colleagues in the Department and throughout the College will be a significant factor in evaluating candidates. Research and supporting facilities within the Department and throughout the College are excellent and will be accessible to incoming faculty. In addition, the College will provide an outstanding start-up package with competitive salary and fringe benefits. The Albert Einstein College of Medicine is located in a pleasant residential section of the Bronx with easy access to the cultural and entertainment resources of Manhattan as well as to Westchester County and other communities of the New York Metropolitan region. Replies including curriculum vitae and names of at least three references should be sent to: **Dr. Philip Aisen, Department of Physiology and Biophysics, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461.** *Equal Opportunity Employer.*

ASSISTANT or **ASSOCIATE PROFESSOR:** plant genomics/proteomics, Colorado State University. Research and teaching; tenure track. Responsibilities: fundamental research relevant to quality and value of flowering plants. Obtain external funding and contribute to interdisciplinary research. Emphasis on topics such as flower development, embryogenesis, seed biology, etc. Teach one to two courses per year and advise graduate students. Qualifications: Ph.D. in plant biology or relevant field. Postdoctoral experience preferred. Application: curriculum vitae, transcripts, description of research and teaching interests, and four professional reference letters should be sent to: **Dr. Stephen J. Wallner, Head, Department of Horticulture and Landscape Architecture, Colorado State University, Fort Collins, CO 80523-1173. Telephone: 970-491-7018; FAX: 970-491-7745; e-mail: swallner@agsci.colostate.edu.** Applications and nominations will be considered until the position is filled; however, applicants should submit applications by December 1, 2001. *Colorado State University is an Equal Opportunity Employer.*

POSITIONS OPEN

WAYNE STATE UNIVERSITY
Department of Pharmaceutical Sciences
Gene/Drug Delivery and Formulation Science

Applications are invited for a 12-month, tenure-track **ASSISTANT/ASSOCIATE PROFESSOR** position available for individuals with expertise in gene, macromolecule, or small molecule delivery and dosage form design. Academic rank will be commensurate with applicant qualifications and experience. Candidates are expected to establish and lead an extramurally funded program in an evolving area of delivery or formulation technology. Priority areas include delivery of genes, oligonucleotides, therapeutic proteins, or other macromolecules as well as in the formulation of dosage forms for small molecules and the pharmacokinetics of large and small molecules. The Department will soon occupy state-of-the-art space in the new 270,000-square-foot Pharmacy and Allied Health Professions building on the Detroit Medical Center. The pharmacy program ranks 18th nationally in NIH funding per Ph.D. faculty. Collaborative opportunities include the Center for Molecular Medicine and Genetics, the Karmanos Cancer Institute, and the Institute of Drug Design. The successful candidate will be responsible for teaching pharmaceutical delivery technology in the Pharm.D. program and relevant graduate courses. The position includes an attractive start-up package and benefits. Send curriculum vitae, summary of research plan, and three letters of reference to: **Dr. Craig Svensson, Chairman of the Pharmaceutics Search Committee, Department of Pharmaceutical Sciences, Wayne State University, Detroit, MI 48202-3489. E-mail: cks@wizard.pharm.wayne.edu.** *Wayne State University is an Equal Opportunity Employer.*

NEUROPHYSIOLOGIST

The Department of Biological Sciences at Southeastern Louisiana University seeks a Ph.D. Neurophysiologist for a tenure-track position at the **ASSISTANT PROFESSOR** level beginning fall 2002. Expertise in ion channel physiology is particularly desirable; other areas of research will be considered. The successful candidate is expected to teach anatomy and physiology for nursing and kinesiology students, introductory biology, and an upper-level undergraduate/graduate course in area of expertise and to establish a research program involving Master's-level graduate students. Postdoctoral experience is required. Application review will begin November 9, 2001, and continue until the position is filled. Send application letter, statement of teaching and research interests, curriculum vitae, copies of all transcripts (originals required upon employment), and three letters of reference to: **Dr. Nick Norton, Neurobiology Search Committee, Department of Biological Sciences, Southeastern Louisiana University, Hammond, LA 70402. Website: http://www.selu.edu/Academics/Depts/Biology/.** *SLU is an Affirmative Action/Americans With Disabilities Act/Equal Employment Opportunity Employer.*

NEUROPHARMACOLOGIST
A TENURE-TRACK
ASSISTANT PROFESSORSHIP

We are a dynamic, productive department continuing a proud tradition of outstanding research. The successful applicant will receive an above-average start-up package. Research ability is the primary criterion and current funding is an important consideration. However, candidates with the potential to establish externally funded research programs will be considered. Because of its outstanding convention facilities, the scientific community comes to New Orleans, Lousiana. In addition, New Orleans is an exceptionally charming and livable city with a lower cost of living than other major cities. Please send your curriculum vitae, a statement of future plans, and the names of three references to: **Dr. Krishna C. Agrawal, Department of Pharmacology, Tulane University School of Medicine, 1430 Tulane Avenue, New Orleans, LA 70112. E-mail: agrawal@tulane.edu.** *Tulane University is an Equal Opportunity Employer offering an unusually generous fringe benefits allowance.*

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

The National Research Council announces Postdoctoral Research Opportunities in the NASA Astrobiology Institute

Postdoctoral research awards will be offered in the field of astrobiology at the NASA Astrobiology Institute. NASA has formed this new Institute to study the origin, distribution, evolution, and future of life on Earth and in the universe. Awards will be offered for multidisciplinary research in biology, genetics, chemistry, geology, planetary and space science, astronomy, paleontology, and other astrobiology-related areas. The awards will be for one year, possibly renewable, through the following lead institutions or their collaborators:

NASA Ames Research Center
NASA Johnson Space Center
NASA Jet Propulsion Laboratory
Arizona State University
University of California, Los Angeles
University of Colorado, Boulder
Harvard University
Pennsylvania State University
Carnegie Institution of Washington
Marine Biological Laboratory
Scripps Research Institute
University of Washington
Michigan State University
University of Rhode Island

• Stipend begins at $45,000 per year; Annual deadline is January 15 • Information & application materials at: www.national-academies.org/rap, or contact:

Dr. Robert Manka, Associate Director, or
Ms. Sally Lytch, Program Coordinator
Associateship Programs (TJ 2114/NAI)
NATIONAL RESEARCH COUNCIL
2101 Constitution Ave NW
Washington, DC 20418
E-mail: rap@nas.edu
Internet: www.national-academies.org/rap
Tel: (202) 334-2760

Dr. Edward Goolish, Science Projects Manager
NASA Astrobiology Institute, MS 240-1
NASA Ames Research Center
Moffett Field, CA 94035-1000
E-mail: egoolish@mail.arc.nasa.gov
Internet: http://nai.arc.nasa.gov
Tel: (650) 604-1961

Qualified applicants will be reviewed without regard to race, religion, color, age, sex or national origin.

THE NEW YORK BOTANICAL GARDEN

VICE PRESIDENT FOR BOTANICAL SCIENCE POSITION DESCRIPTION

The New York Botanical Garden is soliciting applications from outstanding candidates for the position of Vice President for Science. The appointee will hold an endowed chair (Pfizer Curator of Botany) at the full curatorial rank (equivalent to full professor) in the Garden's International Plant Science Center. In addition, the appointee will hold a tenured faculty position in the Department of Biology at New York University.

The successful candidate will possess a Ph.D. in Biology, and have an established research record in modern molecular and genomic approaches as applied to plant systematics and/or economic botany. An essential talent required will be the ability to creatively blend The New York Botanical Garden's unique biodiversity collections assets and deep expertise in plant and fungal diversity with the evolving molecular and genomics technologies. S/he will be a dynamic, collaboratively-minded individual with proven skills in interdisciplinary research team building. This is especially important as the Garden engages in a number of collaborative relationships with other organizations such as The Plant Genomics Consortium of The New York Botanical Garden with Cold Spring Harbor Laboratory and New York University and the joint molecular systematics research program with the American Museum of Natural History.

In addition, the Garden's Vice President for Science is one of the nation's highest profile spokespersons for the importance of basic research in the plant sciences, with an emphasis on the significance of plant biodiversity. The individual in this position will be responsible for representing NYBG and plant science in many venues, in government relations and to the private foundation community. In addition, the Vice President for Science must be a fluent and enthusiastic interpreter of plant science to a public audience.

The appointee must have managerial skills, as the Garden's Vice President for Science will oversee science programs, e.g., the Institutes of Systematic Botany and Economic Botany and The Lewis B. and Dorothy Cullman Program for Molecular Systematics Studies. This person is also a key member of the Garden's senior management team and must interact effectively within the broader organizational framework.

Applicants should send a curriculum vitae and statement of research interests, and the names and contact information for at least three references to: **Dr. Dennis Wm. Stevenson, Co-Chair, Vice President Search Committee, attn. Human Resources Department, The New York Botanical Garden, Bronx, NY 10458 USA**. Position open until filled; review of applications to commence on January 1, 2002.

The New York Botanical Garden is an Affirmative Action/Equal Opportunity Employer.

SCIENTISTS

Dade Behring Inc. is a leading global provider of medical diagnostic instruments and reagent systems. Our medical diagnostic instrument and reagent systems and related products are found in clinical laboratories worldwide and in 90% of American hospitals. Having a diverse group of individuals focused on success has helped make us a $1.2 billion global leader in the medical diagnostics industry. We have immediate needs for individuals interested in a technical leadership career. Responsibilities include in-vitro diagnostics assay development projects. You will design assay formats, select techniques, optimize reagent conditions for assays, and participate as an R&D representative on project Core Teams. Also responsible for project design documentation. Must have good interpersonal and communications skills. Must possess Ph.D. in Biochemistry, Immunochemistry or any related field. Postdoctoral experience in Clinical Chemistry is desirable but not required.

We offer competitive salaries and an outstanding benefits package. For consideration, please e-mail resume and salary requirements to one of the following, including job title: **dadechem@dadebehring.com or FAX: (302) 631-0348 or mail to Dade Behring, Inc., P.O. Box 6101, M/S 517, Newark, DE 19714-6101.**

DADE BEHRING

www.dadebehring.com

Equal Opportunity Employer

UNION

ECOLOGY/ANIMAL BEHAVIOR ASSISTANT PROFESSOR (September 2002)

We seek a candidate whose research focuses on the ecology and/or behavior of animals and includes a field component. We expect the successful candidate to develop an active research program that includes undergraduates. Teaching duties will include Animal Behavior, Ecology and participation in an introductory course in Environmental Studies.

A Ph.D. and commitment to undergraduate education are required. Postdoctoral and teaching experience is strongly preferred. Union College is a highly selective liberal arts college. Union offers an exceptional benefits package that includes medical, dental, and vision insurance, life and disability coverage, a generous retirement plan, and tuition remission. Additional information about Union can be found at www.union.edu

Please send a letter of application, CV, research and teaching statements, and three letters of reference by November 16, 2001 to:

Leo Fleishman
Department of Biology
Union College, 807 Union St.
Schenectady, NY 12308

Union College is committed to a program of affirmative action and equal employment opportunity. Women and minorities are strongly encouraged to apply.

POSITIONS OPEN

CONSERVATION BIOLOGIST/ POPULATION BIOLOGIST

A tenure-track faculty position in conservation biology/population biology is available at the **ASSISTANT PROFESSOR** level in the Biology Department at Wesleyan University. We are especially interested in candidates whose research addresses conservation biology issues in a broad population biology context by drawing on one or more of the following disciplines: evolutionary genetics, population ecology, behavioral ecology, or ecophysiology. We expect field work on natural populations to be a significant component of the successful candidate's research program. Wesleyan's Biology Department has a research-oriented faculty that successfully attracts outside funding. Candidates should have a Ph.D. and at least two years of postdoctoral experience. The successful applicant will be expected to set up an independent research program and to participate in the departmental Ph.D. program. Teaching will be in the areas of conservation biology, ecology, and evolution at the undergraduate and graduate levels. Please send us your curriculum vitae and a concise statement of future research plans and have three letters of recommendation sent to: **Conservation Biology Search Committee, Department of Biology, Wesleyan University, Middletown, CT 06459-0170** by December 3, 2001. *Wesleyan University values diversity and is an Equal Opportunity Employer.*

BOTANIST EVOLUTIONARY GENETICIST

University of Wisconsin–Eau Claire, a selective, primarily undergraduate, comprehensive university, seeks two tenure-track **ASSISTANT PROFESSORS** beginning August 2002 to serve in a highly collegial, modern biology department. (1) Botanist to teach upper-level course(s) in specialty and introductory courses including plant form and function. (2) Evolutionary Geneticist to teach genetics, biostatistics, and introductory courses including ecology and evolution. Candidates must enjoy teaching both majors and nonmajors. The Department strives for excellence in teaching and encourages student/faculty development through support of research. The successful candidate will have newly renovated teaching and research facilities and substantial start-up funds. The University supports ongoing research through internal programs and assistance in extramural grant development. Ph.D. required. Priority deadline: December 3, 2001. Send inquiry to: **Chair, Department of Biology, University of Wisconsin–Eau Claire, Eau Claire, WI 54702-4004. E-mail: weilmr@uwec.edu; Telephone: 715-836-4166; FAX: 715-836-5089.** More information at **website: http://www.uwec.edu/Academic/Biology/biology.html**. *Equal Opportunity/Affirmative Action Employer.*

Climate/atmospheric change. The Departments of Atmospheric Sciences and Civil and Environmental Engineering together with the Environmental Council at the University of Illinois at Urbana–Champaign seek a faculty member at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level (tenure track or tenured) to study climate/atmospheric change focusing on potential impacts, mitigation, adaptation, and on related public policies. The successful candidate must have a Ph.D. or equivalent in an appropriate scientific or engineering discipline and demonstrated expertise in the designated field of study. A full announcement appears at **website: http://www.environ.uiuc.edu/job.html.**

The position is available August 21, 2002. To ensure full consideration, candidates should apply by November 1, 2001. The salary is competitive. Candidates should submit current curriculum vitae and publication list; short statements of research, teaching, and public policy interests; and the names and contact information of at least four references to: **Dr. Stephen P. Long, Chair, Search Committee, 1101 West Peabody Drive, Room 350, Urbana, IL 61801.**

The University of Illinois is an Affirmative Action/Equal Opportunity Employer. Minorities, women, and other designated class members are encouraged to apply.

POSITIONS OPEN

ASSISTANT PROFESSOR
Department of Biochemistry and Molecular Genetics
University of Colorado Health Sciences Center

We are seeking a Biochemist for a tenure-track faculty position. Preference will be given to candidates whose research addresses mechanistic issues from a biochemical, biophysical, or structural perspective. Candidates should have an exceptional record of research accomplishments and will be expected to pursue a vigorous, independent research program. Candidates are expected to contribute to the teaching program of the Department. Applicants should submit curriculum vitae, a statement of research plans, and should also arrange to have three letters of reference forwarded to:

Faculty Search Committee
Department of Biochemistry and Molecular Genetics
Box B–121
University of Colorado Health Sciences Center
4200 East Ninth Avenue
Denver, CO 80262

For full consideration, completed applications should be received by November 15, 2001. Learn more about our department at: **website: http://www.uchsc.edu/sm/bbgn/.**

The University of Colorado Health Sciences Center is committed to Equal Opportunity and Affirmative Action.

BIOLOGY: ASSISTANT or **ASSOCIATE PROFESSOR**, College of Liberal Arts and Sciences, Alfred University. The Division of Biology seeks to fill a tenure-track position in integrative cell biology beginning fall semester 2002. Candidates with a Ph.D. and a strong commitment to undergraduate teaching and research are encouraged to apply. Primary teaching responsibilities will expand course offerings in cell and/or developmental biology. Prior teaching experience is preferred, and the successful candidate must have demonstrated capabilities to develop a research program. The successful candidate will also have the opportunity to teach and collaborate in research on cell surface-mediated phenomena in the biomedical materials engineering science Master's program in the School of Ceramic Engineering and Materials Science. Start-up funds for this collaboration are available from a Whitaker Special Opportunity Grant. Send letter of application, curriculum vitae, three letters of reference, and statements of teaching philosophy and research interests (including relevant reprints) to: **Dr. Bradley Bowden, Chair, Integrative Biologist Search, Division of Biology, Alfred University, Alfred, NY 14802. Telephone: 607-871-2205; FAX: 607-871-2359; e-mail: fbowden@alfred.edu; websites: http://bio.alfred.edu** and **http://bmes.alfred.edu**. Formal review of applications will begin October 29, 2001, and continue until position is filled. *Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION
Genetics

Southwest Missouri State University's Biology Department invites applications for a tenure-track **ASSISTANT PROFESSOR** in eukaryotic genetics. Requirements include a Ph.D.; peer-reviewed publications; and research that complements faculty strengths in ecology, evolution, and systematics; organismal biology; microbiology and biotechnology; and wildlife biology. Duties include courses in genetics and specialty, student advisement, research and publication, and involvement with the Master's program. Starting date is 12 August 2002. Submit letter specifying teaching/research interests, curriculum vitae, transcripts, and three letters of reference to: **Dr. Alicia Mathis, Biology Department, Southwest Missouri State University, Springfield, MO 65804-0095. Telephone: 417-836-5699; FAX: 417-836-4204; e-mail: sam477f@smsu.edu; website: http://biology.smsu.edu/.** Review of applications will begin 10 January 2002. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

DEPARTMENT OF SURGERY
GRADUATE SCHOOL OF MEDICINE
University of Tennessee

The Department of Surgery located at the University of Tennessee Medical Center in Knoxville, Tennessee, invites applications for an **ASSISTANT/ASSOCIATE PROFESSOR** position (tenure track negotiable) to direct the research activities in the vascular research laboratory in the Division of Surgical Research. Research expertise must include molecular and whole animal approaches to address functional aspects of vascular biology. The successful applicant will be expected to have a developed and extramurally funded research program in vascular biology and interact with clinical Specialists in vascular disease and participate in the teaching of surgery Residents and vascular Fellows. Qualifications include a Ph.D. and/or M.D. or D.V.M. In addition to start-up funds, the appointee will be expected to compete successfully for research support from NIH and/or other granting agencies. Review of applications will begin January 14, 2002, and continue until position is filled.

Applicants should send curriculum vitae, statement of research interested in and future plans, representative reprints, and names of three references to: **Dr. Michael D. Karlstad, Chair, Search Committee, Department of Surgery, Graduate School of Medicine, University of Tennessee Medical Center, 1924 Alcoa Highway, Knoxville, TN 37920. E-mail: mkarlsta@mc.utmck.edu; Telephone: 865-544-9077.** *GSM is an Equal Employment Opportunity/Affirmative Action/Section 504/Americans With Disabilities Act/Title VI/Title IX/Age Discrimination in Employment Act Employer.*

Biological sciences: **ASSISTANT PROFESSOR** (full-time) beginning August 1, 2002. Molecular Geneticist: Ph.D. required and postdoctoral research experience desired. Primary teaching responsibilities involve undergraduate courses in introductory genetics and molecular genetics, a graduate course in environmental genetics, and development of advanced courses in specialty of interest. Commitment to teaching excellence, responsiveness to student needs, and effective communication skills essential. Scholarly activities and a research program that involves undergraduate and graduate students expected. Pursuit of extramural funding for research essential. Advising students and participation in departmental matters required. Preference given to candidates with demonstrated excellence in college or university teaching. Send curriculum vitae, transcripts, statement of interest and goals in teaching and research, and three reference letters to: **Dr. Charles H. Nelson, Head, Department of Biological and Environmental Sciences, 615 McCallie Avenue, The University of Tennessee at Chattanooga, Chattanooga, TN 37403.** Screening of credentials will begin December 1, 2001, and will continue until the position is filled. *UTC is an Equal Employment Opportunity/Affirmative Action/Title VI/Title IX/Section 504/Americans With Disabilities Act/Age Discrimination in Employment Act Institution.*

The Division of Rheumatology, Allergy, and Immunology of Virginia Commonwealth University seeks a tenure-track Physician-Scientist at the **ASSISTANT/ASSOCIATE PROFESSOR** level. The qualified M.D. or M.D./Ph.D. candidate should be Board certified/Board eligible in internal medicine. Board certified/Board eligible in allergy/immunology or rheumatology is preferable. Candidates will be expected to develop an independent research program utilizing cutting-edge molecular and cell biology technologies to address important problems in these disciplines. Substantial resources are available for career development. Interested candidates should send their curriculum vitae, letter of interest, and names of three references to: **Dr. Lawrence Schwartz, Chair, Division of Rheumatology, Allergy, and Immunology, Virginia Commonwealth University, P.O.B. 980263, Richmond, VA 23298-0263. E-mail: lschwart@hsc.vcu.edu.** *VCU is an Equal Opportunity/Affirmative Action Employer. Women, minorities, and persons with disabilities are encouraged to apply.*

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

Postdoctoral Position
to study Alphavirus and Flavivirus Infections

A postdoctoral position is available in the Department of Immunology to study Alphavirus and Flavivirus infections, examining the role of myeloid cells in viral pathogenesis, the consequences of viral infection of myeloid cells on the immune system and the use of viral vectors in a tumor immunotherapy model. The support facilities and the research environment at St. Jude Children's Research Hospital are exceptional, with strong collaborative interactions between departments within St. Jude.

The candidate should have a Ph.D. degree or equivalent with experience in immunology, virology or signal transduction. Please send curriculum vitae and the names of three references to:

Gene MacDonald, Ph.D.
Department of Immunology
St. Jude Children's Research Hospital
332 North Lauderdale St.
Memphis, TN 38105

SJCRH is an Affirmative Action/Equal Opportunity Employer.

National Institute of Arthritis and Musculoskeletal and Skin Diseases

Postdoctoral Research Positions
Cartilage Biology Branch

National Institutes of Health (NIH)
Department of Health and Human Services
Bethesda, Maryland

The newly created Cartilage Biology and Orthopaedics Branch, NIAMS, has Postdoctoral positions available to participate in projects focused on (1) Molecular and Cellular Biology of Skeletal Development - cell-cell and cell-matrix interactions, segmentation and patterning, and growth factors in cell differentiation and signal transduction; and (2) Cartilage Tissue Engineering-mesenchymal stem cell isolation and characterization, development and application of 3-dimensional osteochondral constructs, cellular interaction with biomaterials, and bioenhancement of osseointegration. Candidates should have expertise in cellular and molecular biology, animal models of tissue injury and repair, and/or bioengineering, and must have a Ph.D., D.D.S., D.V.M., and/or M.D. degree with less than five years of postdoctoral experience. Individuals who have significant, postdoctoral experience (more than five years) may be appointed as Research Fellows. Successful applicants will have the opportunity for extensive interactions with other members of the Cartilage Biology and Orthopaedics Branch. To apply, send a curriculum vitae and have three letters of recommendation addressed to Rocky S. Tuan, Ph.D., Chief, Cartilage Biology and Orthopaedics Branch, NIAMS, sent to:

Mr. Scott Sigley
31 Center Drive Building 31 Room 4C-13 MSC 2350
Bethesda, Maryland 20892
sigleys@mail.nih.gov

National Institutes of Health
is an Equal Opportunity Employer

NATIONAL INSTITUTES OF HEALTH

nature biotechnology

seeks an **ASSISTANT EDITOR**

This is an exciting opportunity to contribute directly to the ongoing development of this influential journal. The Assistant Editor will focus on manuscript selection and peer review, but will also have an opportunity to contribute to all aspects of the journal, including commissioning, writing and web development. Close contact with the biotechnology community will be essential, including travel to international meetings and conferences.

Based in our growing New York City office, the successful applicants will join a large and dynamic editorial and publishing team responsible for *Nature Genetics, Nature Immunology, Nature Structural Biology, Nature Medicine, Nature Neuroscience* and *Nature Biotechnology* and will enjoy a close working relationship with the London-based *Nature* and *Nature Cell Biology* teams. The atmosphere is hard working, fast-paced and friendly.

Applicants should have a Ph.D.; a strong research background; a broad understanding of, and interest in, the field; excellent literary skills; an enthusiasm for, and commitment to, the communication of science; and an appreciation of the history and evolution of molecular biology into biotechnology.

To apply, please submit a CV (including current salary), a short (700–900 words) News & Views-style article on an exciting and newsworthy recent development in any area of biotechnology, and a short cover letter explaining your interest in the post, to M. Maddock, Human Resources, re: Assistant Editor, *Nature Biotechnology*, 345 Park Avenue South, New York NY 10010 (fax 212.696.9594; email admin@natureny.com) to arrive as soon as possible and **not later than November 9, 2001**.

Postdoctoral Fellow
Laboratory of Molecular Biology
National Heart, Lung, and Blood Institute, NIH

The National Heart, Lung and Blood Institute (NHLBI), Division of Intramural Research, Laboratory of Molecular Biology seeks to hire a Postdoctoral Fellow to work in a new laboratory at the NHLBI. The goal of the lab is to find genetic markers of atherosclerosis and other cardiovascular diseases to advance our diagnostic and prognostic capabilities and to search for new therapeutic targets. Research work will involve high throughput genomic approaches using patient samples and animal models of cardiovascular diseases. Promising candidate genes will be studied to determine their role in cardiovascular disease pathogenesis using cellular and molecular biological techniques, including Serial Analysis of Gene Expression and targeted disruption of genes. The influence of the mitochondrial redox system on the pathogenesis of cardiovascular diseases will be another area of interest to the laboratory.

The postdoctoral positions require a Ph.D. and/or M.D. degree. Prior experience in molecular genetics and with cardiovascular disease models is desirable but not required. The successful candidate will be offered stipend support commensurate with experience.

Scientific inquiries can be directed to Dr. Paul M. Hwang [hwangp@nhlbi.nih.gov]. Please submit a *curriculum vitae* and a brief statement of research interest along with names and telephone numbers, postal and e-mail addresses of three references to:

Paul M. Hwang, M.D., Ph.D.
Investigator, NHLBI-NIH
10 Center Drive, MSC 1650, Bldg 10, Rm 7B15
Bethesda, MD 20892-1670

Tel: 301-435-3068, Fax: 301-402-0888
Email: hwangp@nhlbi.nih.gov

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

MARINE SCIENCE FACULTY POSITIONS: The Marine Science Program at Long Island University's Southampton College seeks applicants for two **TENURE-TRACK FACULTY POSITIONS** to commence fall 2002. (1) Marine Ecologist: Teach marine ecology and other marine science and/or biology courses. (2) Oceanographer: Teach physical oceanography and other marine science and/or computer, math, or physics courses. Positions may be filled at any rank. Postdoctoral and teaching experience desirable. Strong commitment to undergraduate education and an active marine research program involving undergraduates expected. Development of new courses in areas of expertise encouraged. Southampton College (**website: http://www.southampton.liu.edu**) has a nationally recognized undergraduate marine science program that has generated 36 Fullbright Scholars during the past 25 years. Our well-equipped laboratories, 42-foot research vessel, and on-campus marine station all facilitate excellent opportunities in estuarine and coastal marine research. Curriculum vitae, statement of research, teaching philosophy, and three letters of reference by 15 November 2001 to: **Dr. Christopher J. Gobler, Natural Science Division, Southampton College, 239 Montauk Highway, Southampton, NY 11968. Telephone: 631-287-8397; e-mail: cgobler@southampton.liu.edu**. Positions will remain open until filled. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOW/INDUSTRY

Virtual Arrays, Inc., a dynamic biotechnology company in Silicon Valley, California, is offering a Postdoctoral position in its Proteomics and Cell Biology research group. The selected candidate will be working in the development of protein and cell assays for drug discovery using Virtual Arrays' innovative technology. A Ph.D. in cell biology or related areas is necessary. Experience with tissue culture, transfection methodology, and cell assays is a must. Knowledge of protein biology, proteomics, and/or protein immobilization is a big plus. The ideal candidate should be well organized, innovative, independent, and should have good communications skills.

Please send your résumé, references, and contact information to the following: **e-mail: humres@virtualarrays.com; FAX: 408-543-1707**, Attention: Human Resources. *Virtual Arrays is an Equal Opportunity Employer that offers excellent salaries and benefits.*

POSTDOCTORAL POSITIONS BIOINFORMATICS AND GENOMICS

The Sidney Kimmel Cancer Center in San Diego, California, has two Postdoctoral positions available in our new cores, Bioinformatics and Genomics. Both positions require a Ph.D. in molecular biology, cellular biology, or genetics/genomics and demonstrated comprehensive knowledge and experience in relevant technologies. The bioinformatics position also requires a background in bioinformatics and high-throughput screening systems. Candidates with hands-on experience with microarrays and related data analysis are preferred for the genomics position. Interested candidates should send their curriculum vitae to: **Dr. John Gu, c/o Human Resources-GUS, 10835 Altman Row, San Diego, CA 92121. FAX: 858-410-4222; e-mail: jgu@skcc.org**. *Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION AT INNOVATIVE COLLEGE: ALL FIELDS

Deep Springs College seeks candidates in all areas of the natural/physical sciences and mathematics for the Herbert J. Reich Professorship, a one- to-six-year appointment. Located on a ranch in California just east of the Sierra Nevada range, Deep Springs is America's smallest and most selective accredited liberal arts college, preparing 26 young men (average SAT 1500) for lives of service to humanity. For details, see **website: http://www.deepsprings.edu**.

POSITIONS OPEN

CELL BIOLOGY, MOLECULAR BIOLOGY, DEVELOPMENTAL GENETICS

The Department of Biological Sciences at Marshall University seeks to fill three tenure-track positions for fall 2002 at the **ASSISTANT PROFESSOR** level in the areas of cell biology, molecular biology, and developmental genetics. An earned Doctorate in a relevant field and postdoctoral training are required. Successful candidates are expected to contribute to teaching of undergraduate and graduate students and supervise an independent research program that will attract external funding. Each position has a competitive salary and an attractive start-up package, which includes funds for student and technical support. Opportunities exist for interdisciplinary collaboration with faculty from the College of Science and the Marshall University School of Medicine. Marshall University is the state's second-largest university and is located in the western tristate region. Send curriculum vitae, statements of (1) research experience and plans and (2) teaching experience and interests, and three letters of reference to: **Search Committee, Department of Biological Sciences, Marshall University, 1 John Marshall Drive, Huntington, WV 25755**. Review of applications will begin on December 1, 2001, and continue until the positions are filled. Additional information can be found at **website: http://www.marshall.edu** or by calling the Department at **Telephone: 304-696-5413**. *Marshall University is an Equal Opportunity/Affirmative Action Employer and strongly urges application by women and minorities.*

ASSISTANT PROFESSOR IN BIOPHYSICS
Wake Forest University

The WFU Physics Department invites applications for a tenure-track Assistant Professor in theoretical or computational biophysics to begin in August 2002. The successful candidate is expected to excel in undergraduate and graduate teaching, establish an independent research program, and attract external funding. Collaboration with Researchers in chemistry, biology, computer science, and the Medical School is encouraged. Wake Forest is a highly ranked, private university with about 3,800 undergraduates; 600 graduate students; and 1,500 students in the schools of medicine, law, and business. Biophysics is a major focus in the Department, which is also seeking to fill an Endowed Chair in computational biophysics. Applicants should send curriculum vitae, teaching philosophy, and research plan. They should have three references send letters that evaluate the candidate's potential for teaching and research. Applications are due January 5, 2002, addressed to: **Chair, Search Committee, Department of Physics, Wake Forest University, Winston–Salem, NC 27109-7507**. More information is available at **website: http://www.wfu.edu/physics/recruiting**. *Wake Forest University is an Equal Opportunity/Affirmative Action Employer.*

NEPHROLOGY FACULTY POSITION

The Nephrology Division at the University of Texas Southwestern Medical School seeks applications for faculty positions at the **ASSISTANT/ASSOCIATE PROFESSOR** level. Candidates must have a Ph.D., M.D., or equivalent degree and will be expected to develop an independent research program and participate in the educational and/or clinical activities of the Division. Individuals with interests in glomerular biology, genetics, polycystic kidney disease, or kidney development are particularly encouraged to apply. Competitive salaries, substantial start-up packages, and brand-new laboratory space are available at one of the country's leading academic medical centers. Send curriculum vitae, description of research interests, and three letters of reference to: **Peter Igarashi, M.D., Chief of Nephrology, UT Southwestern, 5323 Harry Hines Boulevard, Dallas, TX 75390-8856. E-mail: peter.igarashi@utsouthwestern.edu; website: http://www.swmed.edu/home_pages/nephrology**. *UT Southwestern is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY POSITION
APPLIED SCIENCE DEPARTMENT

The Applied Science Department of the College of William & Mary invites applicants for a tenure-track position at the **ASSISTANT PROFESSOR** level in biomedical engineering, biomaterials, and/or a related field emphasizing either computational or experimental tools. An offer at the Associate level may be made for exceptionally strong qualifications. The new faculty member will be asked to contribute significantly to leadership in the effort of the Department and the College to strengthen life sciences activities. Further, he or she will be strongly encouraged to form collaborations with other W&M members and with external institutions as appropriate. Excellence and high commitment in the teaching of undergraduate and graduate students is expected of all faculty at the College. Candidates at the Associate level must show an established, successful research program; excellence in teaching; effectiveness in forming collaborations; and evidence of national or international prominence in the field. The Applied Science Department occupies facilities on William & Mary's main campus in Williamsburg, Virginia, and at the Applied Research Center at Jefferson Laboratory in nearby Newport News, Virginia. Candidates should submit complete curriculum vitae, copies of no more than five refereed publications in the above areas, and have at least three letters of recommendation submitted on their behalf to: **New Faculty Search, Department of Applied Science, The College of William & Mary, P.O. Box 8795, Williamsburg, VA 23187-8795**. Review of materials is expected to begin about January 1, 2002, and continue until the position is filled. *The College is an Equal Employment Opportunity/Affirmative Action Employer.*

FACULTY POSITION
ASTHMA RESEARCH

The University of Texas Medical Branch (UTMB) in Galveston, Texas, is seeking a Research Scientist (Ph.D. or M.D.) for a **TENURE-TRACK FACULTY POSITION** in the Division of Allergy and Immunology, Department of Internal Medicine. Rank, tenure status, and salary will be commensurate with experience. The NIAID Asthma and Allergic Diseases Research Center at UTMB has a strong basic science program aimed at unraveling the immunologic basis of asthma and allergy. The position offers an attractive start-up package and an outstanding collaborative environment with the existing research strengths at UTMB. Send curriculum vitae and three references to: **Rafeul Alam, M.D., Ph.D., Director, Allergy and Immunology Division, The University of Texas Medical Branch at Galveston, 301 University Boulevard, Galveston, TX 77555-1083. Telephone: 409-772-3411; FAX: 409-772-5841; e-mail: ralam@utmb.edu**. *UTMB is an Equal Opportunity/Affirmative Action Employer; Minorities/Females/Disabled/Veterans. UTMB hires only individuals authorized to work in the United States.*

FACULTY POSITIONS
Department of Environmental Sciences and Engineering
University of North Carolina at Chapel Hill U.S.A.

The Department of Environmental Sciences and Engineering, School of Public Health, The University of North Carolina at Chapel Hill, anticipates hiring about 15 new **FACULTY MEMBERS** over the next decade; most will be at the junior level. Our strategy will be to hire the best candidates available in environmental science, engineering, and policy regardless of subdiscipline. In the near term, we are especially interested in receiving applications from candidates with expertise in aerosol engineering, environmental chemistry, environmental microbiology, environmental policy analysis, and exposure/risk assessment. See our **website: http://www.sph.unc.edu/envr**. *UNC-CH is an Equal Opportunity/Americans With Disabilities Act Employer. Women and minorities are encouraged to apply.*

IOWA STATE UNIVERSITY

PROFESSOR AND DIRECTOR

Center for Designing Foods to Improve Nutrition/Food Science and Human Nutrition

Reopened Search

The Director of the Center for Designing Foods to Improve Nutrition provides leadership for the $3.5 million research program at Iowa State University with more than 80 affiliated faculty and 4 staff positions. The mission of the Center is to conduct and foster interdisciplinary research to improve nutrition and promote good health through new and traditional foods. Complementing the Center are strong programs in Human Nutrition, Animal Nutrition, Food Science, Biotechnology and the campus-wide Plant Sciences Institute. The primary duties of the Director are to: (1) foster multidisciplinary research and outreach programs within and beyond Iowa State University and with the food and nutrition industries that will lead to development of new foods that optimize human health; and (2) supervise the three core facilities and their staffs (Sensory Unit, Human Metabolic Unit, and Mass Spectrometer Facility). The Director is also expected to develop his or her own nationally recognized research program with external funding in an area supporting the mission of the Center. The position will focus on leadership in research and outreach but the Director will also be expected to contribute to the University's teaching mission by teaching in his or her own area of specialization in the Department of Food Science and Human Nutrition as a tenured full professor. Proposed Start Date: July 1, 2002.

Required Qualifications: Ph.D. in nutrition, food science, or related area and evidence of interdisciplinary leadership. A senior scientist is sought with experience equivalent to the rank of full professor and evidence of collaboration with or experience in the food and nutrition industries. Must be capable of institutional thinking and have strong communication, leadership and mentoring skills.

Salary/Wage: Commensurate with experience.

Application Deadline: To guarantee consideration, application must be received by December 1, 2001.

Application Instructions: Applicants should submit a letter of application and a curriculum vitae. They will be asked to submit the names and phone numbers of 5 individuals who are willing to provide letters of reference upon request of the search committee. Applications are to be sent to: **Dr. Patricia A. Murphy, Ph.D., University Professor, Department of Food Science and Human Nutrition, 1127 Human Nutritional Sciences Building, Iowa State University, Ames, IA 50011-1120. (Telephone: 515-294-1970; Fax 515-294-8181, e-mail: pmurphy@iastate.edu).** Center information is available at: http://www.cdfin and http://www.plantsciences.iastate.edu/research.html

An Equal Opportunity/Affirmative Action Employer.

THE UNIVERSITY OF CHICAGO

Deputy to the Vice President for Research and for Argonne National Laboratory, and Secretary to the Board of Governors

Reporting to the University of Chicago Vice President for Research and for Argonne National Laboratory, the Deputy will be part of the team managing the University's operation of Argonne for the U.S. Department of Energy.

Argonne National Laboratory is a multi-disciplinary research center with major missions in advanced energy technologies, environmental management, and basic sciences including chemistry, biology, physics, computer science and materials science. The Laboratory runs a number of world-class national user facilities, including the Advanced Photon Source and the Intense Pulsed Neutron Source. The Laboratory's main site is in the Chicago suburbs, with a second major site in Idaho.

The University of Chicago has been involved in operating Argonne since the Laboratory's inception in 1946, and the University of Chicago Board of Governors for Argonne plays an essential role.

Working closely with the Vice President, the Argonne leadership, and the Board of Governors, the Deputy will:

- Serve as Secretary to the Board of Governors to facilitate and support planning, execution, review, and reporting of the Board's activities.
- Manage the University's extensive science, technical, and administrative reviews of the Laboratory.
- Represent the Vice President, as assigned, in discussions with the Department of Energy and other Federal and State offices, and in particular with the Department of Energy Chicago Operations Office.
- Oversee the management of the University's office and support staff at Argonne.
- Work regularly with other University and Argonne administrators and researchers to support the University's operation of Argonne, and assist in scientific programmatic development and interactions between the Laboratory and the University.

The Deputy will be located primarily in the University's Argonne Office. Weekly travel to the University campus is required, as well as periodic travel to Argonne's Idaho site and to Washington, D.C.

Qualifications: Advanced degree in science, engineering, or public policy or related field, with experience in R&D management; familiarity with higher education research environment; ability to develop a significant understanding of Argonne and its operations; and excellent communication and interpersonal skills required. The ideal candidate will have a background in sciences in order to develop a substantive understanding of the scientific opportunities and challenges of the institution. Experience with a Department of Energy Laboratory is not required, but would be a plus.

Applications and nominations should be sent to: **University of Chicago, Office of the Vice President for Research and for Argonne National Laboratory, 5801 South Ellis Avenue, Chicago IL 60637**; or electronically to **v-aitchison@uchicago.edu**.

FACULTY POSITION
CELL BIOLOGIST

The Department of Zoology, University of Wisconsin-Madison, invites applications for a tenure-track position at the Assistant Professor level, beginning August 2002.

Requirements include a Ph.D and Post-doctoral experience in cellular or molecular biology and demonstrated research accomplishments. Teaching will include courses at the undergraduate and graduate levels. For additional information see our departmental website **http://www.wisc.edu/zoology.** Applicants should submit curriculum vitae, description of research plans, teaching philosophy, select publications, and three letters of recommendation via U.S. mail to:

Cellular Biology Search Committee
Department of Zoology
University of Wisconsin-Madison
250 N. Mills Street, 145 Noland Hall
Madison, WI 53706-1794
Phone 608-262-1725 or 608-262-1051
FAX 608-262-9083
Email: zoology@macc.wisc.edu or cacooley@facstaff.wisc.edu

Only applications submitted by mail will be accepted. No email submissions accepted.

Application Deadline: December 31, 2001
Unless confidentiality is requested in writing information regarding applicants must be released upon request. Finalists cannot be guaranteed confidentiality.

An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

POSTDOCTORAL RESEARCH FELLOW

Scott & White is one of the nations largest integrated healthcare systems with a 515 physician clinic and a 453 bed hospital. We are also affiliated with the Texas A&M University College of Medicine.

A Postdoctoral position is available immediately to study signaling pathways involved in the morphogenesis of intrahepatic bile ducts. The work will focus on the growth factors, in-vitro bile duct formation and ERK/PI3K signaling. A doctoral degree is required. Experience in cell culture and cell and molecular biology is desired.

We offer a competitive salary and benefits package, including relocation assistance. Please send CV to: **Gene LeSage, MD, Scott & White Clinic, 2401 S. 31st Street, Temple, TX 76508,** or e-mail: **glesage@mailbox.sw.org.** EOE

S&W SCOTT & WHITE

1-800-527-JOBS • www.sw.org

POSITIONS OPEN

TENURE-TRACK FACULTY POSITION

The Department of Psychiatry at Yale University School of Medicine is recruiting a Neurobiologist for a tenure-track faculty position in the Division of Molecular Psychiatry. This position will carry an academic appointment at the level of **ASSISTANT PROFESSOR** contingent upon the candidate's level of experience. This basic research-oriented division is composed of a multidisciplinary faculty focused on elucidating fundamental mechanisms of neuronal function and how they relate to complex behavior including major psychiatric illnesses and drug abuse. Attractive candidates are those with expertise in molecular biology and/or behavioral analysis, particularly in the area of fear and anxiety. Applicants must have a Ph.D. and/or M.D. degree with demonstrable research contributions. Excellent start-up resources and core facilities are available. The deadline for submitting all materials for application is January 1, 2002. For full consideration, please send curriculum vitae; representative reprints; a brief statement of research interests; and three letters of reference to:

Ronald S. Duman, Ph.D.
Search Committee Chairman
Director, Abraham Ribicoff Research Facilities
Department of Psychiatry
Yale University School of Medicine
34 Park Street
New Haven, CT 06508

Yale University is an Affirmative Action/Equal Opportunity Employer. Applications from women and minority group members are specifically invited.

FACULTY POSITION PHARMACOLOGY

The Department of Pharmacology at the University of Nebraska Medical Center invites applications for a faculty position at the level of **ASSISTANT PROFESSOR** or **ASSOCIATE PROFESSOR**. The position is state supported (12 months) and has the potential for tenure. The Department, which currently consists of 10 full-time and 14 adjunct faculty, seeks individuals with research interests in the area of signal transduction related to neuroscience, cancer biology, or cardiovascular biology using cellular, molecular, or genetic approaches. The position is supported by a competitive start-up package and by approximately 20 UNMC research core facilities. Further information on the Department can be obtained at **website: http://www.unmc.edu/Pharmacology/**. Review of applications will begin December 1, 2001, and continue until the position is filled. Applicants should submit curriculum vitae, a summary of research accomplishments and future research plans, and names of three references to: **Chair, Search Committee, Department of Pharmacology, University of Nebraska Medical Center, 986260 Nebraska Medical Center, Omaha, NE 68198-6260**. *The University of Nebraska Medical Center is an Equal Opportunity/Affirmative Action Employer. Women and minority Researchers are particularly invited to apply.*

ZOOLOGIST, Lynchburg College in Virginia. **ASSISTANT/ASSOCIATE PROFESSOR**, tenure track, Ph.D. Familiarity with broad range of animal taxa and field techniques. Teach general zoology, freshman courses in biology and environmental science, and advanced course(s) (e.g., entomology, ornithology, parasitology, etc.). Active personal research/professional development and research with undergraduate students is expected. Ability to teach in the study abroad program (e.g., tropical biology) is an asset. Send résumé; teaching philosophy; research plans; names, mailing addresses, telephone numbers, and e-mail addresses of three references; and copies of graduate transcripts to: **James E. Carico, Dean, School of Sciences, Lynchburg College, 1501 Lakeside Drive, Lynchburg, VA 24501 U.S.A.** E-mail applications are welcome. More information at **website: http://www.lynchburg.edu/sciencepositions**. Review of applications will continue until position is filled. *Equal Opportunity Employer.*

POSITIONS OPEN

FISH POPULATION BIOLOGIST. The Institute of Marine and Coastal Sciences (IMCS) and the Department of Marine and Coastal Sciences (Cook College) of Rutgers, The State University of New Jersey, invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level. The successful candidate will conduct research in marine fish population dynamics and participate in graduate and undergraduate teaching and outreach.

Candidates should have a Ph.D.; postdoctoral or equivalent experience; and a strong publication record showing innovative, quantitative approaches to the modeling and analysis of fish populations. The successful candidate will have a strong commitment to graduate and undergraduate teaching, interact with fisheries stock assessment Scientists and Managers in state and federal agencies, and play a leadership role in the Fisheries Information and Development Center at IMCS (established by the New Jersey legislature to "address the most urgent research and development needs of the commercial and recreational fisheries industries in the State").

Send curriculum vitae; statement of research interests; and the names of three references by December 15, 2001, to: **Dr. J. Frederick Grassle, Institute of Marine and Coastal Sciences, Rutgers, The State University of New Jersey, 71 Dudley Road, New Brunswick, NJ 08901-8521**. *Rutgers is an Equal Opportunity/Affirmative Action Employer.*

CLEMSON UNIVERSITY
Department of Physics and Astronomy

The Department of Physics and Astronomy of Clemson University invites applications for up to two tenure-track positions to begin in the academic year 2002–2003. The search will emphasize candidates in biophysics. 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; and names, addresses, and telephone numbers of three references. Address applications to: **Search Committee, Department of Physics and Astronomy, Clemson University, Clemson, SC 29634-0978**. To receive full consideration, applications should be received by December 15, 2001. The search will continue until the positions are filled. Clemson University is the land grant institution of South Carolina. Further details about the Department can be found at the **website: http://physicsnt.clemson.edu**. *Clemson University is an Equal Opportunity/Affirmative Action Employer. Qualified women and minorities are encouraged to apply.*

SENIOR STAFF SCIENTIST: Search for and characterize novel compounds having therapeutic potential in the central nervous system disease. Demonstrate strong background in G protein-coupled receptor pharmacology with *in vitro* and *in vivo* experience in ligand receptor binding, autoradiography, hormone radioimmunoassays, brain tissue dissection, cell culture, Western blots, and cell-based functional assays. Work with animals is required. Train junior staff; set up instruments and assays. Maintain laboratory operating supplies and handle radioactive chemicals in safe manner. Requires experience in neuroendocrinology, neuroanatomy, HPLC, and animal surgery. M.S. in neuroscience and two years of experience in job offered or in neuroscience or medical research or B.S. in neuroscience plus five years of progressively responsible experience. Forty hours per week; salary commensurate with experience. Submit résumé to: **Box 104, 1200 New York Avenue, N.W., Room 911, Washington, DC 20005**.

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR OF BIOLOGY

The Department of Biology of the College of Staten Island of The City University of New York seeks candidates for an anticipated tenure-track position in molecular phylogeny/evolution as an Assistant or Associate Professor beginning September 2002. Required: Ph.D., a demonstrated commitment to research, college teaching experience, and experience in curriculum development. Postdoctoral experience and grant activity preferred. Responsibilities include teaching undergraduate and graduate courses in molecular phylogeny, performing department and college service, and engagement in an active and productive research agenda. The successful candidate will present credentials appropriate for appointment to the Doctoral faculty of the CUNY Graduate School. Salary range: Assistant Professor, $42,162 to $57,049; Associate Professor, $46,094 to $68,174 commensurate with qualifications. Appointment at the Associate Professor level will require external funding. Review of applications will begin on October 30, 2001, and continue until the position is filled. Send letter of application including research plans and a statement of teaching philosophy; curriculum vitae; and the names, addresses, and telephone numbers of three references to: **Professor Jacqueline LeBlanc, Chair, Molecular Phylogeny/Evolution Search Committee, Department of Biology, College of Staten Island/CUNY, 2800 Victory Boulevard, Staten Island, NY 10314**. *Equal Employment Opportunity/Affirmative Action/Americans With Disabilities Act Employer.*

FULL-TIME ASSISTANT PROFESSOR
Department of Biology

Xavier University, a Catholic University in the Jesuit tradition, is expanding its curriculum to meet the future needs of its undergraduate students. As part of this process, we are actively seeking applications for an tenure-track position at the Assistant Professor level beginning in the fall of 2002. The individual must hold a Ph.D. degree in the area of microbiology. Responsibilities include teaching introductory biology lecture and laboratory courses for majors and nonmajors, teaching one or more upper-level biology majors courses in an area of specialty, continuing to be actively engaged in scholarly activities, advising undergraduate students, and developing a strong undergraduate research program. The successful and motivated candidate must have demonstrated excellence in teaching undergraduates. Experience in mentoring undergraduates in research is a plus.

Interested/qualified applicants must submit a cover letter; résumé; three letters of recommendation; and a statement of teaching and research interests postmarked no later than December 20, 2001, to: **Dr. Charles J. Grossman, Chair, Department of Biology, Xavier University, 3800 Victory Parkway, Cincinnati, OH 45207-4331**. *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW
VAN ANDEL RESEARCH INSTITUTE

A Postdoctoral position is available to study the regulation of DNA replication in mammalian cells using immortalized and cancer-derived cell lines. Errors in the regulation of replication initiation either during the normal cell cycle or in response to DNA damage could contribute to the development of cancer. We will use biochemical and immunological tools to study a key protein kinase involved in replication initiation. The applicant should have a Ph.D. in the biological sciences and also experience with cancer biology, protein biochemistry, or immunohistochemistry. Please send a letter describing your research interests, curriculum vitae, and the names and addresses of three references to: **Dr. Michael Weinreich, Van Andel Research Institute, 333 Bostwick Avenue, N.E., Grand Rapids, MI 49503. E-mail: michael.weinreich@vai.org; website: http://www.vai.org/vari/home.htm**. *Equal Opportunity Employer.*

POSITIONS OPEN

PLANT ECOLOGIST

The Department of Botany at the University of Toronto invites applications for a tenure-track faculty position at the **ASSISTANT PROFESSOR** level in the area of plant ecology to begin July 1, 2002. Areas for recruitment include Specialists in all areas of plant ecology with particular emphasis given to applicants who are using or will develop experimental approaches to understanding impacts of global change on plants and ecological systems. Priority will be given to applicants with field expertise.

The successful candidate will be expected to participate in undergraduate and graduate teaching of ecology, plant biology, and field courses at the University of Toronto and to interact with faculty across campus working in related fields.

Applicants should arrange to have four reference letters sent directly to the address below. In addition, applicants should forward their curriculum vitae; copies of significant publications; and statements of research and teaching interests to: **Chair, Global Change Ecology Search Committee, Department of Botany, University of Toronto, 25 Willcocks Street, Toronto, ON M5S 3B2 Canada** before December 15, 2001. Inquiries should be directed to: **Dr. Rowan Sage; e-mail: rsage@botany.utoronto.ca**.

The University of Toronto offers the opportunity to teach, conduct research, and live in one of the most diverse cities in the world. *The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from visible minority group members, women, aboriginal persons, persons with disabilities, members of sexual minority groups, and others who may contribute to further diversification of ideas.*

FACULTY POSITION
STRUCTURAL/CHEMICAL BIOLOGY
University of California San Francisco

The Department of Cellular and Molecular Pharmacology at UCSF invites applications for a tenure-track position. Candidates should have a strong background in the use of biophysical, chemical, or quantitative approaches to the study of contemporary problems in molecular and cell biology. Preference will be given to candidates at the **ASSISTANT PROFESSOR** level; however, outstanding senior candidates will also be considered. Applicants should submit curriculum vitae with list of publications and a brief statement of research accomplishments and interests. In addition, applicants should arrange to have three letters of reference sent to the Committee to coincide with receipt of the applications. Applications are due December 1, 2001. All materials should be sent to: **Dr. Wendell Lim, Chair, Faculty Search Committee, Department of Cellular and Molecular Pharmacology, University of California, 513 Parnassus Avenue, HSW 1201H, Box 0450, San Francisco, CA 94143-0450**.

The University of California is an Equal Opportunity Employer. Women and members of other underrepresented groups are particularly encouraged to apply.

POSTDOCTORAL POSITIONS to study (1) secreted proteins in pancreatic cancer and (2) protein-protein interactions in *Campylobacter jejuni* using protein microarrays. The applicant should have a Ph.D. in the biological or chemical sciences with experience in protein chemistry and analysis methods. Please send cover letter and curriculum vitae to: **Dr. Brian Haab, Van Andel Research Institute, 333 Bostwick Avenue N.E, Grand Rapids, MI 49503. E-mail: brian.haab@vai.org; website: http://www.vai.org**. *Equal Opportunity Employer.*

HORTICULTURIST. The Department of Biology, Chemistry, and Environmental Science at Christopher Newport University invites applications for a **TENURE-TRACK POSITION** in horticulture/botany to begin August 2002. Please visit our **website: http://www.cnu.edu/admin/hr** or **Telephone: 757-594-8819** for detailed information on the position, application process, and the University. Application deadline: December 3, 2001. *Christopher Newport University, an Equal Opportunity Employer, is fully committed to Access and Opportunity.*

POSITIONS OPEN

BOSTON BIOMEDICAL RESEARCH INSTITUTE

FACULTY POSITION

Boston Biomedical Research Institute, an independent nonprofit research institute (**website: http://www.bbri.org**), invites applications for a **JUNIOR** or **SENIOR RESEARCH FACULTY** position from Scientists with postdoctoral experience and significant research accomplishments. The successful candidate will establish an independent, externally funded research program that will complement the research of other Investigators at the Institute. Current faculty include Biochemists, Biophysicists, Cell Biologists, and Structural Biologists with research programs in cell motility/contractility, signal transduction, and regulation of cell growth. A generous start-up package is available. The Institute is located in a new state-of-the-art research facility in Watertown, Massachusetts, in an attractive 60,000-square-foot building less than two miles from Harvard Square in Cambridge. Applicants should submit by mail their curriculum vitae, a brief statement of research plans, and arrange to have letters from three references sent to: **Chair, Search Committee, Boston Biomedical Research Institute, 64 Grove Street, Watertown, MA 02472**. Screening of applications will begin on November 1, 2001. *BBRI encourages applications from women and underrepresented minorities.*

ASSISTANT OR ASSOCIATE MEMBER
Roswell Park Cancer Institute
0110RHCR0014

The Cancer Prevention Program at Roswell Park Cancer Institute, Buffalo, New York, is seeking to fill a faculty position at the Assistant or Associate Member level (depending on qualification) in the area of cancer chemoprevention. Candidates are expected to have an active program of laboratory or translational research focused on chemoprevention of breast, prostate, or colon cancer. Individuals with the following expertise are of special interest to the Cancer Prevention Program: (1) mechanism of action of chemopreventive agents targeted to cell signaling pathways, (2) use of transgenic models to study molecular carcinogenesis and chemoprevention, and (3) development of biomarkers to evaluate efficacy of intervention. The philosophy of the Cancer Prevention Program is anchored to the concept of building a multidisciplinary approach with Epidemiologists, Basic Scientists, and Clinicians. Excellent core facilities are available in the Institute. These include microarray analysis, flow cytometry, confocal and electron microscopy, biopolymer synthesis and sequencing, transgenic and knockout mouse development, laser capture microdissection, high-throughput genotyping, and a small animal MRI. Interested candidates should send curriculum vitae, the names and addresses of three references, and a two- to-three-page summary of research interests to: **Cancer Chemoprevention Search Committee, c/o Dr. Clement Ip, Department of Experimental Pathology, Roswell Park Cancer Institute, Elm and Carlton Streets, Buffalo, NY 14263**. *Roswell Park is an Equal Opportunity Employer/Affirmative Action.*

BLOOD COAGULATION AND FIBRINOLYSIS RESEARCH
Vanderbilt University

POSTDOCTORAL (RESEARCH FELLOW) POSITIONS are available immediately to investigate the mechanisms and regulation of blood coagulation and fibrinolysis with molecular biology, protein chemistry, enzyme kinetics, and fluorescence spectroscopy techniques. Interested individuals who are recent Ph.D. degree graduates in biochemistry, biophysics, chemistry, or biology should send a copy of their curriculum vitae and arrange for two letters of recommendation to be sent to: **Dr. Paul E. Bock, Vanderbilt University School of Medicine, Department of Pathology, C–3321A Medical Center North, Nashville, TN 37232-2561**.

POSITIONS OPEN

COGNITIVE NEUROSCIENTIST. The Department of Psychology at the University of New Mexico, in conjunction with the recently established Mental Illness and Neuroscience Discovery (MIND) Institute in Albuquerque, is seeking exceptional applicants for a tenure-track or tenured position at the **ASSOCIATE** or **FULL PROFESSOR** level. The ideal candidate will have a national and international reputation in the application of functional neuroimaging techniques such as fMRI and/or MEG to research questions in cognitive neuroscience and a strong interest in psychopathology, particularly schizophrenia. Applicants should have a Ph.D., experience teaching at undergraduate and graduate levels, a successful record in training graduate students and/or Postdoctoral Fellows, and a record of innovation reflected by grants and publications. The University of New Mexico, in collaboration with the MIND institute, is developing an interdisciplinary effort in functional neuroimaging. Available equipment will include a 4.0 T Varian MRI and state-of-the-art MEG. Applicants should send a signed letter of interest; curriculum vitae; representative reprints; and names, addresses, and telephone numbers of at least three references to: **Claudia Tesche, Ph.D., Chair, Cognitive Neuroimaging Search Committee, Department of Psychology, Logan Hall, University of New Mexico** by January 15, 2002, to be guaranteed consideration. Applicants will be accepted, however, until the position is filled. The appointment begins August 15, 2002. For further details, see our Office of Equal Opportunity **website: http://www.unm.edu/~oeounm/**. *The University of New Mexico is an Equal Opportunity/Affirmative Action Employer and Educator.*

ECOLOGICAL DESIGN

Oberlin College. Full-time, **TENURE-TRACK POSITION** in ecological design beginning fall 2002. Candidates should have background in physical sciences and/or applied field (engineering, architecture, systems dynamics, and energy technology). We seek person whose interests span larger questions of ethics, policy, and human ecology. Responsibilities include teaching courses at different levels in ecological design, design methodology, issues of science and technology, introductory environmental studies; participation in ongoing research on high-performance buildings, campus systems, and related. Requirements: Ph.D. (expected by fall 2002); demonstrated interest and potential excellence in undergraduate teaching. Entire description at **website: http://www.oberlin.edu/HR**. Send letter of application; curriculum vitae; graduate academic transcripts; and at least three letters of reference to: **David Orr, Director, Environmental Studies Program, 122 Elm Street, Oberlin, OH 44074** by December 1, 2001. Late applications may be considered until position filled. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS
Structural Biology of Membrane Proteins

Two Postdoctoral positions are available at the Skirball Institute of Biomolecular Medicine, New York University School of Medicine (**website: http://saturn.med.nyu.edu/WangLab/**). We aim to determine the structure of integral membrane proteins involved in solute transport and understand their molecular mechanisms using X-ray crystallography, genetic, and biochemical approaches. Currently we focus on sugar and antibiotic and amino acid transporters; 3-D crystals of some of these proteins are already available. Interested applicants should have experience in protein crystallography and/or background in biochemistry/molecular biology. We value motivation and intelligence more than experience and specific technical skills and will offer a competitive salary. Please send curriculum vitae, description of research experience, and names of two references to: **Dr. Da-Neng Wang, Skirball Institute, New York University School of Medicine, 540 First Avenue, New York, NY 10016 U.S.A. Telephone: +1 212-263-8634; FAX: +1 212-283-8951; e-mail: wang@saturn.med.nyu.edu**.

Howard Hughes Medical Institute

"The fellowship tremendously boosted my motivation and freedom to develop my scientific potential."

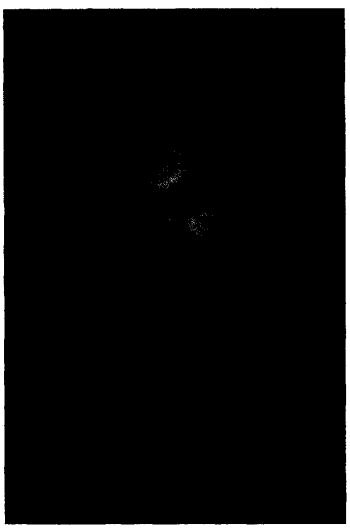

Photo by William K. Geiger

Angelica Cadavid, Ph.D., is interested in how complex multicellular structures arise during development. Her thesis project focused on the fruit fly eye as a system for the genetic dissection of one biochemical pathway that is involved in cell interactions critical to eye morphogenesis. Research on such essential proteins and pathways will contribute to our understanding of many fundamental aspects of cell and developmental biology.

Angelica L.M. Cadavid
Former HHMI Predoctoral Fellow at the University of Texas–Austin

The Howard Hughes Medical Institute has established fellowship programs that support training in fundamental biological and biomedical research. Graduate students, medical students, and physicians may be eligible to apply for the programs listed below.

Predoctoral Fellowships in Biological Sciences Five years of support for full-time graduate study toward a Ph.D. degree in designated biological sciences or related fields. (Application deadline: November 13, 2001.)

Research Training Fellowships for Medical Students Support is awarded for one year of full-time fundamental research in a laboratory at the student's medical school or another institution (except NIH in Bethesda, Maryland). (Application deadline: November 15, 2001.)

Research Scholars at the National Institutes of Health Under this joint HHMI–NIH program, medical students in the United States spend an intensive year of research in the intramural program at NIH in Bethesda, Maryland. (Application deadline: January 10, 2002.)

The Howard Hughes Medical Institute, an Equal Opportunity Employer, welcomes applications from all qualified candidates and encourages women and underrepresented minorities to apply.

For more information: www.hhmi.org/fellowships

POSITIONS OPEN

TENURE-TRACK FACULTY POSITION
Cell and Developmental Biology

California State University, Fullerton, Department of Biological Science, is seeking applicants for a full-time, tenure-track position at the **ASSISTANT PROFESSOR** level with expertise in cellular developmental biology to begin August 2002. Applicants must have a Ph.D. and at least two years of postdoctoral experience with a strong background in studying developmental biology at the cellular level. The successful candidate will be expected to develop an active, externally funded research program involving undergraduate- and Master's-level students and must be committed to excellence in teaching at both levels. The successful candidate will join the cell and developmental biology emphasis group and be expected to teach upper-division/Master's-level courses in cell biology, developmental biology, and/or an area of expertise as well as to contribute to our inquiry-based, lower-division core course Cellular Basis of Life. Send curriculum vitae (including a history of grant support); a statement of research plans; three related publications; a three-part statement of teaching including philosophy, experience (especially with nontraditional pedagogy), and preferences for upper-division elective courses; and have three letters of recommendation sent to: **Chair, Cell and Developmental Biology Search, Department of Biological Science, California State University, Fullerton, P. O. Box 6850, Fullerton, CA 92834-6850. Website: http://biology.fullerton.edu**. Review of applications will begin 14 January 2002 and continue until a suitable candidate is appointed. *Affirmative Action/Equal Opportunity Employer/Americans With Disabilities Act Employer. Women and minority candidates are particularly encouraged to apply.*

ASSISTANT PROFESSOR

Biology Department, University of Michigan–Flint; tenure track. Teaching responsibilities include undergraduate courses in plant physiology and participation in teaching departmental core courses, particularly genetics. May also participate in teaching graduate-level courses for new M.S. program. Must be willing to actively involve undergraduate students in research. Requirements: Ph.D. in plant genetics or related field along with a broad background in biology, demonstrated teaching ability, commitment to undergraduate teaching and research, and an active research record.

Applications should include curriculum vitae, copies of transcripts, three letters of recommendation, and brief summaries of research interests and teaching interests/teaching philosophy. Complete applications should be received no later than December 14, 2001, by: **M. Packer, Biology Department, University of Michigan–Flint, 264 MSB, 303 East Kearsley Street, Flint, MI 48502-1950**.

The University of Michigan–Flint, a regional institution of 6,400 students, offers day, evening, and weekend classes. For more information, see Department **website: http://www.flint.umich.edu/Departments/Biology**.

A nondiscriminatory/Affirmative Action Employer. Women and minority candidates are encouraged to apply.

Two **POSTDOCTORAL POSITIONS** are available to study (1) the molecular mechanisms controlling hormonal regulation of intestinal Na absorption, and (2) cellular signaling pathways regulating a newly identified MAP kinase. Potential candidates must have a Ph.D. in biological science. Expertise in molecular biology, physiology, and cell biology is highly desirable. The preferred candidate will be highly motivated and have demonstrated experience and proficiency in oral and written communication skills. Send curriculum vitae and three references to: **C. Chris Yun, Ph.D., Emory University School of Medicine, Division of Digestive Diseases, 2101 Woodruff Memorial Building, Atlanta, GA 30322. E-mail: cyun@jhmi.edu**.

POSITIONS OPEN

CANADIAN RESEARCH CHAIR BIOLOGICAL CHEMISTRY OF PLANTS OR FUNGI
Departments of Botany and Chemistry
The University of British Columbia

The University of British Columbia is initiating a search for applicants for a Canadian Research Chair in the Biological Chemistry of Plants or Fungi. The Canadian Research Chair program has been established by the Canadian federal government with the purpose of attracting/retaining outstanding Researchers to/within the Canadian university system. This Chair is for a junior-level person (**ASSISTANT PROFESSOR** level) who will be jointly appointed in the Departments of Botany and Chemistry. The successful candidate will be expected to establish a vigorous research program in the biological chemistry of plants or fungi. We particularly welcome applications in the areas of natural product biosynthesis, metabolic engineering, biotechnology, directed evolution of enzymes, genomics, and chemical ecology. He/She will be expected to participate in the education of students at the undergraduate and graduate level in botany and chemistry. Interested individuals should send curriculum vitae, list of publications, and a description of proposed research and interests to: **Carl Douglas, Head, Department of Botany, 3529-6270 University Boulevard, Vancouver, BC V6T 1Z4 Canada**. Applicants should also arrange for three letters of reference to be sent to the above address. Screening of applicants will begin December 15, 2001, and continue until the position is filled. *UBC hires on the basis of merit and is committed to Employment Equity. All qualified persons are encouraged to apply.*

POSTDOCTORAL POSITIONS
Cancer Genetics and DNA Chips

Positions available as part of a Cornell University Medical Center/Memorial Sloan–Kettering Cancer Center/Rockefeller University tri-institutional N.C.I.-funded program project grants for (1) the development of comprehensive genetic and epigenetic DNA chips for the profiling of human tumors, i.e., expression analysis, point mutations, LOH/gene amplification, DNA methylation status; (2) development of SNP DNA chips for identification of new cancer genes; and (3) identification of inherited mutations associated with increased risk for cancer development. Applicant should have a Ph.D., preferably with experience in cancer genetics, molecular biology, genomics, bioinformatics, population genetics, protein-DNA interactions, DNA arrays, and/or automation in DNA and PCR technology. Competitive salary commensurate with experience. Send curriculum vitae and names of three references to: **Professor Francis Barany, Program Director, Programs of Biochemistry, Structural Biology, and Molecular Biology, Box 62, Cornell University Medical Center, 1300 York Avenue, New York, NY 10021. FAX: 212-746-8588** or to: **Philip Paty, M.D., Department of Surgery, Box 453, Memorial Sloan–Kettering Cancer Center, 1275 York Avenue, New York, NY 10021. FAX: 212-717-3678**. *Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH POSITIONS

Strong experience in molecular biology and development and analysis of models with genetically manipulated mice. Experience in surgical techniques necessary for performing these models preferred. Ability to work independently and to develop and learn new techniques in molecular biology and protein chemistry. Familiarity with rodent models of diabetes, inflammation, ischemia/reperfusion injury, and tumors.

Curriculum vitae and the names and addresses of two academic references should be sent to: **Ms. Claudia W. Edwards, College of Physicians and Surgeons of Columbia University, P&S 17-401, 630 West 168th Street, New York, NY 10032**.

Columbia University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

TWO FACULTY POSITIONS
Microbiologist and Biologist
Western Kentucky University

The Biology Department invites applications for two tenure-track **ASSISTANT PROFESSORSHIPS** beginning August 2002. Microbiology: Candidates representing any area of microbial research will be considered although those emphasizing prokaryotic pathogens and/or prokaryotic genetics are especially encouraged. Teaching responsibilities will include some combination of microbiology for majors and nonmajors, an upper-level course, and introductory biology. Biology: This position is open with respect to research emphasis. Applications from excellent Teacher/Scientists who take innovative approaches to any area of modern biology are welcome. We are particularly interested in those who will enhance existing programs in cell biology or botany and strengthen our preprofessional offerings. Please visit the Department's **website (http://bioweb.wku.edu)** to view current course offerings. Ph.D. required for both positions; postdoctoral teaching and/or research experience and ability to participate in the Center for Biodiversity Studies and/or Biotechnology Center is desirable. An extramurally funded research program involving undergraduate and M.S. students is expected. Submit curriculum vitae; separate statements of teaching and research interest; and three letters of recommendation by December 10, 2001, to either: **Chair, Microbiologist Search Committee** or **Chair, Biologist Search Committee, Department of Biology, Western Kentucky University, 1 Big Red Way, Bowling Green, KY 42101-3576**. *Western Kentucky University, an Affirmative Action/Equal Opportunity Employer Institution, has a strong commitment to achieving diversity among faculty and staff. Women and minorities are encouraged to apply.*

FACULTY POSITION
Rutgers, The State University of New Jersey

The Waksman Institute of Rutgers, The State University of New Jersey, invites applications for a tenure-track **ASSISTANT PROFESSOR** position from individuals involved in structural and mechanistic studies of macromolecular machines responsible for fundamental biological processes including recombination, replication, transcription, splicing, and translation. We are especially interested in applicants whose research will involve microbial systems, X-ray crystallography, cryoelectron microscopy, and/or novel biophysical approaches. We seek individuals with demonstrated ability and commitment to conduct cutting-edge basic research and an interest to teach at the undergraduate and graduate levels. Applications should include curriculum vitae, a publication list, a brief description of research plans, and confidential letters of reference from at least four professional references. Applications should be directed to: **Dr. Richard H. Ebright, Chair, Macromolecular Machines Search Committee, Waksman Institute, Rutgers University, 190 Frelinghuysen Road, Piscataway, NJ 08854-8020**. *Rutgers University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE/ POSTDOCTORAL POSITION

Position is available in the Laboratory of Lung Biochemistry at National Jewish Medical and Research Center (University of Colorado) to study the molecular regulation of lipogenesis in alveolar Type II cells. Applicants are expected to have a strong background in cell or molecular biology. The position offers an exceptional opportunity to impact lung biology in a laboratory that is well funded. Salary is commensurate with experience. Interested applicants should send curriculum vitae and the names and telephone numbers of three references to: **Dr. Robert Mason, Department of Medicine, National Jewish Medical and Research Center, 1400 Jackson Street, K625, Denver, CO 80206. E-mail: masonb@njc.org**.

Need Human Specimens For Research?

The NCI Cooperative Human Tissue Network (CHTN) provides normal, benign, pre-cancerous and cancerous human tissue to the scientific community for basic and developmental studies in many areas of cancer research. Contact the CHTN website at: http://www-chtn.ims.nci.nih.gov, or 1-866-GO2-CHTN (1-866-462-2486)

The NCI Clinical Trials Cooperative Groups have banked tumor specimens from large numbers of uniformly treated cancer patients with a variety of malignancies. Each group has a review process for research proposals. If proposals receive favorable reviews, specimens with clinical, treatment and outcome data can be made available to researchers through collaborative arrangements. These banked specimens are most useful for clinical correlative studies on uniformly treated patient populations. Contact the NCI Specimen Resource Locator website at: http://www.cancer.gov/specimens, or the NCI Tissue Expediter, (301) 496-7147; e-mail: tissexp@mail.nih.gov.

NATIONAL® CANCER INSTITUTE

The Breast, Ovarian and Colorectal Cancer Family Registries (CFRs) include two international registries: the Cancer Family Registry for Breast Cancer Studies (Breast CFR) and the Cancer Family Registry for Colorectal Cancer Studies (Colon CFR). The Breast CFR provides family history information, biological specimens and epidemiologic and clinical data from clinic-based and population-based families at risk for breast and ovarian cancers. The Breast CFR infrastructure is particularly suited to support interdisciplinary and translational breast cancer research. Similarly, the Colon CFR collection includes family history information, epidemiologic and clinical data, and related biological specimens from individuals with colorectal cancer and their families. The colon CFR is a resource for population and clinic-based, translational research in the genetic epidemiology of colorectal cancer. Contact the CFRs website at http://epi.grants.cancer.gov/cfr.html or Dr. Daniela Seminara, NCI, (301) 496-9600;

The NCI Cooperative Breast Cancer Tissue Resource (CBCTR) can provide researchers with access to over 9,000 cases of formalin-fixed, paraffin-embedded primary breast cancer specimens, with associated pathology and clinical data. The collection is particularly well-suited for validation studies of diagnostic and prognostic markers. Contact CBCTR's website at: http://www-cbctr.ims.nci.nih.gov, or Ms. Sherrill Long, Information Management Services, Inc., (301) 984-3445; e-mail: sherrill@ims.nci.nih.gov.

The AIDS and Cancer Specimen Bank (ACSB) provides qualified researchers with tissue, cell, blood and fluid specimens, as well as clinical data from patients with AIDS and cancer. The specimens and clinical data are available for research studies, particularly those that translate basic research findings to clinical application. Contact the ACSB website at: http://acsb.ucsf.edu, or Dr. Ellen Feigal, NCI, (301) 496-6711; e-mail: ef30d@nih.gov or Dr. Jodi Black, e-mail: jb377x@nih.gov.

Each of the resources listed above has an established review process for specimen requests and/or requirements that must be met for access to specimens. Additional details may be obtained from the resource websites and/or resource contacts.

The NCI Specimen Resource Locator is a web-based database to help researchers locate appropriate sources of normal, benign, pre-cancerous and cancerous human tissue specimens for cancer research, http://www.cancer.gov/specimens.

Other human specimen resources for cancer research may be available through collaborative arrangements. Contact the NCI Tissue Expediter, (301) 496 - 7147; e-mail: tissexp@mail.nih.gov.

POSITIONS OPEN

RESEARCH BIOLOGIST
BIOINFORMATICS
U.S. Army Soldier and Biological Chemical Command
U.S. Edgewood Chemical Biological Center (ECBC)
Aberdeen Proving Grounds, Maryland

Responsibilities: Conducts independent and cooperative research on the information content of microbial genomes with an emphasis on human pathogens of military interest. Knowledge of bioinformatics; computational genetics; molecular and genetic bacteriology or virology; and the ability to design, conduct, interpret, and publish bioinformatics research in refereed journals.

Applicants selected for the above positions will be subject to a security investigation and must meet eligibility requirements for access to classified information.

Salary: $63,211 commensurate with credentials.

Applications: **Telephone: 410-612-8243; e-mail: researchbiojobs@yahoo.com; address: Ms. Danyra Quiñones-Taylor, 1309-R Continental Drive, Abingdon, MD 21009**. Application/résumé must be received by November 8, 2001.

Equal Opportunity Employer. U.S. citizenship required.

RESEARCH POSITION
Division of Critical Care Medicine

The Division of Critical Care Medicine, Children's Hospital Research Foundation, Cincinnati, Ohio, is recruiting an established Investigator in the field of signal transduction. Candidates should have a Ph.D. and a demonstrated record of scientific productivity in the form of publications and extramural funding. The Division has significantly advanced its studies related to inflammation-related signal transduction pathways.

Send curriculum vitae to:

Hector R. Wong, M.D.
Director, Division of Critical Care Medicine
Children's Hospital Research Foundation
3333 Burnet Avenue
Cincinnati, OH 45229-3039
E-mail: wonghr@chmcc.org
Website: www.cincinnatichildrens.org

Children's Hospital Medical Center is an Affirmative Action/Equal Opportunity Institution. Women and minorities are encouraged to apply.

STAFF SCIENTIST POSITION

The Intramural Research Program of the National Institute on Aging, Baltimore, Maryland, is recruiting for a Staff Scientist position in the Laboratory of Molecular Gerontology (LMG). This is an initial five-year appointment for a highly motivated individual with a strong background in cellular and molecular biology. Experience in DNA repair and oxidative stress is required. The incumbent will have a major role in training staff and Postdoctoral Fellows and maintaining research continuity within the laboratory.

Candidates for this position must have a Ph.D. or M.D. Deadline for application is November 5, 2001. Send curriculum vitae and three reference letters to: **Chair, LMG Staff Scientist Search Committee, c/o HR Staff Office, National Institute on Aging, NIH, Box 26, 5600 Nathan Shock Drive, Baltimore, MD 21224-6825, Attention: VA Number NIA-01-046**. For further information, e-mail **Dr. V. Bohr, Chief, LMG; e-mail: vbohr@nih.gov**.

NIH is an Equal Opportunity Employer.

RESEARCH ASSOCIATE positions available immediately at the Molecular and Cellular Cardiology Division in the REAP program. Candidates should have skills and experience in patch clamp techniques in cardiac myocytes or in molecular biology techniques of signal transduction. Salary commensurate with experience. Please send curriculum vitae and references to: **Dr. Nabil El-Sherif, VA Medical Center, Brooklyn, NY 11209. FAX: 718-630-3740; e-mail: nelsherif@aol.com**.

POSITIONS OPEN

The Lewis-Sigler Institute for Integrative Genomics at Princeton University Announces the LEWIS-SIGLER FELLOWS PROGRAM in Biology

A new program has been established for outstanding young Scientists to work in the new Lewis-Sigler Institute for Integrative Genomics. The Program provides opportunities to exceptional individuals holding Ph.D. degrees (or the equivalent) in the areas of biology, physics, chemistry, computer science, mathematics, or engineering to conduct independent research with the goal of understanding how biological systems organize, integrate, and carry out complex processes. Research will be conducted in the highly collaborative environment of the Lewis-Sigler Institute, in which Scientists from a number of disciplines are developing novel approaches to the study of biology in the postgenomic era. Current members of the institute address topics as diverse as protein folding, signal transduction, neuronal circuits, and cellular development but with the common theme of using the combined tools of physics, mathematics, computer science, and chemistry to solve these problems. The Lewis-Sigler Fellows Program provides a generous salary and an annual research budget sufficient to fully support the Fellow's independent research. Fellows will be appointed for a five-year, nonrenewable term. The application deadline is January 15, 2002, for a nominal start date of September 1, 2002. For more information about the Institute, visit our **website: http://www.genomics.princeton.edu**.

Applications must include curriculum vitae, list of publications, brief statement (three pages) of research interests and goals, and the names of three references whom you have asked for recommendations. Address applications to:

Lewis-Sigler Fellows Program
Department of Molecular Biology
Princeton University, Princeton, NJ 08544-1014

Princeton University is an Affirmative Action/Equal Opportunity Employer and welcomes applications from women and members of underrepresented minority groups.

Proteom Tech, Inc. is a biotech start-up company specializing in high-throughput protein refolding and purification with facilities in Oklahoma and California (**website: http://www.ProteomTech-Inc.com**). The following positions are available immediately with competitive salary and generous stock options. **SCIENTIFIC DIRECTOR**: Ph.D. in biochemistry. Experience with protein purification required. *E. coli* expression, inclusion body purification, and refolding preferred. **PRODUCTION MANAGER/DIRECTOR**: B.S. or M.S. in biochemistry/biology/chemistry. Production experience with biotechnological, pharmaceutical, or medical products. Excellent planning, organization, interpersonal, and communication skills in a multiple-product environment. **RESEARCH SCIENTISTS**: Ph.D. in biochemistry, biology. The Scientist will be in charge and perform gene search, protein analysis, and high-throughput gene cloning into *E. coli* expression vectors. Experience with database search and good skills in gene cloning are plus. Interested party may send résumé by **e-mail: galbraith@proteomtech-inc.com; FAX: 405-271-7180**.

A **RESEARCH SCIENTIST** position at the University of Virginia, Department of Pathology, is available to study molecular basis of human cancer. Major projects involve genetic identification of cancer-related genes and studies of such genes. A Ph.D. and/or M.D. degree in biological sciences or medicine with at least two years of experience in molecular biology, cell culture, and animal study are required. Interested individuals should send curriculum vitae with names and telephone numbers of three references to: **Dr. Jin-Tang Dong, Pathology Department, University of Virginia Health System, P.O. Box 800214, Charlottesville, VA 22908. E-mail: jd4q@virginia.edu; FAX: 434-924-9206**. Position open until filled. *The University of Virginia is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

MOLECULAR MICROBIOLOGIST

The Department of Biology and the Center for the Study of Biological Complexity of Virginia Commonwealth University invite applications for a nine-month, tenure-track faculty position at the level of **ASSISTANT PROFESSOR** in the area of molecular microbiology. The successful applicant will have a Ph.D. in biology, microbiology, or a related field and relevant postdoctoral experience. He or she is expected to establish a productive, externally funded research program, direct graduate students, and collaborate with other faculty in the University. Teaching opportunities include microbiology, cell biology, and bioinformatics.

The individual must present evidence of excellence in scholarship in molecular microbiology within the broad area of cell and molecular biology. Preference will be given to individuals applying contemporary bioinformatics, genomics, or whole system approaches in their research. The successful applicant will be housed in our new Life Sciences Building and is expected to take advantage of the many interdisciplinary research opportunities available within the Department and University. Competitive start-up funds are available.

Virginia Commonwealth University has an enrollment of 24,000 students including 800 undergraduate biology majors. The Biology Department has 30 faculty members with diverse research interests. The Center for the Study of Biological Complexity is a new program of research and scholarship that represents the focus of bioinformatics, genomics, and proteomics at VCU. Interaction is also encouraged with faculty on VCU's Medical College of Virginia Campus and in VCU's Center for Environmental Studies. Submit curriculum vitae; statement of research and teaching interests; and three letters of reference by November 30, 2001, to: **Dr. Stanley Webb, Department of Biology, Virginia Commonwealth University, Richmond, VA 23284-2012**. For more information about the Department of Biology at VCU, see our **website: http://www.has.vcu.edu/bio**.

Virginia Commonwealth University is an Equal Opportunity/Affirmative Action Institution. Women, minorities, and persons with disabilities are encouraged to apply.

RESEARCH MICROBIOLOGIST
VIROLOGIST
U.S. Army Soldier and Biological Chemical Command
U.S. Edgewood Chemical Biological Center (ECBC)
Aberdeen Proving Grounds, Maryland

Responsibilities: Prepares, coordinates, and directs the implementation of microbiological/virological laboratory tests and investigations including operations involving potential and known human pathogens of military interest. This knowledge of virology/microbiology must be documented in peer-reviewed publications. Experience in BL3 environment required.

Applicants selected for the above positions will be subject to a security investigation and must meet eligibility requirements for access to classified information.

Salary: $53,156 to $82,180 commensurate with credentials.

Applications: **Telephone: 410-612-8243; e-mail: researchbiojobs@yahoo.com; address: Ms. Danyra Quiñones-Taylor, 1309-R Continental Drive, Abington, MD 21009**. Application/résumé must be received by November 5, 2001.

Equal Opportunity Employer. U.S. citizenship is required.

POSTDOCTORAL POSITIONS are available to study cytokine signal transduction and cytokine-inducible genes. Candidates with experience in molecular biology or knockout/transgenic animals should send their curriculum vitae to: **Dr. Yu-Chung Yang, Department of Pharmacology, Case Western Reserve University School of Medicine, 2109 Adelbert Road, W353, Cleveland, OH 44106-4965. E-mail: yxy36@po.cwru.edu**.

Abstract Submission Deadline: November 9 2001

AACR American Association for **Cancer Research**

93rd Annual Meeting

April 6-10, 2002

Moscone Convention Center • San Francisco, California

Presenting basic, translational, and clinical cancer research at the cutting edge

Program in Progress

The AACR Annual Meeting provides the ideal environment for the cross-fertilization of ideas on cutting-edge basic, translational, and clinical cancer research. The following partial list of topics exemplifies the areas to be addressed at the 93rd AACR Annual Meeting. Under each topic, the latest scientific breakthroughs and their translation into clinical therapies and prevention strategies will be presented.

Symposia

Lung Cancer
Pancreatic Cancer
Female Cancers: Breast and Ovarian
Ligases and Protein Turnover-Proteolysis,
Angiogenesis and Invasion
Chromatin Structure, Remodeling, and Methylation
The Nuclear Receptor Superfamily
Molecular Epidemiology of Cancer Prevention: An Integrative Approach
Telomerase, Telomeres, and Mechanisms of Cellular Immortalization
Checkpoints and Stress Responses
Mechanisms of Genomic Instability and Tumor Suppressor Genes
EGF Family
Cell Survival Signaling, AKT, PTEN, Ras, NF-κB
Apoptotic Machinery
Pharmacogenomics: Translating Functional Genomics into Optimized Cancer Chemotherapy
Human Stem Cells
Cancer Prevention versus Cancer Delay
Immunotherapy
Metastasis
Cyclin-dependent Kinase Inhibitors: Roles in Development, Cell Proliferation, and Cancer
Cancer Susceptibility in At Risk Populations
Oxidative Stress and Mitochondrial Alterations in Cancer
Prostate Cancer
Cell and Gene Therapy
DNA Replication and Repair
Tumor Profiling
p53 and Rb
COX-2 Biology and Prevention
Targeted Therapies

Forums

Clinical Trials Accreditation
Clinical Cancer Research: The Academic/Pharmaceutical Industry Partnership
Antiangiogenesis: Is It Effective?
The Best Way to Target a Tyrosine Kinase
The Best Targets in Breast Cancer
The Best Targets in Lung Cancer
The Best Targets in Colon Cancer
The Best Targets in Sarcoma
The Best Targets in Glioblastoma
How to Apply Genomics to Drug Discovery and the Clinic
What Do We Know about the Nutritional Prevention of Cancer?
SNPs and Public Health

Sunrise Sessions

Risk Assessment
Genetic Testing
JAKs and STATs in Cancer
Dendritic Cells and Immunotherapy
Farnesyltransferase as a Target
Histone Deacetylases
Mechanisms of Drug Resistance
Recent Advances in Cancer Vaccine Development
p53 Family Members
IGF System and Cancer
Met-HGF/SF: Tumorigenesis, Invasion, and Metastasis
E-Cadherin in Prostate Cancer Progression
Aneuploidy and the Metastatic Phenotype
MSI and Mismatch Repair Genes
Treatment in Animal Models
Regulation of T-cell Responses
High Risk Cohorts
DNA Adducts
Breast Cancer Chemoprevention
Lung Cancer Screening
Cancer Survivorship
Colon Cancer Prevention
Statistical Models for Multiple Biomarkers in Prevention
Myc and Apoptosis in Lymphoma
Melanoma Models
Cell Adhesion and Cell Proliferation
RNAi and Gene Expression
Ras Signaling
Myc/Max/Mad Network
Abl Oncogene
Brain Tumor Pathways
Cytokine Deregulation in Cancer: Clinical and Biological Implications
Antiangiogenesis: Current Status of Clinical Trials
P13-kinase as a Target for Molecular Therapeutics
Vascular Targeting *in Vivo*
NF-κB in Carcinogenesis
Promising New Anticancer Agents
New Phase I Trial Designs
In Vivo Imaging of Gene Expression, Angiogenesis, and Physiological Function in Tumors
DNA Topoisomerase II
Structure-Activity Relationships by NMR
New Methods for *in Vivo* Imaging of Tumors in Living Animals
Novel Retinoids
Leukemia Research: The Window to Understanding the Biology and Therapy of Cancer
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Online Abstract Submission and Registration *www.aacr.org*

POSITIONS OPEN

MICROBIOLOGIST

The National Center for Environmental Assessment, Cincinnati Division, in the U.S. Environmental Protection Agency's Office of Research and Development is seeking candidates for a Microbiologist position, GS–13/14 ($63,515 to $97,575 per year based on qualifications). We are looking for a well-qualified and highly motivated individual to develop and lead a microbiological risk assessment program. The successful Ph.D.-degreed candidate will demonstrate expertise in microbiology, infectious disease, public health, or a related field. This position requires strong scientific and leadership skills and offers a unique opportunity to advance the area of microbial risk assessment by leading and participating in cross-cutting activities. Full announcement available through **website: http://www.epa.gov/ezhire**.

Please submit a résumé, transcripts, OF–612 or SF–171 (current and former federal employees must submit a copy of their last SF–50) to: **Nancy Bauer, National Center for Environmental Assessment (MS–117), 26 West Martin Luther King Drive, Cincinnati, OH 45268**.

EPA is an Equal Opportunity Employer. Selection for this position will be based solely on merit without regard to race, color, religion, age, gender, national origin, political affiliation, disability, sexual orientation, marital or family status, or other differences. EPA is an Equal Opportunity/Affirmative Action Employer.

PHYSICIAN-SCIENTIST
Cardiology Division
University of California, San Francisco

The Department of Medicine at the University of California, San Francisco, invites applications for the position of Physician-Scientist in the Cardiology Division. The appointment will be at the level of **ASSISTANT** or **ASSOCIATE PROFESSOR** in the in-residence series. Candidates must have expertise and a record of accomplishment in molecular and cellular biology as applied to the cardiovascular system. An interest in molecular genetics and/or translational research would be particularly desirable. The successful candidate should also have full clinical training in cardiology and be prepared to spend 20% time in clinical and teaching activities. Please send curriculum vitae (including grant support), summary of research accomplished, research goals, and a list of three to five individuals who can be contacted as references to: **William Grossman, M.D., Chief of Cardiology, University of California, San Francisco, 505 Parnassus Avenue, Box 0124, San Francisco, CA 94143-0124. E-mail: grossman@medicine.ucsf.edu**.

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ALZA, a member of the Johnson & Johnson family of companies, is focused on developing products with enhanced therapeutic value based on our innovative drug delivery technologies. In our role as a developer and manufacturer of breakthrough products, we are committed to creating innovative solutions to advance patient care. Our mission is to improve the lives of people everywhere. The following opportunities are available:

STAFF SCIENTISTS (five openings)
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Please send résumé indicating Job Code PS3AG3 to: **ALZA Corporation, Human Resources Department, 1900 Charleston Road, P.O. Box 7210, Mountain View, CA 94039-7210. FAX: 650-564-5656; e-mail: jobs@alza.com** (ASCII files only); **Job Hotline Telephone: 650-564-5319**. Our hiring managers will review all qualified résumés. *ALZA is proud to be an Equal Opportunity Employer.*

POSITIONS OPEN

The University of Virginia has available immediately several **POSTDOCTORAL POSITIONS** to study the link between hyperglycemia, insulin resistance, and cardiovascular disease. This newly established, five-year NIH program project grant funds a program that is composed of four projects. **Jerry Nadler, M.D.**, will study the link between lipoxygenase activation and changes in gene expression and signaling pathways associated with atherosclerosis and vascular injury due to diabetes and oxidative stress. This project uses unique targeted 12–LO null and transgenic mice as well as a novel humanoid swine model of atherosclerosis. **Catherine C. Hedrick, Ph.D.**, is studying vascular biology with emphasis on diabetes and atherosclerosis. Novel molecular *in vitro* and *in vivo* approaches will be applied to understanding the molecular mechanisms regulating monocyte activation and adhesion to endothelium in diabetes. **Coleen McNamara, M.D.**, is studying molecular, cell culture, and *in vivo* approaches applied to identifying the molecular mechanisms that regulate specific gene expression regulating vascular in smooth muscle cells during vascular lesion formation in diabetes. **Klaus Ley, Ph.D.**, is utilizing isolated perfused carotid arteries from apoliprotein E knockout and several double and triple knockout mice to determine how diabetes accelerates atherosclerosis. This unique model was recently developed in this laboratory. Candidates should possess an M.D. and/or Ph.D. and have a strong background in molecular biology; experience in cell culture and immunohistochemistry is desirable. Please send curriculum vitae and names of three references, preferably by FAX or e-mail, to: **Terry S. Howell, NIH PPG Administrative Coordinator, University of Virginia, P.O. Box 801405, Charlottesville, VA 22908-1405. FAX: 434-924-9730; e-mail: tsh5s@virginia.edu**. *The University of Virginia is an Equal Opportunity Employer.*

STAFF SCIENTIST POSITION

The Laboratory of Advanced MRI (AMRI) of the National Institutes of Neurological Disorders and Stroke is recruiting for a Staff Scientist to expand its MR spectroscopy and imaging program. AMRI, part of the Laboratory of Functional and Molecular Imaging, aims to improve specificity and resolution in the study of human brain physiology and function through novel data acquisition and analysis methods. AMRI is currently heavily involved in spectroscopic imaging of brain disorders as well as somatotopy and retinotopy studies using high-resolution fMRI techniques based on array excitation and detection. It has access to significant amounts of instrument time on 1.5T, 3.0T, and 7.0T human scanners.

The applicant should have a Ph.D. degree in physics, mathematics, EE, BME, or closely related field and have strong interests in neuroimaging. Prior experience with GE, Siemens, or Bruker MR equipment is desirable but not a prerequisite. Salary for this position is very competitive and commensurate with experience. Please send a letter of interest, curriculum vitae, and three letters of recommendation to: **Dr. Jozef Duyn, 10 Center Drive, Building 10, Room B1D118, MSC 1065, Bethesda, MD 20892**. Communication by e-mail (including attached files) is welcome. **E-mail: jhd@helix.nih.gov**.

POSTDOCTORAL POSITION, Montana State University, Bozeman, Plant Sciences and Plant Pathology Department, to study barley nitrogen metabolism and SNP detection using DNA microarray technology. Ph.D. in genetics, biochemistry, or related field required. Familiarity with molecular techniques such as PCR, RNA extraction, DNA extraction, Northern and Southern blotting, and prior exposure to genetics preferred. For complete application instructions, see **website: http://www.montana.edu/level2/jobs.html** or contact **e-mail: fischer@montana.edu**. *Americans With Disabilities Act/Equal Opportunity/Affirmative Action/Veterans Preferred.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS
Physiology of Neuronal Growth Factors

Join a well-funded laboratory focused on understanding the role of neurotrophins and other growth factors in neural development and plasticity. The laboratory uses a multidisciplinary, functional genomics approach, combining whole animal physiology and reduced preparations, cellular neurophysiology, cell culture, and anatomic methods to define growth factor function in genetically engineered mice and isolated cells (see **website: http://neurowww.neurs.cwru.edu/faculty/** for references). Seeking individuals with strong expertise and a record of publications in one or more of the following areas: (1) mouse genetics; (2) cellular neurophysiology; or (3) molecular neurobiology, particularly the preparation and use of adenoviral vectors in neural cells. Please send résumé and list of references to: **David M. Katz, Ph.D., Department of Neurosciences, Case Western Reserve University School of Medicine, 10900 Euclid Avenue, Cleveland, OH 44106-4975**. *Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION
Gene Therapy of Mitochondrial Diseases

An immediate opening is available for a two-year Fellowship position at the University of Florida for an outstanding Ph.D. and/or M.D. to join an ongoing and well-funded research program in developing and applying gene delivery strategies for mitochondrial metabolic diseases. Applicants with expertise in cell and molecular biology are preferred.

Salary is highly competitive. Resources and collaboration faculty include those of the Genetics Institute, Powell Gene Therapy Center, and General Clinical Research Center at the University of Florida.

Inquiries, curriculum vitae, and three letters of recommendation should be sent to:

Peter W. Stacpoole, Ph.D., M.D.
P.O. Box 100226
J. Hills Health Center
Gainesville, FL 32610-0226

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

A **POSTDOCTORAL POSITION** is available immediately to investigate mechanisms of host resistance against an opportunistic pathogen (*Toxoplasma godii*) using murine models. The NIH-funded project includes studies of the role of cellular immunity, cytokines, adhesion molecules, and genetic regulation of the immune responses. Ph.D. and/or M.D. with strong background in immunology and cell biology required with preference for experience in molecular biology. Send curriculum vitae and names and addresses of three references to: **Dr. Yasuhiro Suzuki, Center for Molecular Medicine and Infectious Diseases, Virginia Tech, 1410 Prices Fork Road, Blacksburg, VA 24061. E-mail: ysuzuki@vt.edu**. Review of applications will begin on November 15, 2001, and continue until a suitable candidate is found. *Virginia Tech has a strong commitment to the principle of diversity and, in that spirit, seeks a broad spectrum of candidates including women, minorities, and people with disabilities. Individuals with disabilities desiring accommodations in the application process should notify* **Dr. Suzuki; Telephone: TTY 1-800-828-1120**.

The Institute of Food Science and Engineering (IFSE) at Texas A&M University is seeking a Manager of Research Commercialization. Responsibilities include marketing and commercialization of the food and fiber projects at TAMU and Texas Women's University. Ph.D. or M.S. with five to 10 years of experience in food and agricultural sciences required. Commercialization or marketing experience is necessary. Position requires travel. Reply to: **Dr. Suresh Pillai, IFSE, 1500 Research Parkway, Suite 220, Texas A&M University, College Station, TX 77845**.

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POSTDOCTORAL POSITION
Lymphangiogenesis

An NIH-funded Postdoctoral position is available to study the mechanisms of lymph vessel formation (lymphangiogenesis) using mouse genetics and cell culture models.

Applicants should be interested in participating in projects that will explore the signals for lymphatic endothelial cell migration and proliferation, develop methods that will help understand the stimuli and genes that drive lymphatic formation and survival, and thus contribute to the establishment of the molecular and cellular mechanisms of lymphangiogenesis. Previous background in vascular biology is not necessary. Applicants should have a Ph.D. degree and be trained in modern molecular and cellular biology methods. Salary and fringe benefits are competitive.

More information on the Center for Molecular Medicine is available at **website: http://zappa.mmcri.mmc.org**. Candidates should send curriculum vitae and contact details for three references to:

C. Mouta-Carreira
Center for Molecular Medicine
Maine Medical Center Research Institute
81 Research Drive
Scarborough, ME 04074-7205
E-mail: moutac@mmc.org
FAX: 207-885-8179
Telephone: 207-885-8239

POSTDOCTORAL POSITION
Environmental Microbiologist

The University of Georgia, Savannah River Ecology Laboratory, invites applications for a Postdoctoral position in environmental microbiology, investigating the effects of heavy metals using modern molecular genetic techniques. We are particularly interested in applicants who can work with an interdisciplinary team of Scientists including Ecologists, Ecotoxicologists, and Geochemists in research programs addressing the evolution, ecology, and effects of heavy metals on bacteria. SREL has well-equipped molecular biology (see **website: http://BadDNA.srel.edu**) and analytical laboratories (see **website: http://www.uga.edu/srel/AACES/index.html**). The successful applicant must have a strong record of research accomplishments and will be required to contribute to the Laboratory's effort to secure additional extramural research funds. Applicants must have a Ph.D. and qualify for a Department of Energy security clearance. Send curriculum vitae and names of three references by 7 December 2001 to: **Dr. J. Vaun McArthur, Savannah River Ecology Laboratory, Drawer E, Aiken, SC 29802. E-mail: mcarthur@srel.edu**. *The University of Georgia is an Equal Opportunity/Affirmative Action Employer and strongly encourages applications of women and members of minority groups.*

POSTDOCTORAL SCHOLAR

Position is available immediately to work on NIH-sponsored project of cystic fibrosis (CF) to study differences among surfactant protein (SP) A genetic variants in their ability to enhance phagocytosis of CF relevant organisms by the macrophage. This is linked to a CF family-based genetic association study.

Candidates must have a strong background in microbiology/immunology, knowledge of molecular biology, and excellent oral and written communication skills.

Curriculum vitae and three references may be sent to:

Joanna Floros, Ph.D.
Professor, Cellular and Molecular Physiology and Pediatrics
The Pennsylvania State University
College of Medicine
500 University Drive, H166
Hershey, PA 17033
E-mail: jfloros@psu.edu
Telephone: 717-531-6972
FAX: 717-531-7667

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIP

A Postdoctoral position is currently available in the Pulmonary and Cell Biology Departments at National Jewish Medical and Research Center to study the role of the mitogen-activated protein kinases and toll-like receptors in macrophage host-defense against *Mycobacterium tuberculosis* and other mycobacteria. Applicants should have a Ph.D. degree (or equivalent experience with an M.D. degree) in the biomedical sciences. Experience in eukaryotic cell culture, Western blotting, immunoprecipitation, plasmid preparation, RNA work, ELISAs, and standard biomedical laboratory skills are necessary. Previous experience in signaling work is preferred. Previous experience in mycobacterial work is also preferred but not required. Research facilities and professional environment are excellent with ample opportunities for collaboration at this and other local institutions. The parks and recreational facilities of the beautiful Rocky Mountains are easily accessible. Salary is determined by years of prior postdoctoral experience. Submit curriculum vitae, bibliography, representative publications, and names of three references to:

Dr. Edward D. Chan
Department of Medicine, K613e
National Jewish Medical and Research Center
1400 Jackson Street
Denver, CO 80206
Telephone: 303-398-1491

Affirmative Action/Equal Employment Opportunity Employer.

POSTDOCTORAL ASSOCIATE POSITION
Rensselaer Polytechnic Institute
Biology Department

Available immediately. Ph.D. degree in molecular biology, cell biology, biochemistry, or related field required. Successful candidate will study NIH-funded research on integrin-mediated signal transduction, gene expression, matrix metalloproteinase regulation, and control of tumor invasion. Previous experience in extracellular matrix study desirable but not essential. Salary depends on experience. Please forward the application including names of three references to:

Jiahua Xu, Ph.D.
Department of Biology
Rensselaer Polytechnic Institute
110 Eighth Street
Troy, NY 12180
E-mail: xuj2@rpi.edu

POSTDOCTORAL RESEARCH FELLOWS
Children's Hospital and Harvard Medical School

Postdoctoral Research positions available to study a variety of aspects related to the regulation of angiogenesis. Candidates with strong backgrounds in biochemistry and molecular biochemistry are encouraged to apply. Expertise in enzymology, protein purification, and genomic/proteonomic approaches is desirable.

Send curriculum vitae and the names of three references to: **Marsha A. Moses, Ph.D., Laboratory for Surgical Research, Children's Hospital, 320 Longwood Avenue, Boston, MA 02115. E-mail: marsha.moses@tch.harvard.edu**.

A **POSTDOCTORAL POSITION** is available immediately to study mechanisms of neurodegeneration and neuroprotection relevant to Alzheimer's disease. Current areas of interest include *in vitro* and *in vivo* modulation of neuronal apoptosis by steroid hormones. Candidates with a background in molecular biology and neuroscience should send curriculum vitae and the names and addresses of three references to: **Dr. Christian J. Pike, Andrus Gerontology Center, University of Southern California, 3715 McClintock Avenue, Los Angeles, CA 90089-0191. E-mail: cjpike@usc.edu**. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS available for basic and translational research. McGill University, Department of Pharmacology and Therapeutics.

One Senior Research Associate and two Postdoctoral Fellows. Effective dates: December 2001 (flexible). Postdoctoral Fellows interested in peptidomimetic drug development. Experience in receptor-ligand interactions, receptor biology/signal transduction, high-throughput screening, synthetic peptide and organic chemistry, immunocytochemistry, biochemical techniques, large-scale production, and purification of proteins and antibodies. Research Associate in experimental therapeutics. M.D. or Ph.D. with preclinical research experience, expertise in ophthalmology (particularly glaucoma), *in vivo* models of ocular disease, pathological analysis, ocular surgery, and molecular biological techniques. Salary according to qualifications. Send application, curriculum vitae, and the names and coordinates of three references to: **Dr. H. Uri Saragovi, Pharmacology and Therapeutics, McGill University, 3655 Drummond Street, Number 1320, Montréal, QC H3G 1Y6 Canada**. *By Canadian immigration requirements, this advertisement is directed first to Canadian citizens and permanent residents. McGill University is committed to Equity in Employment.*

RESEARCH FELLOW
Cannon Research Center
Department of General Surgery
Charlotte, North Carolina

Carolinas Medical Center, a 777-bed acute care, Level I teaching trauma center, has an immediate opening for a **POSTDOCTORAL FELLOW** in bioengineering (or equivalent) as it relates to biomaterials and tissue engineering. The focus of the project is to study the creation of biomaterial constructs for the development of a soft tissue for reconstructive surgery. Experience with biomaterials and the interface between cells and biomaterials required.

Please submit your résumé online, by mail, or FAX: **Carolinas HealthCare System, Attention: Recruitment Services/SM1019SP, P.O. Box 32861, Charlotte, NC 28232-2861. FAX: 704-444-3099; website: http://www.carolinashealthcare.org**.

POSTDOCTORAL POSITIONS are available to study IL–2 and IL–7 receptor function *in vivo*. Novel transgenic and gene knockout mouse models are available to study the physiological basis for cytokine regulation of T cell survival and immune responses. Opportunity to develop new mouse models to investigate cytokine receptor signaling in T cell immunity. Prior experience in immunology and/or receptor signal transduction preferred. Send curriculum vitae and names of three references to: **Dr. Thomas Malek, Department of Microbiology/Immunology, University of Miami School of Medicine, P.O. Box 016960, Miami, FL 33101. E-mail: tmalek@med.miami.edu**. *The University of Miami is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS
Prostate Cancer Biology

Positions available to participate in NIH-funded program studying regulation of genes related with progression of prostate cancer. Expertise in molecular biology, cell cultures, and animal experimentation is essential. Experience in cell biology and signal transduction is desirable. Please send curriculum vitae and contact information for three references to: **Girish Shah, Ph.D., Professor of Pharmaceutical Sciences, Texas Tech University Health Sciences Center, 1300 Coulter, Amarillo, TX 79106. E-mail: girish@ama.ttuhsc.edu**. *Texas Tech University HSC is an Equal Opportunity/Affirmative Action Institution.*

NATIONAL INSTITUTES OF HEALTH
Undergraduate Scholarship Program

Science-Research Scholarship Available

The UGSP is sponsored by the National Insitutes of Health (NIH), the Federal Government's premier biomedical research and research training agency. NIH offers scholarships to qualified students who are committed to a career in biomedical research.

Scholarships of up to $20,000 per year support tuition, educational, and qualified living expenses (room, board, transportation) while students pursue an undergraduate degree.

For each award year, scholars work 10 weeks with salary/benefits in our research laboratories in Bethesda, Maryland. They are assigned mentors, participate in developmental and science enrichment seminars, and are provided with housing and transportation. After graduation, scholars participate in year-long paid research fellowships for each year of their award.

THIS IS A SPECIAL OPPORTUNITY FOR SPECIAL STUDENTS!

Advise students to apply if they:

- Are committed to a career in biomedical research;
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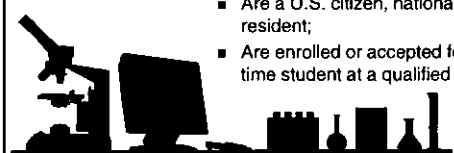
- Are enrolled or accepted for enrollment as a full-time student at a qualified accredited institution.



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- National Foundation for Infectious Diseases
- Institut Pasteur
- European Society for Paediatric Infectious Diseases
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Information: www.fond-merieux.org

COURSES

Advances in Genome Technology & Bioinformatics

October 6 - November 1, 2002

A comprehensive, four week course in Genome Science that will integrate bioinformatics with the latest laboratory techniques for genome sequencing, genome analysis, and high throughput gene expression (DNA microarrays). A distinguished faculty from major universities, bioinformatic centers, The Institute for Genomic Research, and the Marine Biological Laboratory will train 24 students including postdoctoral students, graduate students and established PI's. This cutting-edge course will integrate a series of lectures with laboratory exercises both at the computer and in a high technology, high throughput facility. The major instructional modules include Genome Sequencing, Bioinformatics, and Functional Genomics. In addition, symposia will be sponsored in topical areas in genome science. The breadth of topics in genome science and the advanced training based upon advanced laboratory technology, distinguish this course from all other offerings.

Course Directors: Claire M. Fraser, *The Institute for Genomic Research*; and Mitchell L. Sogin, *Marine Biological Laboratory.*

More information about this course and other MBL courses may be found at <**http://courses.mbl.edu**>, or contact Carol Hamel, Admissions Coordinator, (508) 289-7401, <admissions@mbl.edu>.

The MBL is an EEO Affirmative Action Institution.

Marine Biological Laboratory
7 MBL Street, Woods Hole, MA 02543

THE ANGIOGENESIS RESOURCE CENTER

The Developmental Therapeutics Program (DTP, DCTD, NCI) has recently put into operation its Angiogenesis Resource Center. This effort was recommended by the Advisory Committee to the Director, NCI to facilitate research into the mechanisms of tumor angiogenesis and the development of drugs that target the essential tumor vasculature. The Center currently serves qualified investigators in the scientific community by providing human umbilical endothelial cells (HUVEC) and reference agents. Additionally, anti-angiogenesis testing is available without charge for pure natural products or synthetic compounds submitted by suppliers in universities, research institutes, government agencies, and pharmaceutical or biotechnology companies. For additional information on receiving any of these supplies and services, please visit our website at **http://dtp.nci.nih.gov** or contact the following individuals:

Mr. Richard F. Camalier
Biological Testing Branch
DTP, DCTD, NCI
Fairview Center, Suite 205
1003 West 7th Street
Frederick, MD 21701-8527
T: 301-846-5607
F: 301-846-6183
E: camalier@mail.nih.gov

Dr. Ravi K. Varma
Drug Synthesis and Chemistry Branch
DTP, DCTD, NCI
EPN, Room 831
6310 Executive Blvd.
Rockville, MD 20892
T: 301-435-9159
F: 301-480-4817
E: varmar@exchange.nih.gov

POSITIONS OPEN

POSTDOCTORAL POSITIONS NEUROSCIENCE

Two NIH-funded Postdoctoral positions are available to study neuronal-glial interactions *in situ*. One individual is being recruited to use electrophysiology, confocal microscopy, caged compounds, and molecular methods to investigate glial-neuronal signaling within hippocampal brain slices. The second individual is being recruited to generate and analyze transgenic and conditional-knockout mice designed to perturb astrocytic-neuronal interactions *in vivo*. Applicants interested in the first position should have a strong background in either electrophysiology or imaging microscopy. Applicants interested in the second position should have a strong background in molecular biology. Visit our website for more information about our program (**website: http://www.med.unc.edu/wrkunits/2depts/pharm/mccarthy.htm**). Send curriculum vitae and names, telephone numbers, and e-mail addresses of three references to: **Ken McCarthy, Ph.D., Department of Pharmacology, CB Number 7365, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7365. FAX: 919-966-5640; e-mail: kdmc@med.unc.edu**.

TEMPLE UNIVERSITY SCHOOL OF MEDICINE

Unique **POSTDOCTORAL POSITION** available. A self-motivated, organized individual will be a leader of academic research in a drug discovery laboratory of a major pharmaceutical company located in the suburbs of Philadelphia. This Postdoctoral position, which is based in the Department of Physiology at Temple University School of Medicine, is immediately available. The main research focus is to study the role of oxygen radicals and endothelium-derived factors in the regulation of cardiovascular-renal disease including diabetes mellitus, renal failure, and hypertension. The applicant should have a Ph.D. in physiology or pharmacology with experience using *in vivo* techniques. The ideal candidate will have good surgical skills, a strong publication record, and excellent communication skills. Please send a statement of research interests, curriculum vitae, and three references to: **Irene Boyle, Temple University, OMS 224, 3420 North Broad Street, Philadelphia, PA 19140**. *Equal Opportunity Employer.*

POSTDOCTORAL ASSOCIATE

Novartis Institute for Functional Genomics (**website: http: www.gnf.org**), also known as Genomics Institute of the Novartis Research Foundation, located in Torrey Pines, California, has a Postdoctoral position immediately available to use full-genome technologies and the *Saccharomyces cerevisiae* in the development of novel antifungals. Individuals should possess a Doctoral degree with training in molecular biology/biochemistry or microbiology. Experience with genomics, bioinformatics, DNA arrays, *Saccharomyces cerevisiae*, fungal pathogenesis, and drug development useful but not essential.

GNF offers excellent compensation and a great benefit package. For confidential consideration, please send curriculum vitae to: **Novartis Institute for Functional Genomics, Human Resources Department/EW, 3115 Merryfield Row, Suite 200, San Diego, CA 92121. FAX: 858-812-1670**. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH POSITION

NIH-funded Postdoctoral Research position available to investigate the pharmacokinetics, intracellular transport, and metabolism of novel antiviral nucleoside analogs and prodrugs. Background in molecular biology, cellular biology, and biochemistry is desirable. Please send curriculum vitae, research interests, and names of three references to: **F. Douglas Boudinot, Ph.D., Department of Pharmaceutical and Biomedical Sciences, University of Georgia College of Pharmacy, Athens, GA 30602-2352. E-mail: boudinot@rx.uga.edu**. *The University of Georgia is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

RESEARCH POSITIONS LATENCY IN HIV INFECTION

An **INSTRUCTORSHIP** and NIH-funded **POSTDOCTORAL POSITIONS** are immediately available at The University of Texas Southwestern Medical Center at Dallas in a growing group studying HIV latency, pathogenesis, and therapies. Biotechnology and clinical trials collaborations are ongoing. UTSW offers excellent salary and fringe benefits commensurate with experience. Immunology or molecular biology experience necessary; virology and/or FACS experience desired. English fluency required.

Send letter of interest, curriculum vitae, and names of three references to: **Dr. David Margolis, UT Southwestern, 5323 Harry Hines Boulevard, Dallas, TX 75390-9113. E-mail: david.margolis@utsouthwestern.edu; FAX: 214-648-0231**.

The University of Texas Southwestern Medical Center at Dallas is an Equal Opportunity Employer.

POSTDOCTORAL POSITION Yale School of Medicine

A Postdoctoral position is available immediately and open until filled in a laboratory that works on oncogenic retroviruses. We are interested in viral entry and uncoating and trafficking (see also **website: http://info.med.yale.edu/micropath/fac_mothes.html**). Our cell biological approach to viral replication benefits greatly from Yale's strong membrane biology and interdisciplinary atmosphere. Candidates should be familiar with standard molecular biology methods and have experiences in either microbiology, cell biology, or biochemistry. Candidates should e-mail their curriculum vitae and contact information for three references to: **Walther Mothes, Ph.D., Yale School of Medicine, Boyer Center, Section of Microbial Pathogenesis, 295 Congress Avenue, New Haven, CT 06536-0812. E-mail: walther.mothes@yale.edu**. *Yale University is an Equal Opportunity/Affirmative Action Employer. Qualified women and members of underrepresented minority groups are encouraged to apply.*

POSTDOCTORAL POSITION available to study the regulation of Presenilin–1 gene expression. Yeast one- and two-hybrid systems, footprinting, gel mobility shift assay, and gene transfection in cell lines will be used. Candidate should have a Ph.D. and a background in molecular biology and tissue culture. Experience on eukaryotic gene transcription is preferred. Salary is competitive. Please send curriculum vitae, summary of research experience, and names of three references to: **Dr. Hriday Das, Department of Pharmacology and Neuroscience, University of North Texas Health Science Center, 3500 Camp Bowie Boulevard, Fort Worth, TX 76107. E-mail: hdas@hsc.unt.edu**.

The University of North Texas Health Science Center at Fort Worth enjoys a smoke-free campus and is an Equal Employment Opportunity/Affirmative Action Institution.

POSTDOCTORAL POSITIONS are available immediately to study multidrug resistance (MDR) in cancers and translational control of cell growth. See **website: http://www.iupui.edu/~woc/Principal_Investigators/Zhang/zhang.html** for further information on research. Candidates should have a Ph.D. degree in biochemistry, molecular and cell biology, or in a compatible field. Individuals with an academic career goal and with working experiences in molecular biology are preferred. Please send curriculum vitae with the names, telephone numbers, and e-mail addresses of references to: **J.-T. Zhang, Ph.D., Indiana University School of Medicine, 1044 West Walnut Street, R4-166, Indianapolis, IN 46202. E-mail: jianzhan@iupui.edu**.

POSITIONS OPEN

POSTDOCTORAL POSITIONS for studies of proteolytic mechanisms in neurotransmission and neurodegenerative diseases. Studies in the laboratory of **Dr. Vivian Hook** will define the proteases and protease inhibitors involved in (1) producing active neuropeptide transmitters (enkephalin, β-endorphin, ACTH, and others); and (2) proteolytic mechanisms involved in Alzheimer's and related neurodegenerative diseases. Interdisciplinary approaches in molecular biology and genomics, protease/peptide biochemistry and proteomics, and cell biology/gene expression are utilized. A Ph.D. degree with experience in at least two of these disciplines is required. State-of-the-art proteomic and genomic facilities are available at the new Buck Institute (**website: http://www.buckinstitute.org**) located near San Francisco, California. Projects involve research collaborations with University of California San Francisco and University of California San Diego. Job Code: VH/PD/01. To apply, submit curriculum vitae with names of three references to: **Human Resources, VH, Buck Institute, 8001 Redwood Boulevard, Novato, CA 94945. E-mail: hr@buckinstitute.org; FAX: 415-899-1810**.

POSTDOCTORAL POSITIONS. Three positions are available immediately in the laboratories of **Drs. Judy L. Bolton, Andreas Constantinou**, or **John Pezzuto**. The positions involve the study of the biological effects of botanical dietary supplements as well as estrogens and antiestrogens. Qualifications for Position One (chemistry): Ph.D. in organic chemistry with experience in synthesis, HPLC, LC-MS, and mechanistic enzymology. Qualifications for Positions Two and Three (molecular biology): Ph.D. in life sciences with experience in cell culture, eukaryotic gene transfection, Western blotting, immunohistochemistry, PCR, and HPLC. Send résumé and names of three references to: **Colleen Piersen, Ph.D., Program Coordinator, UIC/NIH Center for Botanical Dietary Supplements Research, 833 South Wood Street, M/C 877, Chicago, IL 60612-7231. Telephone: 312-413-9299; FAX: 312-413-5894; e-mail: cpiersen@uic.edu**. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

We have an opening for a **POSTDOCTORAL POSITION** at University of Utah to investigate the stable isotopic composition of bacteria and bacterial cell components. We seek applicants with a strong background in biochemistry who are capable of growing and isolating bacteria and with the skills and training needed to isolate specific carbohydrate and protein components. Previous experience with stable isotopes is useful but not essential. The position is available immediately. Applicants should submit a letter of interest, curriculum vitae, and the names and contact information for three individuals who will write letters of support. *Applicants must be U.S. citizens.* For further information, contact: **Jim Ehleringer, Department of Biology, University of Utah, 257 South 1400 East, Salt Lake City, UT 84112-0840. Telephone: 801-581-7623.** Send applications to **e-mail: ehleringer@biology.utah.edu**. The salary is competitive and the position offers full medical benefits for the candidate and family members.

POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS HIV Evolution and Fitness

NIH-funded positions available in our laboratories in Cleveland, Ohio, and Kampala, Uganda. Research involves various molecular virology assays developed in our laboratory and applied to HIV–1 isolates from around the world. Candidates must be highly motivated, have experience in molecular virology, and be willing to oversee several productive research projects. Research Associate position in Uganda requires independence, past postdoctoral training, and/or experience in international settings. Send curriculum vitae and names of three references to: **Dr. Eric J. Arts, Center for AIDS Research, Division of Infectious Diseases, Case Western Reserve University, BRB 1034, 10900 Euclid Avenue, Cleveland, OH 44106. E-mail: eja3@po.cwru.edu**.

SPANISH NATIONAL CANCER CENTER

Following the official opening of the CNIO, (Centro Nacional de Investigaciones Oncológicas), the Spanish National Cancer Center, we are pleased to announce the first in our calendar of International meetings of excellence related to both basic and applied cancer research. A series of CNIO Cancer Conferences will be organised each year to unite the very best researchers worldwide who are keen to present and discuss their latest findings with other colleagues. Information surrounding all our forthcoming events will be continually updated on our website: **http://www.cnio.es**

First CNIO Symposium on Basic and Translational Cancer Research

6-9 February, 2002, Madrid, Spain

Invited Speakers	Topics
Harold E. Varmus, New York (USA)	Keynote address
Tony Hunter, La Jolla (USA)	Tyrosine phosphorylation
Joan Massagué, New York (USA)	The double face of TGFb/Smad signaling in cancer
Arnold J. Levine, New York (USA)	P53 mediated apoptosis
Stanley J. Korsmeyer, Boston (USA)	Mitochondrial gateway to apoptosis
Pierre Chambon, Strasbourg (France)	Genetic dissection of gene function in the mouse
Manuel Serrano, Madrid (Spain)	Tumor suppressors that fight against oncogenes
Eva Y-H. P. Lee, San Antonio (USA)	Protein network in DNA damage response and mouse models of breast cancer by inactivation of the p53 gene
Jan H. Hoeijmakers, Rotterdam (Holland)	DNA repair: from dynamic molecules to cancer and ageing
María A. Blasco, Madrid (Spain)	Telomeres and telomerase
Kari Alitalo, Helsinki (Finland)	Angiogenesis, lymphangiogenesis and tumor metastasis
Riccardo Dalla-Favera, New York (USA)	Pathogenesis of B cell malignancy
Mariano Barbacid, Madrid (Spain)	Animal models for cancer
Carlos López-Otín, Oviedo (Spain)	Metalloproteinases and tumor progression
Bruce Ponder, Cambridge (UK)	Genetics of cancer predisposition
Felix Mitelman, Lund (Sweden)	Cancer Cytogenetics
Manuel Esteller, Madrid (Spain)	Cancer Epigenetics
Paul Meltzer, Bethesda (USA)	Gene expression profiling with microarrays: progress and promise
Miguel Á. Piris, Madrid (Spain)	Molecular biology of lymphomas
Julio E. Celis, Copenhagen (Denmark)	Proteomic strategies in bladder cancer
John N. Weinstein, Bethesda (USA)	Pharmacogenomics
Josep Baselga, Barcelona (Spain)	Clinical trials in the XXI century
David W. Golde, New York (USA)	Closing lecture

Participants : No registration fee is required, though **PLACES ARE LIMITED.**
Applications : Please send a short Curriculum Vitae (including a list of the main publications), and a brief description of current research interests (maximum 1 page) to Iciar Areilza, e-mail : **symposium@cnio.es** **DEADLINE FOR APPLICATION:** 10 December, 2001.
For enquiries surrounding forthcoming CNIO Cancer Conferences please contact Amanda Wren, e-mail : **ccc@cnio.es**

THE ROYAL NETHERLANDS ACADEMY OF ARTS AND SCIENCES
CALLS FOR NOMINATIONS FOR THE

HEINEKEN PRIZES 2002

The Royal Netherlands Academy of Arts and Sciences (KNAW) selects the recipient of the

- Dr H.P. Heineken Prize for Biochemistry and Biophysics 2002
- Dr A.H. Heineken Prize for Medicine 2002
- Dr A.H. Heineken Prize for Environmental Sciences 2002

These biennial prizes, offered by the Dr H.P. Heineken Foundation and the Alfred Heineken Fondsen Foundation, rewards outstanding scientific achievement in the field of biochemistry and biophysics, medicine and environmental research.

Along with a permanent token each Prize consists of US $ 150,000 to be spent at will.

Nominations are restricted to individual, active scientists whose contributions to biochemistry and biophysics, medicine or environmental research should be outstanding and a source of inspiration to others.
Nominations must include a description of the research work and publications on which the nomination is based, a curriculum vitae, bibliography, and one or two key publications. The deadline for nominations is January 1, 2002.

Nomination forms and general information are available from the:

Secretariat of the Heineken Prizes,
Royal Netherlands Academy of Arts and Sciences,
P.O.Box 19121, 1000 GC Amsterdam, The Netherlands.

Telephone: 31 (0) 20 55 10 759, telefax: 31 (0) 20 62 04 941
E-mail: heinekenprizes@bureau.knaw.nl
Website: http://www.knaw.nl/heinekenprizes

ROYAL NETHERLANDS ACADEMY
OF ARTS AND SCIENCES

POSITIONS OPEN

POSTDOCTORAL/SENIOR RESEARCH ASSOCIATE/INSTRUCTOR POSITION(S) available for drug discovery in an academic setting. Be part of a unique biomedical team that is developing high-throughput electrophysiology for the discovery of novel drug targets and the development of new chemical entities. Successful candidates will have a background in either engineering and/or electrophysiology. Opportunity for advancement into faculty position. Please send curriculum vitae and references to: **Dr. David Farb, Chairman, Department of Pharmacology, Boston University School of Medicine, 715 Albany Street, Boston, MA 02118.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

We seek a full-time Postdoctoral Associate for up to 36 months to conduct analyses of trace gas microbiology in volcanic soils and rhizosphere systems. Ph.D. in microbiology or related field required; experience assessing microbial processes and diversity using traditional culture and molecular methods highly desirable. Annual salary range: $30,000 to $32,000. Send statement of interest, curriculum vitae, and three letters of reference to: **Dr. G. M. King, Darling Marine Center, University of Maine, Walpole, ME 04573. Telephone: 207-563-3146, Extension 207.** Review of applications begins 22 November 2001. *The University of Maine is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS
Alzheimer's Disease Vaccine

Two NIH-funded Postdoctoral positions are available immediately to study mucosal Aβ immunization and its mechanism(s) in several mouse models (see Annals of *NY Acad. Sci.*, 2000; Annals of *Neurology*, 2000). Candidates should have a Ph.D. or equivalent and a strong background in neurobiology, immunology, and/or mouse genetics. Please send curriculum vitae and names of three references to: **Cynthia A. Lemere, Ph.D., Harvard Medical School/Brigham and Women's Hospital, HIM 622, 77 Avenue Louis Pasteur, Boston, MA 02115. E-mail: lemere@cnd.bwh.harvard.edu.**

UNIVERSITY OF MIAMI SCHOOL OF MEDICINE
Sylvester Comprehensive Cancer Center

The Division of Hematology/Oncology is seeking **POSTDOCTORAL ASSOCIATES** with expertise in the areas of molecular biology/microbiology/immunology to conduct bench research in the study of tumor immunology and human gene therapy. An individual with excellent molecular biologic, immunologic, and animal use skills is desired. Prior experience is desirable. For consideration, please submit curriculum vitae and telephone numbers of references to the attention of: **Joseph Rosenblatt, M.D., Division Chief, 1475 N.W. 12th Avenue (D8-4), Suite 3300, Miami, FL 33136. E-mail: jrosenblatt@med.miami.edu.**

The University of Miami is an Affirmative Action/Equal Employment Opportunity Commission Employer.

POSTDOCTORAL FELLOW
Ecological Impacts of Small Dams

Participate in research program at the Academy of Natural Sciences of Philadelphia (Pennsylvania) focused on the ecological effects of small dams and potential benefits of dam removal. Play major role in organizing and leading an interdisciplinary research team. Suitable candidates will have research expertise in one or more of the following disciplines: hydrology; fluvial geomorphology; biogeochemistry; ecology of aquatic biota (e.g., bacteria, algae, invertebrates, fish); ecosystem analysis. Position available beginning winter/spring 2002. Review of applications begins on November 19, 2001. For details, visit **website: http: //www.acnatsci.org/research/jobs.html#157.** Send applications/inquiries to: **e-mail: gino@acnatsci.org.**

POSITIONS OPEN

POSTDOCTORAL FELLOWS, University of Wisconsin: Several positions available immediately to study rhinovirus control of cytokine production in pulmonary epithelia as part of an asthma program project. Candidates should be experienced in cell and molecular biology and able to work as part of a team. Please e-mail curriculum vitae, research statement, and the names of three references to: **Dr. James Malter; e-mail: jsmalter@facstaff.wisc.edu.**

POSTDOCTORAL FELLOWSHIP in monitoring cancer pharmacodynamics and apoptosis with NMR. The University of Pennsylvania, Department of Radiology, seeks a Postdoctoral Fellow to evaluate 1H and 13C NMR methods for examining pharmacodynamics of labeled chemotherapeutic agents in intracranial and subcutaneous tumors of animals. The NMR methods will also be examined for their potential to detect changes associated with apoptosis during infusion of 13C metabolites. MR system: Varian 4.7 T/40 cm. Required: Ph.D. in biology, chemistry, physics, or engineering. Experience in handling animals, tumor implantation, and/or NMR is highly desirable. Please send curriculum vitae and names of three references to: **Anthony Mancuso, Ph.D., Radiology/4283, University of Pennsylvania, B1 Stellar-Chance, 422 Curie Boulevard, Philadelphia, PA 19104-6100. Telephone: 215-898-1805; FAX: 215-573-2113; e-mail: mancuso@rad.upenn.edu.** *University of Pennsylvania is an Equal Employment Opportunity Commission/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately to study cloning by somatic cell nuclear transfer and gene regulation in mouse embryos. Applicant should have a recent Ph.D., experience in molecular biology and prior publication in an international peer-reviewed journal. Significant experience in microinjection or other microsurgical method preferred. Send curriculum vitae and request references to be sent to: **Dr. Keith Latham, The Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, 3307 North Broad Street, Philadelphia, PA 19140. Telephone: 215-707-7577; FAX: 215-707-1454; e-mail: klatham@unix.temple.edu.** *Temple University is an Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS
University of California, San Diego

Postdoctoral positions are available in NIH-supported projects to study the role of ion channels and calcium in vascular smooth muscle cell proliferation and apoptosis. Experience in molecular biology (gene cloning and transfection, Northern and Western blot) or imaging fluorescence microscopy is required. Salary commensurate with experience. Send curriculum vitae and the names of two to three references to: **Dr. Jason X.-J. Yuan, UCSD Medical Center, 200 West Arbor Drive, San Diego, CA 92103-8382 U.S.A. E-mail: xiyuan@ucsd.edu; FAX: 619-543-2929.**

POSTDOCTORAL POSITION available immediately to study plasticity mechanisms underlying the formation and stabilization of the firing fields of hippocampal place cells. Experience in either electrophysiology or microdialysis required, preferably in awake animals. Send curriculum vitae, publications, research interests, and names of references to: **Drs. R. Muller and S. Fox, Department of Physiology and Pharmacology, Box 31, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, NY 11203. Telephone: 718-270-1151; e-mail: bob@fasthp.hippo.hscbklyn.edu.** *Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION is available to characterize the role of tissue factor and protease-activated receptors in tumor growth, metastasis, and angiogenesis. Candidates must have a Ph.D. or M.D. and should have experience in molecular biology, tissue culture, and cellular signaling. Additional information is available at **website: http://www.temple.edu/sstrc/FACULTY/Bromberg.html.** Send curriculum vitae, research interests, and three references to: **Michael Bromberg, M.D., Ph.D., Sol Sherry Thrombosis Research Center, Temple University School of Medicine, 3400 North Broad Street, Room 300 OMS, Philadelphia, PA 19140. E-mail: mbromber@temple.edu.**

POSTDOCTORAL FELLOWSHIP POSITION

An NIH-funded Postdoctoral position is available immediately to study the role of lipid rafts in receptor signaling and HIV entry. Experience in molecular biology and virology (preferably HIV) is required. Send curriculum vitae and names and addresses of three references to: **Dr. Waldemar Popik, Johns Hopkins University, 1650 Orleans Street, Baltimore, MD 21231. E-mail: wpopik@jhmi.edu.**

A POSTDOCTORAL RESEARCH ASSOCIATE position is available starting February 2002 to study the disposition and metabolism of polybrominated diphenyl ethers in fish. A Ph.D. in toxicology (aquatic or mammalian), pharmacology, or a related field is required. Experience with HPLC and metabolite isolation is desirable. Please send résumé and name of three references to: **Dr. H. Sikka, Environmental Toxicology and Chemistry Laboratory, Great Lakes Center, State University of New York College at Buffalo, 1300 Elmwood Avenue, Buffalo, NY 14222. Telephone: 716-878-5422; FAX: 716-878-5400; e-mail: sikkahc@buffalostate.edu.**

POSTDOCTORAL POSITION, Center for Molecular Toxicology and Carcinogenesis, Penn State: Position available immediately to study cellular regulation of the Ah receptor pathway. Current studies are focused on delineating the role of putative endogenous ligands, immunophilins, heat shock proteins, and protein phosphorylation in regulating Ah receptor activity. Applicants should have a Ph.D. in toxicology, biochemistry, or related field. Salary is competitive and commensurate with experience. Submit curriculum vitae and names of three references by November 30, 2001, to: **Dr. Gary H. Perdew, Center for Molecular Toxicology and Carcinogenesis, 226 Fenske, Penn State, University Park, PA 16802. E-mail: ghp2@psu.edu; website: http://www.cas.psu.edu/docs/CASDEPT/VET/ppl/perdew.html.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately to study genetic and molecular pathways of tumorigenesis and development. Recent Ph.D. degree in molecular/cellular biology, genetics, or related discipline is required. Experience in mouse development and/or chromosomal mapping is desired. Send curriculum vitae and names of three references to: **Susan C. Evans, Ph.D., Edison Biotechnology Institute, Ohio University, Konneker Research Laboratories, The Ridges, Athens, OH 45701. E-mail: sevans@edison.biotech.ohiou.edu.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH FELLOWSHIP. Positions are available for Postdoctoral Fellows experienced in immunology or protein chemistry. The research undertaken involves viral and immunological features of HIV pathogenesis. *Must be a U.S. citizen or have permanent resident status* and meet NIH standards for postdoctoral funding. Send curriculum vitae and the names of three references to: **Jay A. Levy, M.D., Division of Hematology/Oncology, Department of Medicine, University of California, San Francisco, CA 94143-1270. E-mail: levylab@itsa.ucsf.edu.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS
The University of Virginia

The University of Virginia Health System, Department of Pharmacology, is seeking applications for two Postdoctoral positions. The position is to study regulation and function of MAP kinase cascades (see **website: http://hsc.virginia.edu/signals/**). Projects include yeast genetics and biochemistry of Rck1p and Rck2p kinases in NIH-funded project on MAP-KAP kinases. A Ph.D. is required in a biological science from a discipline in biochemistry, molecular biology, genetics, pharmacology, or cell biology. To apply, send curriculum vitae to: **Dr. Thomas W. Sturgill, Center for Cell Signaling and Department of Pharmacology, P.O. Box 800577, University of Virginia Health System, Charlottesville, VA 22908. E-mail: tws7w@virginia.edu.** Application deadline: open until filled. *The University of Virginia is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL
Cellular and Molecular Immunology

Applications are invited to study T cell tolerance, autoimmunity, and regulation of gene expression in lymphocytes. Candidates should possess a Ph.D. and/or M.D. degree and experience in cellular immunology and/or molecular biology. Submit your curriculum vitae and the names of three references via mail, FAX, or e-mail to: **H. Zaghouani, University of Missouri, Department of Molecular Microbiology and Immunology, M616 Medical Sciences Building, Columbia, MO 65212. FAX: 573-882-4287; e-mail: zaghouanih@health.missouri.edu.** To request ADA accommodations, please contact our **ADA Coordinator; Telephone: 573-884-7278; e-mail: hensonl@missouri.edu.**

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

POSTDOCTORAL POSITIONS

Two positions funded by the Cardiovascular Center of Excellence are available to study the signal transduction mechanisms related to the effect of nitric oxide and protein tyrosine phosphatases on migration, proliferation, and collagen synthesis by vascular smooth muscle cells. Our projects address basic science questions but also have relevance to clinical problems. Experience in the techniques of molecular biology is essential. Send curriculum vitae and the names of three references to: **Dr. Aviv Hassid, Department of Physiology, University of Tennessee, 894 Union Avenue, Memphis, TN 38163. E-mail: hassid@bellsouth.net. FAX: 901-448-7126.**

POSTDOCTORAL FELLOW and **RESEARCH ASSISTANT/ASSOCIATE** positions are immediately available to study immune responses against cancer and mechanism of T cell mediate tumor immunity (see *Science* **284:**1351; *JEM* **189:**1659; *PNAS* **98:**3964; *Trends in Immunology* **22:**269). A strong background in molecular biology, cell culture, and immunology is required. Please send your curriculum vitae and three names of references to: **Dr. Rongfu Wang, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030. E-mail: rongfuw@bcm.tmc.edu.**

POSTDOCTORAL POSITIONS are available for investigations of RNA assembly and catalysis *in vitro* and *in vivo*. Please send curriculum vitae, summary of research interests, and names of three references to: **Dr. Martha J. Fedor, Department of Molecular Biology and the Skaggs Institute for Chemical Biology, The Scripps Research Institute, MB35, 10550 North Torrey Pines Road, La Jolla, CA 92037. E-mail: mfedor@scripps.edu; website: http://www.scripps.edu/mb/fedor/.**

POSITIONS OPEN

POSTDOCTORAL POSITION available at the Institut National de la Santé et de la Recherche Médicale in Villejuif, France. The project concerns the identification and characterization of tissue-specific human stem cells. Techniques to be used include notably fluorescence-activated cell sorting, cell culture, and human cell transplantation into immunodeficient animals. Please address application letters to: **Mrs. Jacqueline Roué; e-mail: jroue@infobiogen.fr.**

GRANTS

BRAIN TUMOR RESEARCH
$100,000 Grants Available Nationwide
Application Deadline: April 3, 2002

The Brain Tumor Society is awarding grants to fund basic scientific research directed at finding a cure for brain tumors. Grants are awarded annually for up to a two-year period at a maximum of $100,000 per year. Grants may be used for start-up projects or supplementary funding. Funds cannot be used for indirect costs. For guidelines and application, go to **website: http://www.tbts.org** or contact:

Carrie Treadwell, Grants Manager
Telephone: 1-800-770-8287 or
617-924-9997, Extension 10
E-mail: grants@tbts.org

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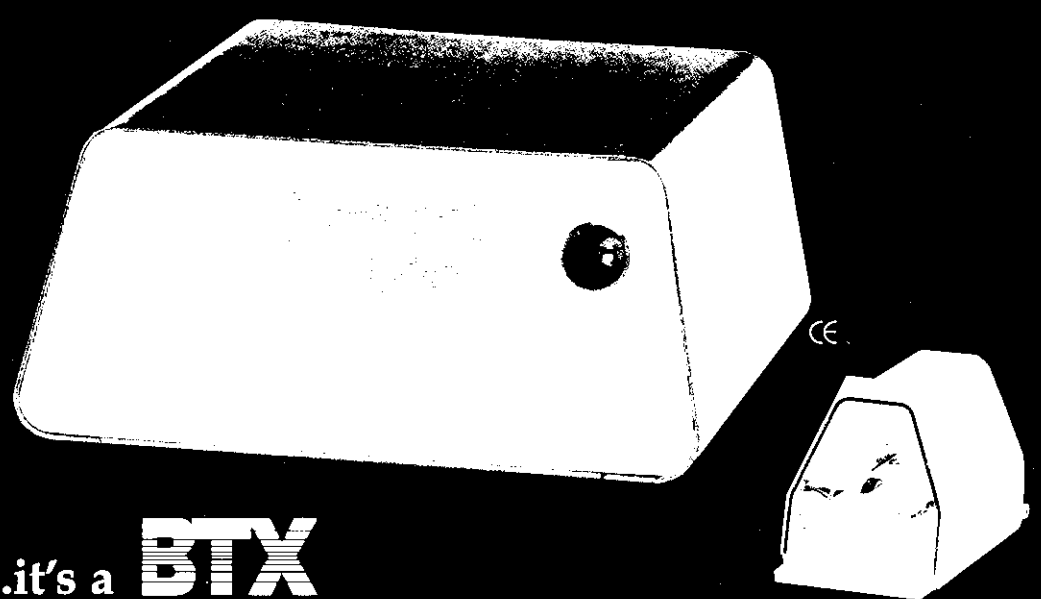

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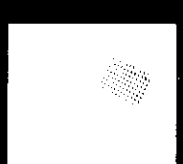

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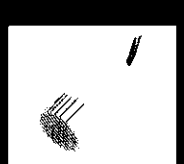

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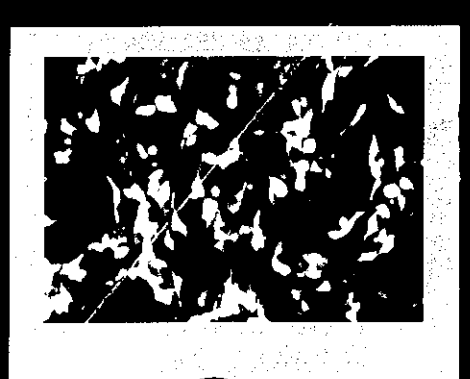

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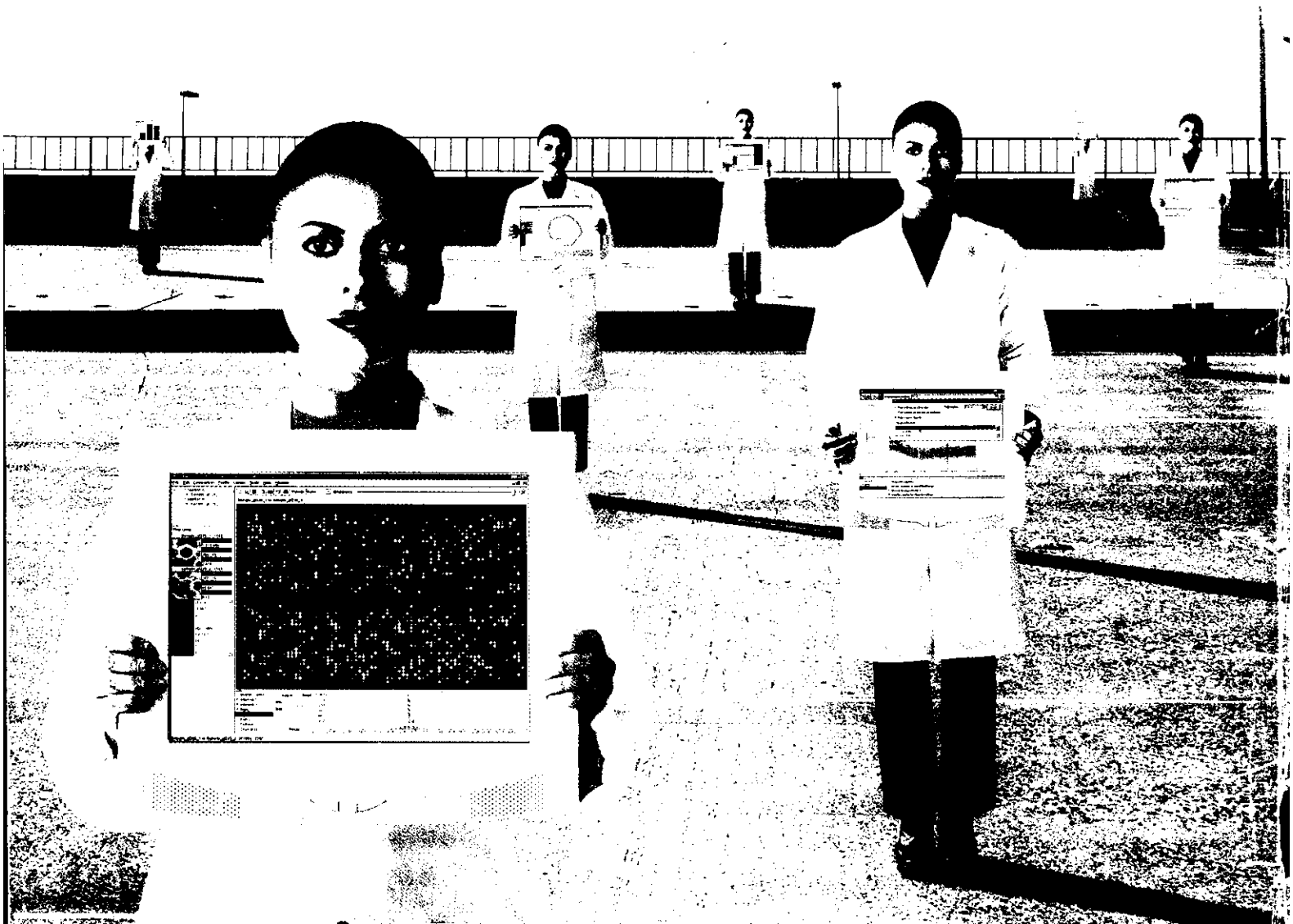

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