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** References:*

*1) Nat. Biotechnol. **18**, 630-634 (2000)*

*2) Proc. Natl. Acad. Sci. USA **97**, 1665-1670 (2000)*

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Reproduction of visual images requires a lensing system that focuses a beam onto a surface capable of recording light intensities and colors. Traditional cameras, for example, project focused light onto film. Digital cameras collect the same light in electronic grids called charge-coupled devices (CCDs). Advances in film and electronic technology have enabled the capture of high-quality images, even in the trickiest of lighting environments.

At the other end of imaging systems, advances in optics have improved the ability of lenses to focus light onto the recording unit, thus providing a clearer image. Unfortunately, no lens is perfect. A point source of light is slightly blurred by even the best lens system. Though the most notable example of this phenomenon was the blurry pictures produced by the flawed lens originally launched with the Hubble Space Telescope in 1990, astronomers are not the only group to be plagued by it. Microscopists, too, wrestle with imperfections in optics in their quest to obtain images for their studies.

Modern approaches to improving image clarity use the power of computer analysis to "correct" images for blurring caused by known lens imperfections. This process of image enhancement, called deconvolution, is at the heart of a new software tool called Purple De-Haze. Its design is simple. Equipped with information about how a known lens blurs light, the software analyzes an image created by the lens system and removes information producing the blur, leaving behind a picture that is sharper. The software is provided as a plug-in for the popular Adobe Photoshop image software and is accessible under the Filters menu of the program.

Selecting the Purple De-Haze filter yields a screen where users can specify the objective lens system, the optovar (magnification enhancement of the objective), and the fluor (color production). Deconvolution for two common lens systems used in microscope are provided, the Zeiss 63X Apochromatic 518C and the Leica PL Fluotar 40X. Though users have access to numerous settings to manually define their own filters, this is not advised because virtually no information is given about the parameters, save the numerical values listed for them. In this respect, the Purple De-Haze software is somewhat of a disappointment. Documentation of the process of deconvolution lacks technical detail, and users are pretty much left in the dark about how to tweak the program to make it work better for them. One hopes these shortcomings, along with an expansion of the suite of lens systems, will be addressed in future versions of the software.

The product is currently available only for Macs, but a Windows product is promised soon. The company will provide pricing information upon request; a free demonstration version can be downloaded from the Web site. **—Kevin Ahern**

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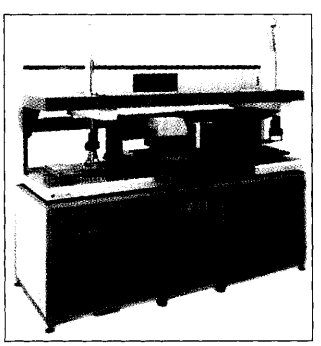

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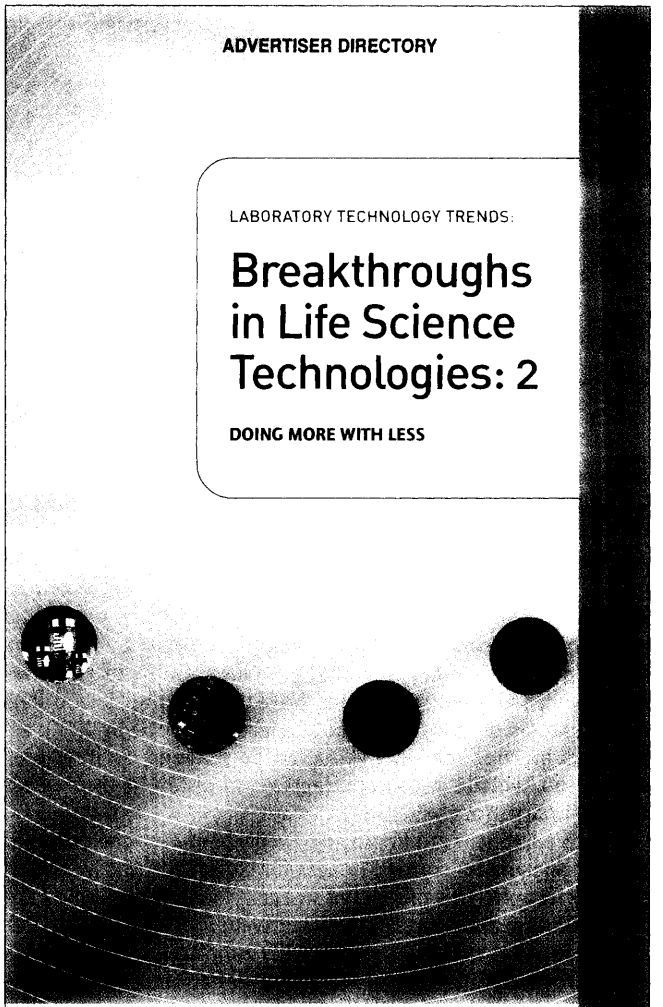

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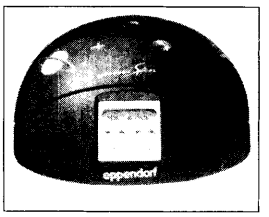

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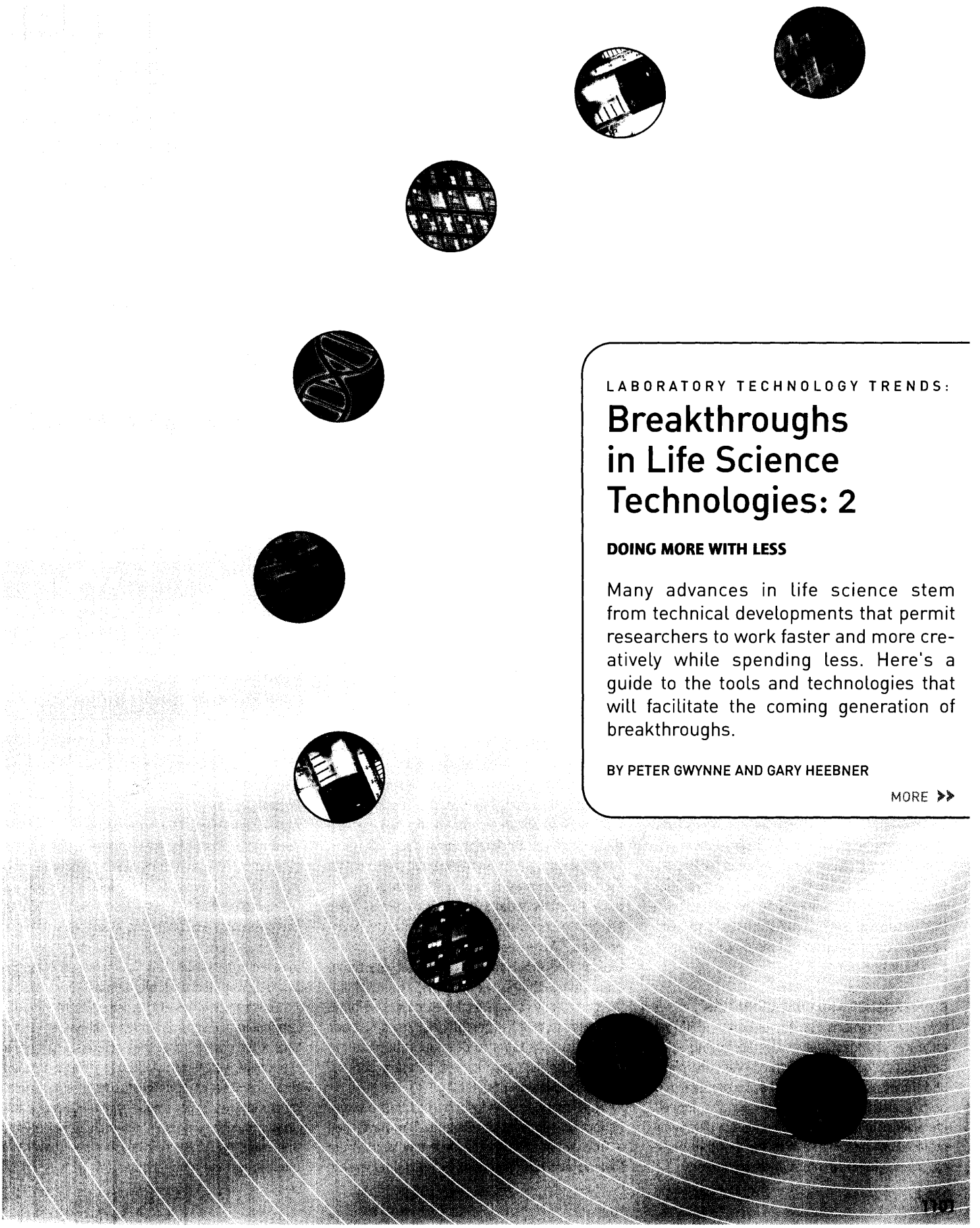

LABORATORY TECHNOLOGY TRENDS:

Breakthroughs in Life Science Technologies: 2

DOING MORE WITH LESS

Many advances in life science stem from technical developments that permit researchers to work faster and more creatively while spending less. Here's a guide to the tools and technologies that will facilitate the coming generation of breakthroughs.

BY PETER GWYNNE AND GARY HEEBNER

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LABORATORY TECHNOLOGY TRENDS:

Breakthroughs in Life Science Technologies: Part 2

SECTIONS:

This is the second of a two-part series. The first part appeared in the 30 November 2001 issue of Science.

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.*

Reagents and supplies. Analytical and other instruments. Computer hardware and software. These tools in common use by life scientists have undergone dramatic advances in recent years. In large measure the advances have stemmed from researchers' growing need to do more with less. To improve their understanding of the bases of life, and to translate that knowledge into applications that benefit the human race, researchers have demanded the ability to carry out larger numbers of tests at a time, to decrease the variability between tests, and to use smaller and smaller sample volumes.

Rita Colwell, director of the **National Science Foundation,** outlines the process by which fundamental achievements in life science stimulate the development of instruments and technologies that create the opportunities for more basic discoveries. "The ability to extract, purify, and analyze DNA with increasing accuracy has completely revolutionized the field of molecular biology. Genomics and bioinformatics, which resulted from that work, have created a revolution in the life sciences in general," she explains. "Once sequencing had been developed, clever researchers devised instruments that dramatically improved the ability to get precise data. Gel electrophoresis, molecular tools, and the use of gene probes have made life science much more sophisticated and have accelerated its progress."

Manufacturers play a critical role in this cycle. They develop the instruments and techniques created in the laboratory and convert them into user-friendly reagents, kits, instruments, and complete integrated systems that any life scientist or research team can use easily and efficiently.

In the first episode of this series we focused on recent and anticipated breakthroughs in life science and the general technologies that made – and will continue to make – them possible. Here we take a more detailed look at the techniques critical to the continuing revolution in life science. We will outline the technologies that underpin such subdisciplines and technologies as genomics, immunology, proteomics, and bioinformatics.

CONVERGENCE AND COLLABORATION

Two key indications that the old order in life science has changed forever are the fuzzing up of boundaries between the traditional disciplines and the increasingly parallel nature of research in both academic and industrial settings. Indeed, life science increasingly depends on disciplines more usually associated with the world of physical science, such as information technology.

"The lines between genomics, pharmacogenomics, and proteomics tend to blur," says Peter Meldrum, president and CEO of **Myriad Genetics, Inc.** "There has also been a very optimal convergence of genetics and information technology, with advances in each helping each other. The more you advance your ability to assemble information more quickly, the more that feeds on itself and leads to advancements in the biology field that enable you to develop more data."

Frank Douglas, chief scientific officer and executive vice president of pharmaceutical company **Aventis**, points out how pharmas have started to speed up the process of drug development. "We're really trying to push chemical biology and simultaneous drug discovery rather than doing things sequentially," he explains. "With a family of kinases, for example, we bring scientists from all different disciplines to bear. They work as a team to develop information in rapid cycles, to apply it, and to make connections as rapidly as possible."

That change in philosophy has had a major impact on suppliers of reagents. "We have seen a substantial shift in the past few years, from looking at single reactions in individual experiments to experimentation on a much more massive scale," says Bill Linton, chairman and CEO of **Promega Corporation**. "We have had to be more responsive to the interest and demand by customers. That has meant a very substantial change in how materials are put together and even in the materials themselves – such as using magnetic silica particles to purify DNA. In the past couple of years the availability of highly specialized magnetic silica particles has allowed automation and has increased throughput in a way not available before."

Collaboration has also emerged at the organizational level. Even the largest pharmas no longer take it for granted that their scientists can cover the entire waterfront of drug discovery. Instead they sign research agreements with biotechnology companies, other small firms that service the drug industry, academic research departments, and even, on occasion, rival pharmas. "We have interesting new models emerging as a result of

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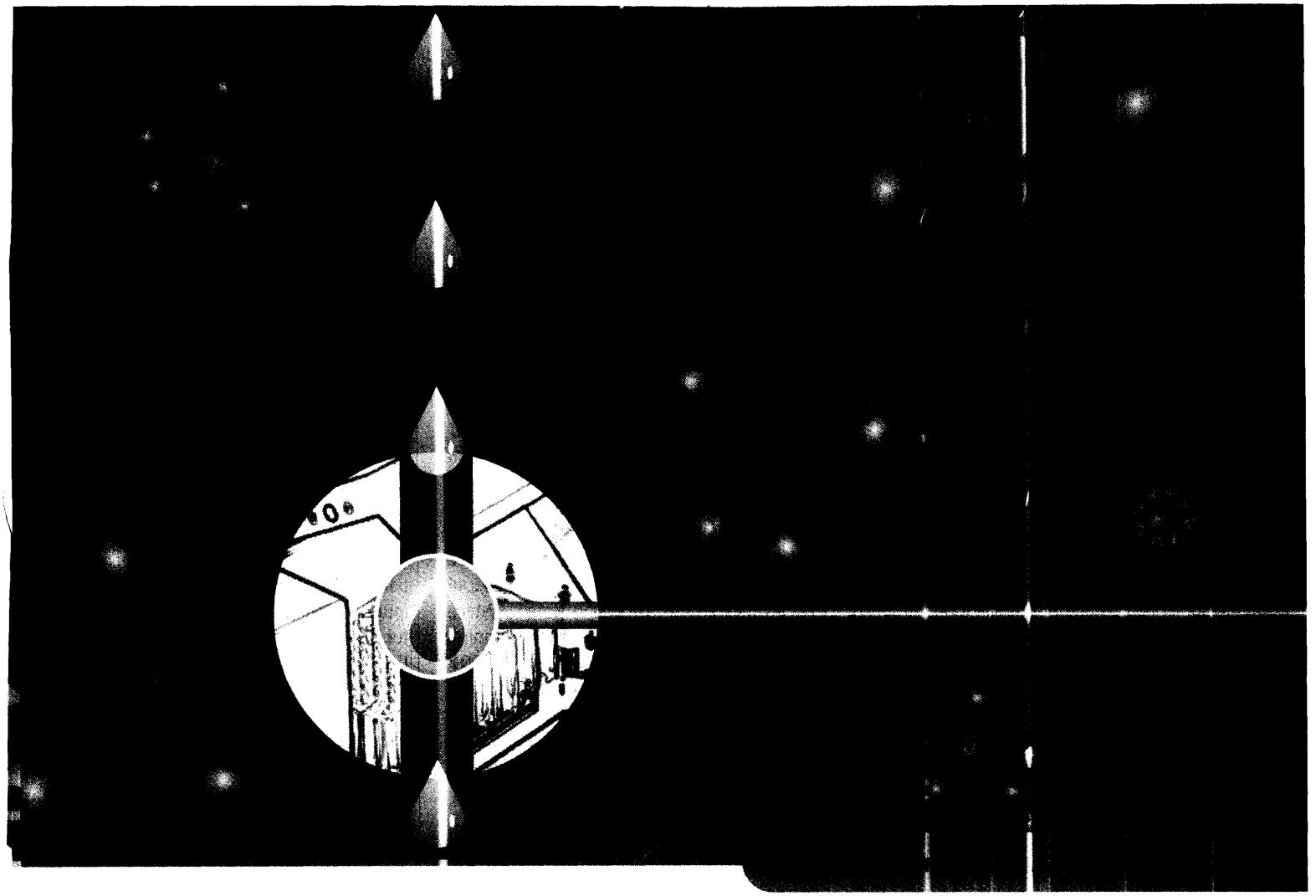

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Breakthroughs in Life Science Technologies: Part 2

precompetitive pooling of data," says Gillian Woollett, associate vice president for biologics and biotechnology at the **Pharmaceutical Research and Manufacturers of America** (PhRMA). "Academia, government, and industry aren't as clearly distinguishable as they were."

PROMOTING PCR

Older researchers in life science have no difficulty distinguishing today's work from that of a few years back. Not long ago genomic research was a highly labor-intensive process. Scientists had to spend hours isolating sufficient quantities of DNA from organisms to conduct sequencing work and to analyze the functions of particular genes. Advances such as the polymerase chain reaction (PCR), automated DNA sequencing, cloning technologies, transfection systems, and DNA microarrays have changed things considerably. Research projects that once took years to complete now can be tackled in months.

PCR technology, originally developed by Kary Mullis of **Cetus Corporation**, allowed the replication of DNA to create amounts of sample that could be analyzed with biochemical methods. By doing so it helped to transform the way in which molecular biologists approach their work. Since the technique emerged in the early 1980s, manufacturers have made many improvements to the reagents and kits used for PCR. They have also developed specialized recipes of Taq DNA polymerase, the fundamental form of polymerase used for PCR, to yield better fidelity of copies and to enable longer copy runs. Most recently, vendors have developed a "hot start" version of the enzyme, designed to prevent Taq polymerase from amplifying DNA sequences at room temperature before the intended start of an experiment. **Clontech**, **Invitrogen Corporation**, Promega, and **Stratagene** are among the several companies that offer this newest form of Taq.

Manufacturers have also worked hard to improve the performance and reliability of thermal cyclers, the instruments used for PCR. These programmable devices allow researchers to preset the temperature and the time periods for each temperature. They can then let the thermal cycler run unattended. Such units have decreased the amount of variability between experiments in a laboratory. They have also made it very easy for labs to compare their results using the same parameters with standardized instruments. **Applied Biosystems** offers many specialized thermal cycler units to handle small-scale applications as well as high throughput needs. Other suppliers of thermal cyclers include **Eppendorf Scientific, Ericomp**, **Thermo Hybaid**, Stratagene, and **Techne Ltd.**

Advances in instrumentation and software have resulted in DNA sequencing instruments that are almost error-free. These systems are often based on gel electrophoresis; high throughput versions can use capillary electrophoresis technology. Companies that specialize in these kinds of sophisticated systems include **Amersham BioSciences**, Applied Biosystems, **Beckman Coulter** and **LI-COR**. These manufacturers collectively provide a range of systems for everything from small-scale DNA sequencing to stand-alone systems for high throughput sequencing and genetic analysis.

CLONING AND TRANSFECTION

To study the function of a single gene most effectively, scientists should remove it from the parent organism and transfer it to a less complex system. DNA cloning allows researchers to isolate a gene and transfer it into another organism where it will naturally replicate and produce many copies of the gene and will also be expressed as protein. This method, called transfection, allows a sequence of DNA to be functionally examined to determine what the gene actually codes for.

Advances in products for cloning have included the development of pretested kits that contain virtually all the reagents needed for conducting this work. Kits for DNA cloning come from BD Biosciences, **Epicentre Technologies**, Invitrogen, **Roche Molecular Biochemicals**, and other molecular biology specialty companies. The kits allow researchers with limited experience in molecular biology to conduct such experiments without having to spend many hours learning to optimize their own home brew systems.

DNA transfection is another important tool for studying the regulation and function of genes. Basically, the process transfers DNA into a cell where it can be expressed. The more widely used transfection techniques involve the use of calcium phosphate, electroporation, or viral vectors. Also relatively popular is cationic liposome-mediated transfection, otherwise known as lipofection. These methods have shown varying levels of success in transfecting specific cell lines. Several companies, among them **amaxa**, **Gene Therapy Systems**, Invitrogen, **Polyplus**, Promega, **QIAGEN**, and **Roche Diagnostics**, offer kits and reagents for DNA transfection.

Different firms take somewhat different approaches to transfection. For example, amaxa has developed a method of transfecting mammalian cells based on electroporation. Applying electrical pulses to cells in a buffer solution causes the cell membranes to become temporarily permeable. That allows DNA to migrate into the cells. The technology, called nucleofector, permits a direct, efficient nonviral transfer of DNA into the nucleus of primary cells and hard-to-transfect cell lines. The result: fast gene expression independent of cell division without the need for any chemical stimulation. "The use of primary cells will be absolutely crucial to enhance pharmaceutical R&D," says amaxa's CEO and cofounder Rainer Christine. "We are opening up the market to primary cells."

The company launched the technology last May. "We're selling to the big pharmas and top research institutes around the world," says Christine. "Through the next few months we'll look in more depth at how to put the system in a frame to deal with high throughput. That's essential to drug discovery and would add a lot of intelligence to the process."

MULTIPLICATION VIA MICROARRAYS

DNA microarrays have become the utility infielders of life science. They have applications in gene expression, diagnosis of disease, and drug discovery. "Arrays are like a CD-ROM of the genome, in a DNA bin rather than a magnetic bin," says Steve Fodor, CEO of **Affymetrix**.

Microarray technology allows scientists to compare levels of expression of genes in an organism's genome by hybridization of messenger RNA to its counterpart DNA sequence. They offer high throughput capabilities and assay miniaturization. In the past, traditional methods in molecular biology only allowed the study of one or at most a few genes at a time. Now, scientists using microarrays can study thousands of genes in a single experiment.

Several companies offer the tools needed to make DNA microarrays including **GeneMachines**, **Hitachi Genetic Systems**, and **MWG Biotech**. These suppliers provide such items as

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Breakthroughs in Life Science Technologies: Part 2

slides, robotic spotters (or microarrayers), work stations to prepare and process microarrays, and scanners to record the results of experiments.

However, not all scientists want to make their own devices. "We see a lot of customers who no longer want to do it themselves," says Fodor. "At this point our customers recognize that the quality of data resulting from our chips is so high that they would rather focus on discovering drugs or doing biology rather than having to spend time creating their own tools." Such scientists have the option to buy ready-to-use DNA microarrays from several companies. Affymetrix offers a series of GeneChip™ products. Clontech has the Atlas™ human cDNA array on nylon membranes. And **Azign** carries discoverARRAY slides with over 2,400 expressed complementary DNA fragments. **Mergen Ltd.** and **Operon Technologies** also provide arrays of this type.

Other firms, including Azign and **Genpak**, take a slightly different approach. They offer custom microarray services for scientists who want to work with an outside provider to design and fabricate their arrays.

Microarrays already play a particularly significant role in drug discovery. As research creates products they will begin to appear in other parts of the pipeline. "It is our primary focus to provide scientists with the best tools possible in order to make them successful and drive new advances in the genomics industry," says Fodor. "Going forward, we will continue to expand into the growing research and clinical applications of chip technology and work with industry leaders to create new applications and advanced technology formats."

IMMUNOLOGY AND ANTIBODIES

Another area with strong potential for therapeutic products is immunology. "One of the truly big areas now is understanding immune function," says David Litman, vice president of R&D and chief technology officer of BD Biosciences. "We're beginning to understand the functional basis of the immune response."

To do so, researchers in immunology labs constantly look for new antibodies and other tools that will make their work more productive and simpler. Work on AIDS and other diseases that involve damage to the immune system would be impractical without the many new antibodies to specific receptors and other viral and cellular components that suppliers provide.

Antibodies can be created in either polyclonal or monoclonal form. The decision on which type to use depends on the application that the research team is pursuing.

Producing polyclonal antibodies is a well-tried and relatively simple procedure. A scientist injects an animal with antigenic material, allows for an immune response to develop, and then harvests the antibodies circulating in the animal's blood. The antibodies produced this way are called polyclonal as they arise from a variety of B cells that produce different antibodies as a result of encountering the antigen from different points of view.

Polyclonal antibodies have several advantages. They cost little to produce. Scientists can create large quantities (up to 10 mg/ml) from the serum of an immunized animal. They also offer a more realistic example of the immune response because they represent the entire antigen-specific antibody population in an animal. However, polyclonals have one disadvantage: They are limited to being harvested from the animal used in the immunization. The supply of this specific antibody sample is therefore limited.

Monoclonal antibodies require a more complicated process. Here, an animal is immunized with an antigen; once the immune response develops, its spleen is removed. The cells in the spleen ultimately develop into mature B cells. However, they cannot be cultured *in vitro* in this state. To allow these antibody-producing cells to replicate, scientists must fuse the spleen cells with myeloma cells that can replicate in culture for an extended period of time.

Next the researcher typically screens the resulting fused cells, called hybridoma cells, with an ELISA assay to identify the cells that produced the antibody of interest. The antibody-secreting cell is then isolated and cloned; it will produce large amounts of a single – monoclonal – antibody directed against the original antigen for a virtually indefinite period of time. This hybridoma cell line can be frozen and stored for long periods of time to provide the researcher with a constant supply of a specific antibody. Companies that offer polyclonal and monoclonal antibodies include **Alexis Corporation**, **Calbiochem-Novabiochem**, **Chemicon International**, **PharMingen**, **Sigma-Aldrich**, and **Zymed Laboratories**.

ANTIBODIES IN USE

To use antibodies effectively, scientists must be able to see them. So they tag them with chemical labels, among which fluorescein is one of the most popular. Labels help to identify and locate specific proteins in or on a cell. Antibody based probes are ideal for identifying specific cell populations, based on differences in their cell surface proteins or markers.

Antibodies tagged this way can also find use in histochemical applications. Here a cell is fixed in paraffin, after which sections of it are stained with an antibody for a specific molecule. The tagged cells can be identified using microscopy, fluorescent readers, or flow cytometers. **Molecular Probes** provides many of the fluorescent labels used with antibodies. Most suppliers of antibodies also offer antibodies labeled with the fluorescent tags.

Flow cytometers have emerged as important instruments in immunology. The reason: They can measure differences in fluorescence with much greater accuracy than the human eye and

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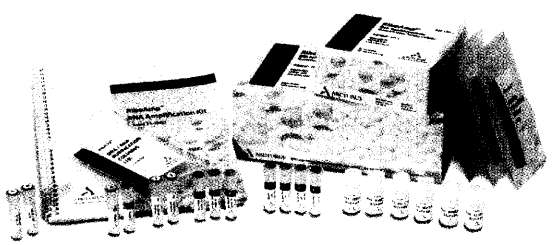

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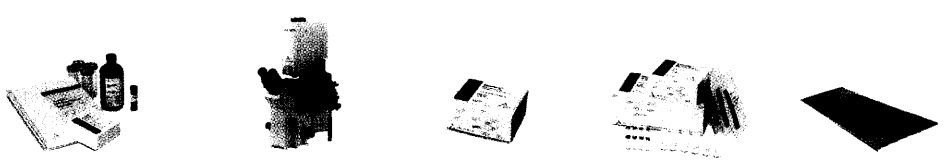

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can process up to 500,000 cells per minute. Flow cytometry has had limited utility in the past because it is difficult to sort and collect enough cells to do subsequent biochemical analysis. With the advent of PCR, however, scientists can use a very small number of cells or even a single one as the starting material to amplify the DNA for biochemical analysis.

By using several antibodies tagged with different fluorescent labels, one can measure several variables in a cell population simultaneously. The sorting capability of a flow cytometer permits cells to be identified and then sorted into different aliquots. This multiparametric method eliminates several separate runs to measure more than one parameter. PharMingen and several other firms offer complete lines of antibodies.

Researchers have other imaging techniques at their disposal. "Through our capability in chemistry we have obtained access to molecular imaging," says Promega's Linton. "We have held a leadership in bioluminescence for many years. We're adding to this the broad area of small molecules, fluorescent molecules, and chemiluminescent constructs to make a portfolio of markers that tell us whether or not a reaction is occurring."

Another field of growing application is microgenomics. ""The basic concept is to utilize the knowledge base acquired from the human and other genomes and apply it to the practice of medicine," says Thomas Baer, CEO of **Arcturus**. "We've developed a set of tools that allows cells to be studied at the level of the macromolecular content in close to an *in vivo* state. We have tools that enable you to extract pure populations of cells, isolate them, and identify them. We enable you to go all the way from the biopsy sample to the microarray."

PROTEOMICS TO THE FORE

If genomics has become the dominant discipline of the postsequencing era, proteomics is following closely behind it. Understanding the relationships between DNA and proteins, as well as those among related proteins in a biochemical pathway, helps to elucidate potential targets for drug discovery. Since most drugs produce their effects at the protein level, this new frontier of research represents a step closer to discovering ways to treat disease. "We specialize in understanding how proteins function, the role they play in the life of the organism, and the problems related to proteins that lead to disease," says Myriad's Meldrum. "Understanding how proteins in the human body react with one another puts us on the verge of understanding human diseases and being able to develop drugs to treat the causes of disease."

Scientists can use several basic tools to study proteins. These include two-dimensional gel electrophoresis for separating proteins, mass spectrometry for characterizing them, protein sequencing via Edman degradation for identification, and the new technology of green fluorescent protein.

Two-dimensional gel electrophoresis was developed in the mid-1970s specifically for separating protein mixtures. Systems consist of two types of gel electrophoresis. The first dimension is based on isoelectric focusing, while the second uses a denaturing polyacrylamide gel matrix.

Amersham Biosciences, **Bio-Rad Laboratories**, and Invitrogen, among other companies, offer complete systems for protein separations that contain the units, power supplies, and accessories. The same companies also produce precast polyacrylamide gels and/or IEF strips. These provide extremely consistent results and allow scientists to run the systems without having to master the casting of the gels.

Having completed a separation in both dimensions, the scientist must stain the gel that contains the separated proteins to enable detection of the proteins. Several good protein staining systems have become available, including coomassie blue, silver stain, and a series of newer fluorescent stains. These visual detection methods have a major advantage over the older radiochemical labels: They are safer to use. At present, however, they are less sensitive.

Lastly, the gel must be analyzed. Typically that involves flatbed scanners and specialized software. Sophisticated instrumentation of this type permits researchers to detect and document the various protein profiles from each cellular extract. **Alpha Innotech**, Amersham Biosciences, Bio-Rad, and other firms offer systems for protein separation image analysis.

Mass spectrometry has emerged as an important tool for proteomics in the past two years owing to its ability to identify individual proteins. For example, two-dimensional gel profiles can be analyzed using, say, matrix assisted laser desorption ionization time-of-flight mass spectrometry. Protein spots are first digested, and the resulting peptides are analyzed with this instrument. The data gathered from the digest of a single protein spot can then be compared with the properties of known proteins and an exact match or identification can be made for an individual protein.

Mass spectrometry also features in an alternative to gel electrophoresis. "Liquid chromatography coupled with mass spectrometry can identify gene products," says Scott Patterson, vice president of proteomics for **Celera Genomics**. "Up to now a very limited number of groups, including my own, has used it. But it's increasing." What value does the combination of technologies bring to the research enterprise? "It's very difficult to understand the complexity of any protein in most samples," Patterson continues. "Improvements brought about by these two techniques of separation allow us to organize a very focused approach to drug discovery by reducing complexity in a targeted manner."

An even newer technology has recently shown great promise for identifying proteins. Green fluorescent protein, or GFP for short, was originally identified in a luminescent jellyfish that produces the protein when stimulated in the appropriate way. Incorporated into cellular DNA, GFP is expressed by the cell and can be excited to emit a bright green fluorescent glow that can track proteins in living cells. The protein is already finding use in drug discovery and development and in research on gene expression, protein migration, and interactions within living cells. Amersham Biosciences and **Aurora Biosciences Corporation** are jointly commercializing GFP technology. This collaborative effort will allow pharmaceutical companies, biotechnology firms, and academic research institutions to gain broader access to the technique.

THE PROMISE OF PROTEIN ARRAYS

Litman of BD Biosciences points to another technology making its way into the proteomics laboratory. "We're developing array products for proteomics," he explains. "We're focusing on multiplex analysis in both conventional arrays and planar surface arrays."

Protein arrays consist of large numbers of regularly arranged spots of elements that recognize a protein or proteins of interest. The elements can be antibodies or antigens, enzymes or substrates, or membrane receptors and ligands.

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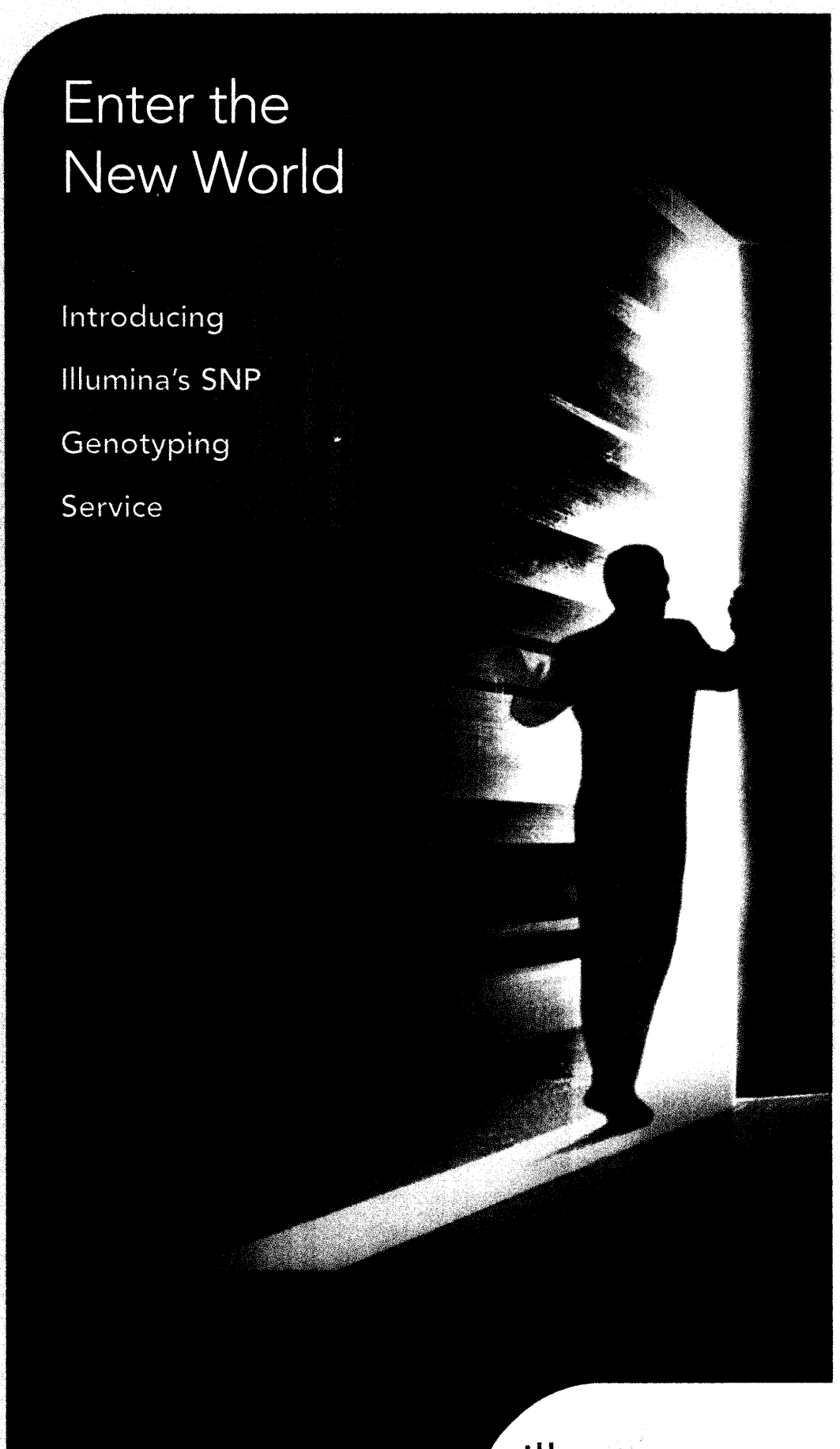

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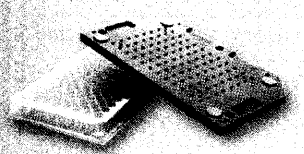

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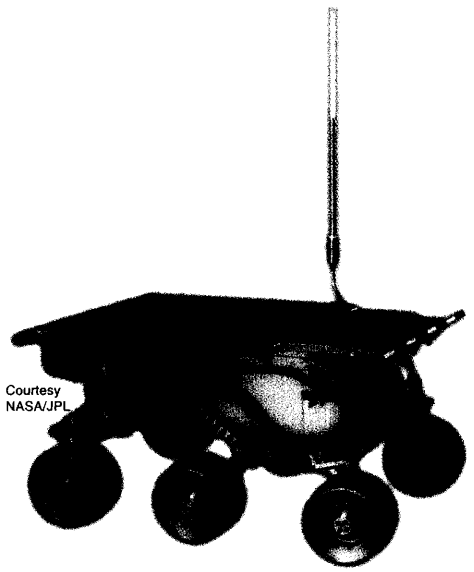

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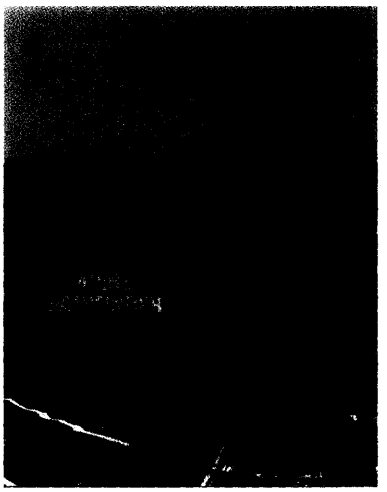

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The technique permits scientists to monitor a cell's metabolism and response to external stimuli. It has potentially broad usage. Any biological protein assay that uses a specific ligand-receptor interaction can be miniaturized into a protein chip or array format.

Protein arrays are ideal in searches for pharmaceutically relevant targets and disease-specific marker proteins. Indeed, says William Rich, president and CEO of protein chip firm **Ciphergen Biosystems, Inc.**, "The technique has found its first use in clinical research." Celera's Patterson foresees a slow movement toward protein chips for drug discovery. "Protein chips are where one would like to see the field of proteomics go," he says. "But people will still run two-dimensional gels and liquid chromatography-mass spectrometry and will move into array based applications some time in the future." Adds Rich: "Over the next year or two Ciphergen will build machines to allow the drug developer to perform very highly selective assaying."

DEALING WITH THE DATA DELUGE

As high throughput approaches of all types continue to yield increasing amounts of data, the need grows for more sophisticated and intelligent data sorting programs. "We have huge volumes of data," says Caroline Kovac, general manager of **IBM Life Sciences**. "Today we're doing data mining in a pretty rudimentary way and running more experiments when we find interesting features in the data. In future, data mining will enable us to put enough pieces of the puzzle together in different areas so that people can build comprehensive models." Moving toward that future, Kovac's unit has collaborative relationships with several pharmas, biotechnology companies, and firms that specialize in bioinformatics.

Bioinformatics plays a key role in interpreting the mass of biological data. Many researchers have collaborated with programmers to develop software that can examine sequence information and function within a genome or between genomes. This is a difficult process because most computer programmers know very little about biology and science and vice versa. But it's critical to the success of research in life science. "The validation of data is an important issue now," says Andrew Carr, CEO of Amersham Biosciences. "Gene expression data don't always have a true level of quality control. There's a big debate between people used to generating numbers and those with a longer-term awareness of biological systems. They want to make sure that the databases are not misleading or inaccurate."

One key to developing effective bioinformatics programs is working with programmers who understand enough of the basic molecular biology and the medical side of the science to be able to integrate the two. Alternatively, researchers can turn to bioinformatics companies. **DNASTAR**, **Genomic Solutions**, MWG Biotech, and **Accelrys** offer suites of data analysis programs and services. Those products can free up research time for scientists who would otherwise spend hours at the bench trying to put the various pieces of the DNA sequence puzzle together. **LabBook, Inc.**, meanwhile, is creating an "integrated knowledge management platform" in the words of CEO and chairman Shawn Green. "Researchers want a desktop solution that allows them to put their own empirical data in the context of data shared by other scientists," he explains. "Such a desktop solution needs to be inherently flexible and adaptable to a wide range of data types and third party applications."

Recent advances in tools and technologies have impacted virtually every area of research in the life sciences. As researchers ask fresh questions, suppliers respond with more powerful research tools. Each answer raises yet more questions. It is this cycle that drives suppliers continually to improve their products and services for the researchers to do more with less — less total cost, less time, and less difficulty.

Peter Gwynne is a freelance science writer based on Cape Cod, Massachusetts, U.S.A. Gary Heebner is a marketing consultant serving the scientific industry, based in Foristell, Missouri, U.S.A.

Where Life Scientists and Computers Meet

If one single factor has changed the pace and tenor of life science in the past few years, it is the increasing use of information technology (IT) in the research laboratory. Not only has computing power enabled such achievements as sequencing the genomes of humans and other species. It is also crucial for a new generation of advances in understanding the nature of life. "IT is becoming the enabling component for the next level of advances in research," says Rob Scheschareg, vice president of sales, marketing, and product development at technology media company **IDG**. "Its tools enable researchers to take raw data and convert it to knowledge, interpreting it in ways that speed up the development of services and products."

Unfortunately, life scientists and computer scientists do not necessarily speak the same language. "Life scientists are getting exposure to IT, but only from the sheer volume of noise that the industry creates," says Scheschareg. "They need a clear path to discover what the best use is for them and how they can get training on specific tools."

To blaze that path, IDG's events division has organized BioIT World, a conference and exposition that will take place in Boston next month and in San Francisco in August. The Boston event will feature keynote addresses by Eric Lander of the **Whitehead Institute**, Roy Dunbar of **Eli Lilly and Company**, and Michael Capellas of **Compaq Computer Corporation**, as well as conference sessions and exhibits. Organizers also plan to encourage scientists to interact with IT manufacturers. "Currently no events bring together the scientific and IT communities," says Scheschareg. "Our advisory board said that scientists will love the opportunity to tell vendors that 'You can't just feed us a piece of IT and tell us to use it. We're not buying because you're not customizing devices for us.'"

Scheschareg predicts that next month's show, March 12 — 14 at Boston's World Trade Center, will attract about 100 exhibitors. He expects 4,000 — 4,500 decision makers and users from the biotechnology, pharmaceutical, academic, and government markets to attend. For more information, please see the website www.bioitworld.com. Alternatively you can telephone 508-988-7874 or, within the U.S.A., 800-560-7612.

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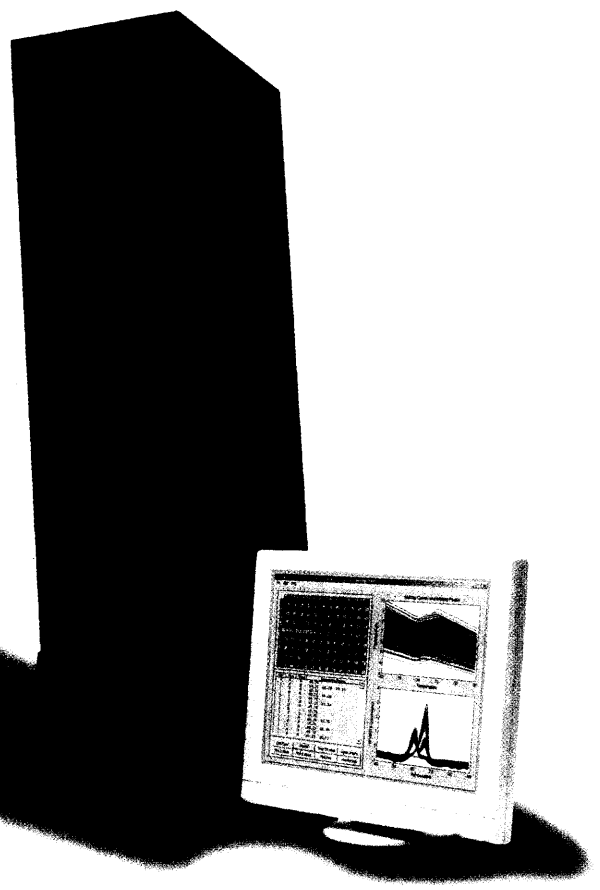

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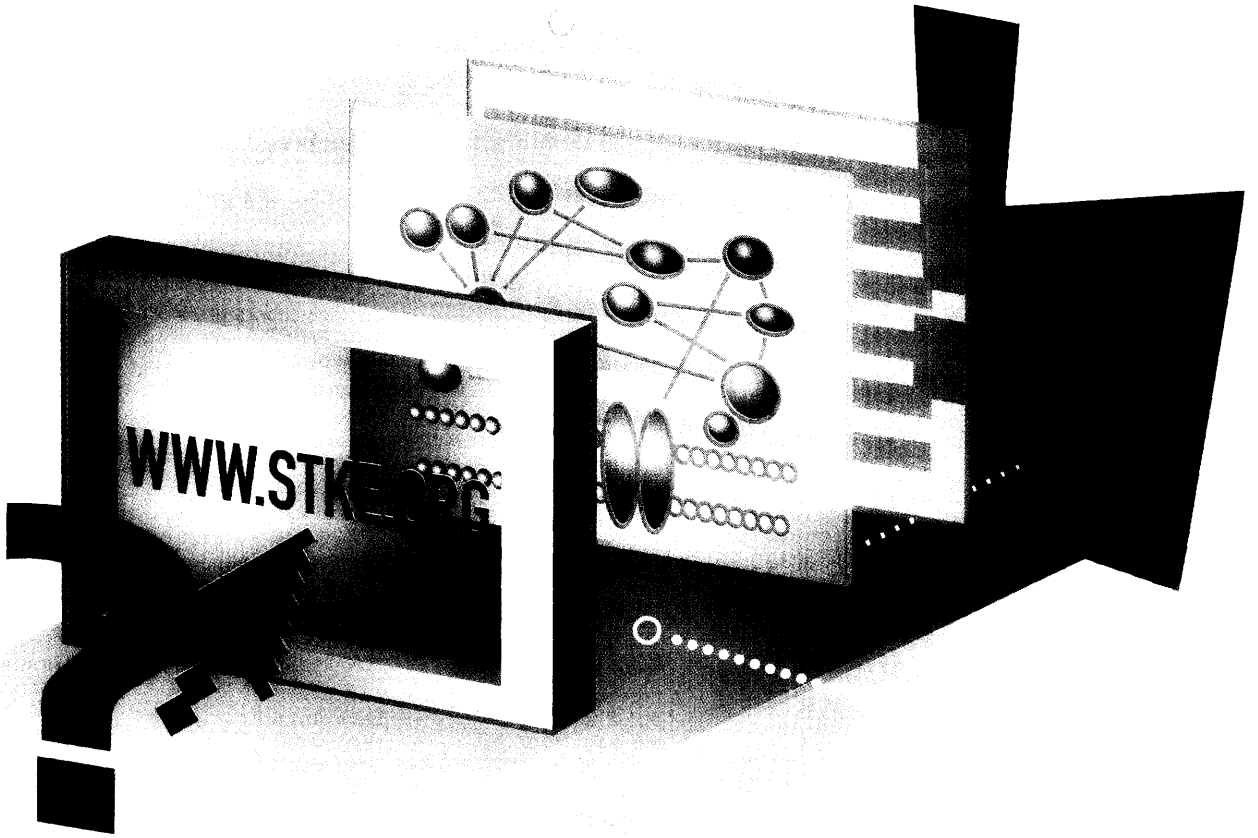

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As you look beyond your Ph.D., a postdoctoral position could be your next step. Anyone interested in a faculty position generally needs postdoctoral experience in today's world. In the *Science* recruitment ad supplement "Faculty Positions: Growing Opportunities in the Biosciences" (1 February 2001 issue), faculty members indicated that successful job candidates need productive postdoctoral experience in an outstanding laboratory. Today, many academic institutions as well as government organizations and industry sponsor postdoctoral positions.

The question is: How do you select the best postdoctoral position for you? The 22 January 2001 issue of *The Scientist* published a poll of present and past postdocs, in which the top three criteria for picking a postdoctoral position were the type of work it involved, the lab's principal investigator, and the institution. Certainly you should select a postdoctoral position that entails work that appeals to you or that could enhance your capabilities. Likewise, working in a well-known laboratory is often beneficial. When selecting an institution, you have more choices than ever.

To keep track of all the possibilities, search through current postdoctoral positions at *Science* magazine's sciencecareers.org, which usually includes a hundred and more advertisements for postdocs. For now, listen to advice from experts in academia, government, and industry.

ITHACA, New York: The first piece of advice about completing a postdoctoral position, according to Ronald R. Hoy, professor of neurobiology and behavior at Cornell University, is: Publish your Ph.D. work. He said, "You should start each stage with a clean slate." After getting that work published, he said that you should talk with your Ph.D. supervisor about a postdoc. It can be a crucial decision. As Hoy pointed out: "Your job will probably come from work in your postdoc." So, be sure to select one that could lead to a future position that you would want.

In selecting a postdoctoral lab, Hoy pointed out the value of social aspects. For example, he said, "If you go to an established lab under a very famous director, you might not see him or her much. So, find out who else is there." He suggested talking to other postdocs and graduate students in the lab to get the inside perspective. He also emphasized the value of visiting the lab to learn about the day-to-day operation, and even to learn about the surrounding area. In addition, Hoy encourages students to research a lab's track record. Did previous postdocs land good jobs? To find that out, Hoy suggested looking at papers from the lab over the last decade and then seeing where previous postdocs landed in their careers. Most of all, Hoy recommends that you ask questions. You can visit poster sessions at meetings, for example, to talk to members from a lab to see if it might be a good fit for you.

When asked if it is a good idea to try to learn a new area during a postdoc, Hoy said, "It depends where you want to go." If you feel pulled to something new, he would encourage that, but he added: "It's a tough way to add new techniques, because you need to be productive. Still, you can surely pick up a new bag of tricks during a postdoc."

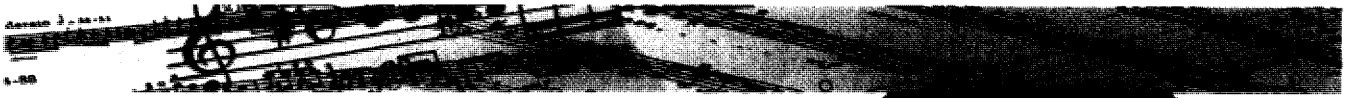
For someone who really wants to branch out during a postdoc, Hoy indicated that he encourages some of his students to work between two labs. He said, "There can be great advantages to that, because the field is changing so fast." Moreover, he said that many of today's labs are already multidisciplinary. For example, work in biosensors can benefit from knowledge of both neurobiology and biophysical areas, including nanotechnology.

PAT LOWENSTAM

CARLSBAD, California: Postdoctoral opportunities extend beyond the traditional academic settings. For example, Isis Pharmaceuticals, Inc., funds from 10 to 20 postdoctoral positions. Pat Lowenstam, vice president of human resources and operations, said, "Our company uses postdocs in all

Mike May is a freelance writer based in Clinton, Connecticut, U.S.A.

CONTINUED ➢

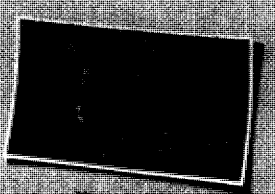


WHY ONE OF THE WORLD'S MOST GIFTED VIOLINISTS STAYS IN TUNE WITH SINGAPORE.

Maybe it's the harmony that reverberates throughout the island? Maybe it's Singapore's crescendo of noteworthy achievements? Or maybe it's the calm concerto of familiarity? Only this acclaimed violinist knows.

Meet Siow Lee-Chin. Fond daughter of Singapore, famed musical talent of the world (gold medal winner at the 1994 Henryk Szeryng International Violin Competition). Having begun her 'world tour' at the tender age of eleven (she was a soloist with the Singapore National Schools Orchestra that toured the Philippines), Lee-Chin's prodigious talent has kept her away from her motherland for nearly two decades.

"I've been away from home for close to 20 years. I have lived in New York, Philadelphia, Chicago and now in Cleveland. In America, I'm still a foreigner but when I come home, I'm a Singaporean. This is where home is and where I feel I belong."



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"I've been very fortunate in my career. You know, to have played in 20 countries with orchestras like the Royal Philharmonic (UK) and the Houston Symphony; to have my live performances on air with CBS Good Morning America. And now, to have opportunities to impart my musical knowledge and lecture in American universities. But I've never forgotten that it was in Singapore that my talent was spotted and given a headstart."

"That's why I'd love to set up base in Singapore. To help spot and train budding young talent. Because I believe, with the growing emphasis on the Arts, more of us can play on the world stage."

Artists like Siow Lee-Chin expect an environment that appreciates their talents and yet pushes their boundaries. We'd like to think that Singapore is up to that challenge. If you're convinced your talent deserves a captive audience, why not make Singapore the next stop on your résumé.

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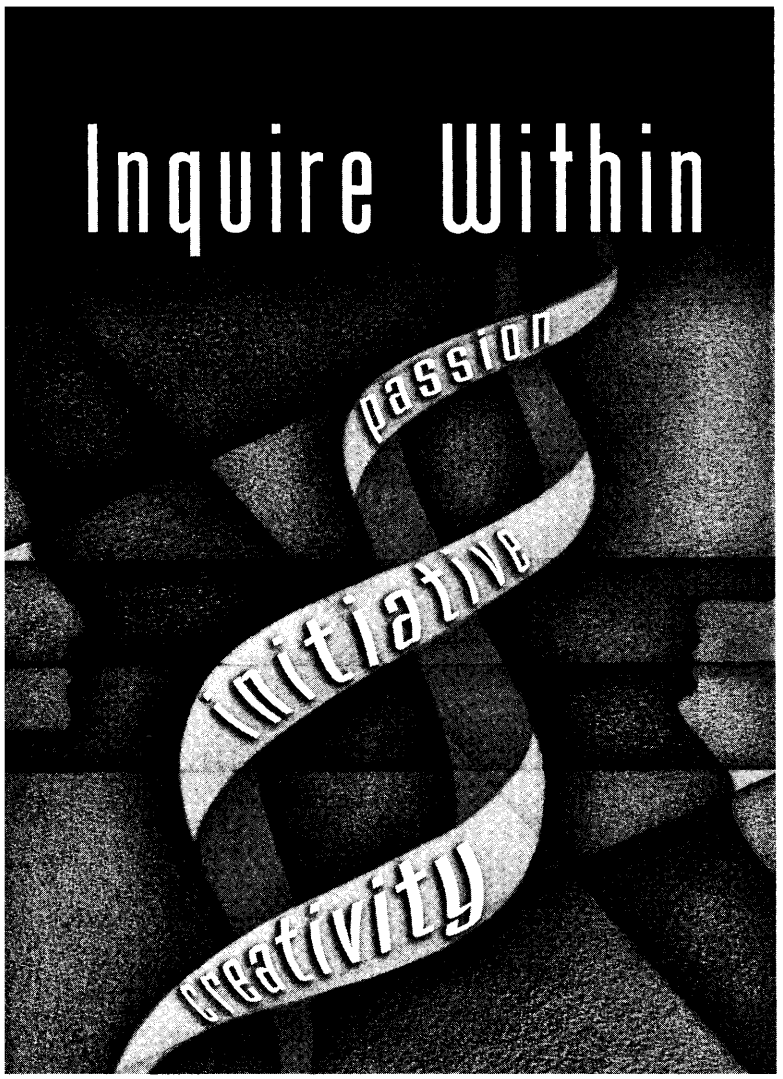

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POSTDOCTORAL OPPORTUNITIES

As one of the nation's most prolific scientific organizations, the Genentech Postdoctoral Program provides a vibrant and intense environment for advanced scientific training. Bringing together more than 50 researchers publishing at a rate of 250 papers per year, the program offers an exceptional range of postdoctoral opportunities. As a program member, you will have the chance to conduct basic research in areas of our scientific interest, publish in scientific journals, and present work at scientific meetings. With close to 3,000 patents granted and another 2,000 pending, Genentech provides a proven pathway for your career and the means to reach the true beneficiaries of your work. Genentech is an Equal Opportunity Employer.

Molecular Oncology

You will define molecular mechanisms of apoptosis induced by deprivation of growth factors and exposure to cytotoxic agents such as chemotherapeutic drugs. Your work will involve the generation and analysis of knockout mice and protein structure-function studies (see Nature 388:728-729, 1997; Science 277: 815-818, 1997; Science 276: 111-113, 1997; Science 275:1122-1126, 1997; Nature 385: 86-89, 1997; Science 281:1305-1308, 1998; Science 290:523-527, 2000; Cell 103: 99-111, 2000; Nature Immunology 2:638-643, 2001). Requires a doctoral degree and demonstrated expertise in biochemistry as evidenced by publication in peer-reviewed journals. You must have excellent communication, interpersonal and organizational skills. Job Code: 4402/04-SCI

To apply for this position, send your resume via email to dixit.vishva@gene.com and macgregor.shannon@gene.com.

Molecular Oncology

An opportunity to study an exciting novel endothelial specific secreted factor, which we recently discovered to play an important role in regulating vasculogenesis/angiogenesis during early development. You will focus on exploring the potential role of this molecule in the regulation of tumor angiogenesis using genetic tools in conjunction with murine tumor models. Requires a highly motivated PhD or MD with a strong background in molecular or cell biology. Experience with *in vivo* models is preferred. Job Code: 4394-SCI

To apply for this position, send your resume via email to ye.weilan@gene.com and macgregor.shannon@gene.com.

Molecular Oncology

You will study proliferation, differentiation and apoptosis of prostate and bladder epithelial cells and cancer cells. We have established cell and organ cultures of the prostate and the bladder and are interested in identifying novel genes specifically involved in development and tumorigenesis of the prostate (see Cancer Research 61: 7291-7297, 2001) and the bladder. Requires a PhD and a strong back ground in molecular oncology or developmental biology. Experience in molecular cloning, RT-PCR, *in situ* hybridization, tissue culture and/or DNA microarray analysis is advantageous. Job Code: 4627-SCI

To apply for this position, send your resume via email to gao.wei-qiang@gene.com and macgregor.shannon@gene.com.

Molecular Oncology

A postdoctoral position is available to study angiogenesis using a series of molecular, pharmacological and genetic tools. Primary areas of focus will be the regulation of tumor angiogenesis by VEGF -dependent and -independent pathways, as well as the mechanisms of signal transduction of the VEGF receptors. Additionally, we are studying some exciting novel angiogenic regulators with greater selectivity than VEGF (see Nature 362: 841-844, 1993; Nature 380: 439-442, 1996; Endocr. Rev. 18: 4-25, 1997; Nature Med. 3: 336-340, 1998; Nature Med. 5: 623-628, 1999; Nature Med. 5: 1359-1364, 1999; EMBO J. 19: 4064-4073, 2000; Nature 412: 877-844, 2001). Requires a PhD/MD with a strong background in molecular/cellular biology and an interest in tumor biology. Job Code: 3570-SCI

To apply for this position, send your resume via email to ferrara.napoleone@gene.com and macgregor.shannon@gene.com.

Bio-Organic Chemistry

You will focus on computational approaches for the discovery of small-localized binding epitopes on protein targets, which will provide new library and compound ideas to the phage display and chemical synthesis groups in Protein Engineering and Bio-Organic Chemistry. Using various in-house and commercial protein profiling tools, you will guide the structure-based design of targeted peptide, protein and small molecule libraries. Requires a PhD in Chemistry, Biochemistry or related field. You must have experience in 2 or more of the following areas: computational approaches to small molecule modeling and pharmacophore elucidation; design of libraries for high-throughput synthesis; structure-based design of peptides and peptidomimetics; database-driven small molecule design techniques; and/or protein and peptide structure-function studies. Experience with scientific programming is desired. Job Code: 4297-SCI

To apply for this position, send your resume via email to artis.rick@gene.com and macgregor.shannon@gene.com.

Protein Chemistry

Studying the mechanisms of protein folding of molecules of therapeutic interest, this project focuses on folding recombinant proteins produced in bacteria and will use a variety of spectroscopic and physical methods to determine the secondary structure. Efforts to determine the biological function of these novel proteins will be part of the project. Requires a PhD in Biochemistry, Molecular Biology, Chemistry or related field and experience with protein purification, protein mass spectrometry or spectroscopic techniques. Job Code: 3741-SCI

To apply for this position, send your resume via email to vandlen.richard@gene.com and macgregor.shannon@gene.com.

Protein Engineering

Using combinatorial biology methods, you will analyze protein structure and function and decipher intracellular signaling pathways. This research will rely on the department's proven expertise in phage display, excellent resources for high-throughput screening and DNA sequencing, protein purification and characterization, and biocomputing. Requires a PhD in Biochemistry or related field or equivalent and experience in molecular biology and/or protein chemistry. Job Code: 4647-SCI

To apply for this position, send your resume via email to sidhu@gene.com and macgregor.shannon@gene.com.

Protein Engineering

A postdoctoral position is available to study structure-function relationships and signaling pathways in the TNF family of receptors. Phage display and protein engineering methods will be used to develop prototype inhibitors of therapeutically relevant receptors. Recent department work includes structure-function studies on Apo2L/TRAIL (see Molecular Cell 4: 563, 1999; Biochemistry 39: 633, 2000). Requires a PhD in Biochemistry or related field and strong skills/experience in molecular biology or protein chemistry. Experience in the purification and characterization of membrane proteins or the use of diversity methods is desired. Job Code: 4298-SCI

To apply for this position, send your resume via email to kelley.bob@gene.com and macgregor.shannon@gene.com.

Protein Engineering

You will investigate biochemistry of protein/protein and protein/ligand structure-function relationships. Our projects include protease enzymology, molecular basis of protein/protein interactions, peptide phage display, and reduction of molecular epitopes. (For recent publications on proteases and nucleases see Nature 404: 465, 2000; Biochemistry 40: 9513 and 9522, 2001; Protein Science 7: 628, 1998; J. Biol. Chem. 273: 11701, 1998; PNAS 93: 8225, 1996.) Requires a PhD in Biochemistry, Chemistry, Molecular Biology or related field. Experience in molecular and structural biology, protein chemistry, enzymology, and phage diversity methods is preferred. Job Code: 4300-SCI

To apply for this position, send your resume via email to lazarus.bob@gene.com and macgregor.shannon@gene.com.

Immunology

Working within this laboratory, you will study the role of novel activating and inhibiting receptors in immune-homeostasis and disease. Our laboratory has established extensive tools to study the role of these receptors in regulating immune responses of specific immune cell populations upon receptor engagement by monoclonal antibodies or ligands. In addition, this laboratory establishes null mutations in these receptors to study their biological role in immune homeostasis and disease. Requires a PhD with a strong background in molecular and cellular immunology. Experience with immunology is desired. Job Code: 4342-SCI

To apply for this position, send your resume via email to vanlookeren.menno@gene.com and macgregor.shannon@gene.com.

Immunology

Candidate will investigate TNF super family members and co-stimulatory molecules for their role in immune system and in disease process. Candidate will identify novel molecules and characterize them by using molecular biology and immunology techniques, gene knockout and transgenic approaches, and various disease models (see Nature 378: 617, 1995; Immunology Today 17: 410, 1996; Science 273: 1864, 1996; J. Exp. Med. 184: 1963, 1996; Ann. Rev. Immunol. 16: 111, 1998; Nature Medicine 5: 1313, 1999; Nature Immunology 1: 32, 2000; Nature 407: 916, 2000; Immunity 14: 291, 2001; Nature Immunology 2: 577, 2001; Nature Immunology 2: 638, 2001; Current Biology 11: 1547, 2001; J. Exp. Med. 194: 1441-48, 2001). Requires a PhD/MD or equivalent with a strong background in molecular and cellular immunology. Experience in T cell immunology and animal models of human diseases is an advantage. Job Code: 4241-SCI

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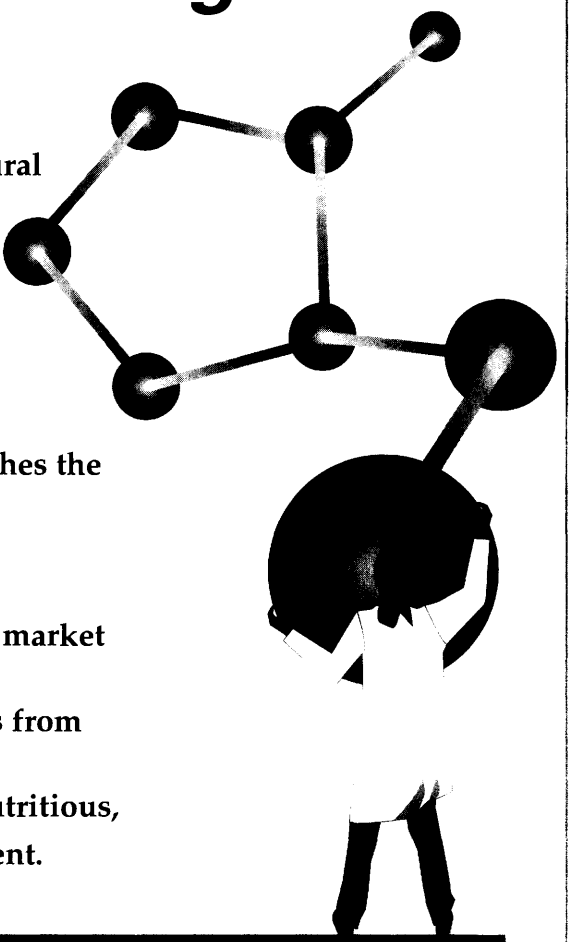

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POSTDOCTORAL FELLOWSHIPS

• PRINCETON, NJ •

Neuropharmacology

(JOB CODE: JD)

- Solid background in neuroscience, pharmacology and molecular biology.
- Interest in the molecular and cellular mechanisms governing the regulation of glutamate transporter expression and activity.
- Ability to use a combined biochemical and proteomics approach towards the identification of novel accessory proteins.
- Previous experience in the field of neurotransmitter transporter biochemistry and physiology would be beneficial, as well as experience in the use of recombinant expression systems and brain derived cell preparations for *in vitro* studies.

Electrophysiology

(JOB CODE: MB)

- Experience with recording from single cells in brain slices and an interest in discovering novel mechanisms of CNS diseases.
- Interest in investigating the activity of channels/receptors in neurons, using slices from knock-out animals, cultured slices and viral infection, and/or small molecule modulators.
- Ability to record the efficacy of synaptic transmission (excitatory and inhibitory) in normal and hyperexcitable states, as well as measure LTP/LTD.

Ion Channel

(JOB CODE: KR)

- Expertise in one of the following areas: a) analysis of protein: protein interactions using the yeast two-hybrid system, with expertise in studies of protein phosphorylation, general background in molecular and cell biology, including generation of mammalian and yeast expression vectors, cDNA library screening, transient transfections in mammalian cells, immunoprecipitation and immunoblotting. b) interest in studies of protein and mRNA expression in the nervous system, specifically the cellular and subcellular localization of ion channel proteins in brain.
- Experience in antibody production and characterization, light and electron microscopic immunohistochemistry, *in situ* hybridization histochemistry or stereotaxic surgery desirable.
- Experience using immunofluorescence approaches and computer assisted data analysis packages also desirable.

Transcriptional Profiling

(JOB CODE: CA)

- Expertise in using genomic approaches, including microarrays, and molecular biology, including quantitative PCR.
- Experience with molecular biology software, such as GCG, and bioinformatics tools and databases is required.
- A background in Neuroscience is desirable. An interest in alternate splicing and promoter analysis is required.

G-Protein Signaling

(JOB CODE: KY)

- Experience focused on investigation and regulation of heterotrimeric G-protein signaling involved with G-protein coupled receptors (GPCRs) of neurobiological significance.
- Demonstrated expertise in cell systems biology, tissue culture, receptor biology, reporter systems, with skill using biochemical and molecular analytical approaches.
- Experience with production of viral expression constructs and their use in cell and animal models.
- Proven record of excellence as evidenced by publications in a neuroscience or a related research area.

Alzheimer's Disease

(JOB CODE: SJ)

- Participate in the selection of novel drug discovery targets supporting our Alzheimer's Disease Programs.
- Demonstrated experience in molecular and cellular biology, biochemistry, neuroscience, or a related field.
- Experience in assessing novel research strategies leading to target identification, validation and characterization is desirable.

NMR Spectroscopy

(JOB CODE: AB)

- Proven research skills in high-resolution NMR spectroscopy and an interest in the application of NMR spectroscopy to pharmacology and/or toxicology projects using a variety of biofluids from several species.
- Prior experience in UNIX, multivariate statistical analysis and analysis of NMR data helpful.
- Familiarity with Inova 600 and 500 MHZ NMR spectrometers desirable.

POSTDOCTORAL FELLOWSHIPS

• CHAZY, NY •

Cardiac Electrophysiology, Safety Pharmacology

- Develop, validate and implement an *in vitro* model (Purkinje, HERG, or Langendorff MAP) to assess the arrhythmogenic potential of drug candidates in Safety Pharmacology.
- Ph.D. in Biological Sciences or related discipline.
- Doctoral training and independent research experience with cardiac electrophysiology, pharmacology and physiology techniques and methodologies.
- Previous experience with *in vitro* methods involving the recording and interpreting of cardiac electrophysiology (ion channel, action potential, etc.) and the cardiac conduction system.

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The Institute for Genomic Research (TIGR) is a not-for-profit research institute founded in 1992. The scope of research at TIGR includes structural, functional, and comparative analysis of genomes and gene products in viruses, eubacteria, pathogenic bacteria, archaea, and eukaryotes, both plant and animal, including the mouse, the rat and the human. Additionally, bioinformatics based research projects encompass investigations into genome composition, gene-finding algorithms, sequence assembly and alignment, and modeling of protein structure. TIGR's pioneering approach to genome based analysis produced the first-ever genome sequence of a free living organism in 1995, and TIGR scientists have completed 61% of the genomes and chromosomes in the public domain, making it the world's premier center of whole genome sequencing and analysis. TIGR currently has a staff of 275 including 30 faculty. Please visit our web site at http://www.tigr.org.

A Post-Doctoral Fellowship is available on NIH- and USDA-funded projects to completely sequence the bacterial genomes of the human pathogen *Clostridium perfringens* and the sheep pathogen *Dichelobacter nodosus*. Candidates should possess a strong computational background, including experience with PERL, SQL, and NT and UNIX operating systems. Responsibilities will include overseeing day to day processes of genome closure, assisting in annotation and analysis of the genomes, publication of genome data and comparative genomic analyses. **Please reference job code: 1135**

A Post-Doctoral Fellowship is available to participate in genome sequencing of *Plasmodium spp., Theileria parva*, and other lower eukaryotes. This individual will be responsible for data collection, analysis, and annotation of genome sequences, and may also participate in functional genomics studies using microarrays. Proficiency in UNIX, SQL, or Perl is highly desirable. **Please reference job code: 1136**

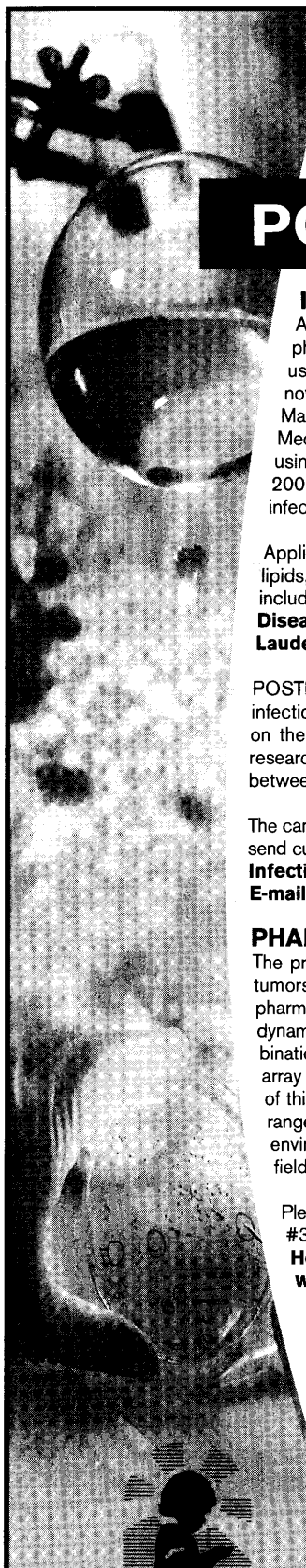
A Post-Doctoral Fellowship is available on an NSF-funded project to study gene expression in *Arabidopsis* using whole genome microarrays. A strong computational background, including experience with PERL, SQL, and NT and UNIX operating systems is preferred but not required. Responsibilities will include data generation, analysis, and publication of novel results as well supervision of junior laboratory personnel. Candidates should be highly self-motivated and willing to work in a team-oriented collaborative environment. **Please reference job code: 1137**

A Post-Doctoral Fellowship is available immediately to study the genomics of pathogenic bacteria. The position involves participation in genome analysis and functional genomics of *Bacillus anthracis*. This is an excellent opportunity for the candidate to broaden knowledge of microarrays and comparative genomic analysis particularly. Experience in microbiology preferred, familiarity with the UNIX operating systems is a bonus**. Please reference job code: 1138**

A Post-Doctoral Fellowship is available on an NHLBI-funded project to study gene expression in rodent models of human heart, lung, blood and sleep disorders using microarrays. A strong computational background, including experience with PERL, SQL, and NT and UNIX operating systems is preferred but not required. Responsibilities will include data generation, analysis, and publication of novel results as well supervision of junior laboratory personnel. Candidates should be highly self-motivated and willing to work in a team-oriented collaborative environment. **Please reference job code: 1139**

Several Bioinformatics Analysts positions are available to provide data management and analysis for ongoing research projects. Primary responsibilities will include generation, maintenance, analysis and curation of data from genome sequencing, functional genomics and comparative genomics projects. Qualified applicants will possess broad knowledge of biochemical pathways, protein structure and function, biochemical and taxonomic nomenclature and microbial and cellular biology. Extensive knowledge of sequence searching, analysis and multiple alignment. Candidates should have knowledge molecular phylogenetics, statistics and other aspects of computational biology. Proficiency in use of SQL, Linux/Unix operating systems and Perl programming. **Please reference job code: 1140**

Qualified candidates will have a PhD in Human Molecular Biology, Genetics, Molecular Biology, Microbiology, Cancer Genetics or a related field or the equivalent, experience with standard molecular biology laboratory techniques. Please send a curriculum vitae with the names, phone numbers, and e-mail addresses of three references to**: The Institute for Genomic Research, Attn: Human Resources, 9712 Medical Center Drive Rockville, MD 20850 E-mail: jobs@tigr.org** Fax: (301) 838-0208 EOE



St. Jude Children's Research Hospital is a premier biomedical research center that provides an outstanding scientific training environment. Our highly interactive research environment and state-of-the-art facilities include core laboratories for proteomics, microarray analysis of gene expression, transgenic/knockout technology, etc. Competitive stipends are available as well as a benefit package that includes professional developmental funds for journal subscriptions and travel to meetings.

POSTDOCTORAL FELLOWSHIPS

INFECTIOUS DISEASES (REQ #2980)

A Postdoctoral Position in molecular and cell biology is available immediately to investigate the regulation of phospholipids and their role in developmental physiology. Cultured cell systems and knockout mouse models will be used, together with contemporary techniques in molecular biology and biochemistry, to study the function of several novel genes encoding important lipid biosynthetic enzymes. For a review of the topic, refer to Regulation of Mammalian Cell Membrane Biosynthesis, 2000, *Progress in Nucleic Acid Research and Molecular Biology* 65:361. Mechanisms of lipid interaction with the phosphocholine cytidylyltransferase protein are also a focus of investigation using recombinant protein mutants which are heterologously expressed via baculovirus (see *Biochemistry* 40:494, 2001). The role of lung surfactant phospholipid production during development and in response to challenge with infectious agents that target the respiratory tract are of particular interest in the mouse model.

Applicants with a recent Ph.D. or MD/Ph.D. and, most importantly, a desire to study the molecular and cell biology of lipids, should send a curriculum vitae, a short statement of research interest, and the names of three references including REQ #2980 to: **Dr. Suzanne Jackowski, Protein Science Division, Department of Infectious Diseases, Danny Thomas Research Tower, Room 4007B, St. Jude Children's Research Hospital, 332 N. Lauderdale, Memphis, TN 38105, or e-mail: suzanne.jackowski@stjude.org**

POSTDOCTORAL POSITION also available in the Department of Infectious Diseases 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. **(REQ #1030)**

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 including REQ # to: **Dr. Gene MacDonald, Ph.D., Department of Infectious Diseases, St. Jude Children's Research Hospital, 332 N. Lauderdale, Memphis, TN 38105. E-mail: gene.macdonald@stjude.org**

PHARMACEUTICAL SCIENCES (REQ #3053)

The primary goal of our laboratory is to identify the treatment and host-related factors related to the risk of secondary tumors in children with acute lymphoblastic leukemia (ALL). Additional areas of research include identifying pharmacogenetic predictors of outcomes in ALL (e.g. relapse, avascular necrosis, neurotoxicity) and for pharmacokinetic/dynamic end points. Projects include developing molecular, cellular and murine models for drug-induced DNA recombination, assessing DNA recombination in vivo in children receiving therapy for ALL, pharmacogenetic and expression array studies incorporated into front-line clinical treatment protocols, and pharmacokinetic/pharmacodynamic studies of thiopurines, methotrexate, asparaginase, glucocorticoids, and topoisomerase II inhibitors. Resources include a full range of laboratory, computing, and clinical facilities in a multidisciplinary and highly interactive translational research environment. The applicant should have a Ph.D., MD, or Pharm.D. degree with outstanding accomplishments in their field thus far.

Please send curriculum vitae, statement of research interests, and three letters of reference including REQ #3053 to: **Dr. Mary V. Relling, Department of Pharmaceutical Sciences, St. Jude Children's Research Hospital,332 N. Lauderdale, Room D-1052, Memphis, TN 38105, or e-mail: mary.relling@stjude.org www.pharmacogenetics.org**

IMMUNOLOGY

The following positions are available for enthusiastic, hardworking individuals to work in one of the following areas:

1) Negative Regulation of T Cell Function. This study will focus on the molecular mechanism of LAG-3 function and subsequent signal transduction. **(REQ #1123)**

2) Cell Biology and Function of the T Cell Receptor: CD3 Complex. This study will analyze the molecular mechanism of TCR downmodulation and evaluate the role of CD3 in signal transduction and T cell selection (*Immunity* 13:665). **(REQ #1124)**

You should have a Ph.D. and/or MD, a solid understanding of basic immunology, and practical experience in molecular biology, biochemistry and/or cellular immunology. Information on our research can be found at www.stjude.org/departments/vignali.htm

Send a CV with the names of three references (postal and e-mail addresses, phone and fax numbers) including REQ # and an outline of your past accomplishments and future career aspirations to: **Dr. Dario Vignali, Department of Immunology, St. Jude Children's Research Hospital, 332 N. Lauderdale, Memphis, TN 38105. Ph: 901-495-2332. Fax: 901-495-3107. E-mail: dario.vignali@stjude.org**

St. Jude Children's Research Hospital
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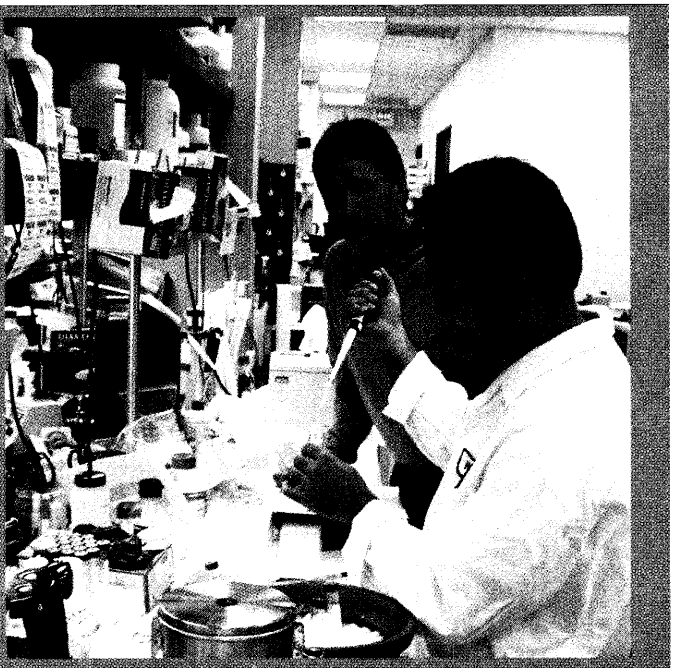
www.stjude.org/education

Postdoctoral Opportunities

To help you find out more information on Postdoctoral Opportunities at institutions throughout the U.S. and abroad please visit www.sciencecareers.org.



BRETT MONIA, VICE PRESIDENT OF ANTISENSE RESEARCH, AND POSTDOC HUSAM YOUNIS WORK TOGETHER IN AN ISIS LAB EXAMINING THE EFFECTS OF NOVEL DRUGS IN BIOLOGICAL SYSTEMS.

scientific areas, including biological research, molecular pharmacology, chemistry, pharmacological development, and others—essentially all of the disciplines that you find here." Moreover, she added that intense competition surrounds landing a postdoc position at Isis.

Isis uses postdocs for two primary reasons: to bring in new ideas that stimulate creative thinking and to prepare a new cadre of scientists. Although Isis focuses on the entrepreneurial side of drug development, Isis postdocs still pursue traditional training in many respects. For example, Brett Monia, vice president of antisense research, said, "All of our postdocs have published in reputable journals." Beyond traditional postdoctoral training, though, Monia added, "We offer opportunities not usually found in academics, like drug discovery."

Some students see an industrial postdoc as an entree to a job, but Monia said, "One should not do a postdoc at a company simply because he or she thinks it is the first step to getting a job there. This can greatly limit one's opportunities and some companies even have policies against hiring postdocs as permanent staff scientists. Instead one should select a postdoc position based on two things: first, the appeal of the prospective mentor, including his or her publication record, and second, the appeal of the project." Nevertheless, he agreed that an industrial postdoctoral position can be a good step toward an industrial career, simply because it teaches you about the industrial environment. On the other hand, you might suspect that a postdoctoral position in industry leads only to an industrial career, but some people do return to academics.

Lowenstam sees postdoctoral training as a time to explore. She said, "It's a gift available in no other field—a time to test out companies or environments and decide what suits you best." Monia pointed out that some of their postdocs stick with the area of their doctoral research, and others explore new areas. He said, "Either approach works here."

Beyond taking you to a new area, an industrial postdoc can also offer other benefits. Lowenstam said, "I can't speak for other companies, but I know that our postdoctoral salary is higher than those in academics or government institutions." In addition, postdocs at Isis receive a competitive salary and the same benefits as all other employees, including health insurance and paid vacation.

BETHESDA, Maryland: A variety of government institutions also fund postdoctoral positions. For example, Jonathan Wiest of the Center for Cancer Research (CCR) at the National Cancer Institute, said, "The funding for postdoctoral opportunities here is quite good. There's a fair amount of support for both salaries and supplies. Additionally, the CCR is committed to training the next generation of research scientists and clinicians." To keep track of these opportunities, CCR maintains a website that lists available postdoctoral positions (http://ccr.nci.nih.gov/careers/positions.asp).

In selecting a postdoc slot, Wiest offers several general recommendations. He said, "You need a mentor who will help you develop a program that you can take with you. It must be fundable, whether you are going on to an academic or government lab." To find such a mentor, Wiest suggested that you be informed, target people with good publication records, and talk with any investigator who you consider. Wiest also advises potential postdoctoral students to check an investigator's funding record. You can do this, Wiest indicated, at the National Institutes of Health's Computer Retrieval of Information on Scientific Projects (CRISP) database (https://www-commons.cit.nih.gov/crisp/).

In addition, Wiest encouraged students to find a postdoc that includes "training beyond working at the bench." He said, "Postdocs need to broaden their horizons a bit. If you don't stay flexible, you'll be left behind." For instance, CCR sends a postdoc with a Ph.D. to courses with a clinical flavor—covering basic diseases, diagnosis, and future research directions. In addition, postdoctoral students at CCR can gain grant-writing experience through courses taught by NCI staff and by applying for so-called K22 career development awards, which are government funding that can be taken to an academic position after completing a government postdoc.

As Wiest said, "A postdoc is an extension of your graduate degree. It's training." So, find the place that provides the training that you most desire, the training that can take you on to the position you want. ■

For further valuable career features, go to sciencecareers.org, then click on Advice and Perspectives.

mayo

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

Postdoctoral Positions in the Division of Experimental Pathology are immediately available for highly motivated individuals to study the molecular mechanisms underlying breast, brain, ovarian, and prostate cancer development using molecular genetics and functional genomics approaches. The research environment in the Division offers an excellent opportunity for training and career development in basic and/or translational science.

The following positions are currently available:

Fergus J. Couch, PhD: Structure function studies of the BRCA2 tumor suppressor; Characterization of novel oncogenes from a 17q23 amplicon in breast tumors. *Couch.fergus@mayo.edu*

Wanguo Liu, PhD: Genetic and biochemical analysis of the AXIN2 gene in the APC/beta-catenin signaling pathway; Characterization of the genes involved in prostate cancer risk and susceptibility. *Liu.wanguo@mayo.edu*

C. David James, MD, PhD: Analysis of the role of EGFR in brain tumor metastasis using *in vitro* and *in vivo* models. *James.charles@mayo.edu*

Robert Jenkins, MD, PhD: An evaluation of the biologic relevance of genetic alterations in gliomas; An evaluation of the biologic relevance of genetic alterations associated with prostate cancer progression. *Jenkins.robert@mayo.edu*

Vijayalakshmi Shridhar, PhD: Role of novel pro-apoptotic genes identified from cDNA microarray analysis and SSH libraries in ovarian cancer. *Shridhar.viji@mayo.edu*

David I. Smith, PhD: Analysis of the genes in the common fragile sites in cancer development; Role of viral integration in the development of cancer. *Smith.david@mayo.edu*

Stephen N. Thibodeau, PhD: Transcriptional profiling in colon cancer to identify markers for screening, diagnosis and prognosis; Expression analysis of tumors with deficient mismatch repair. *Thibodeau.stephen@mayo.edu*

Salary will be determined by the successful candidate's experience. There is an attractive benefit package. Mayo Clinic Rochester is a not-for-profit organization. Mayo integrates research with clinical practice and education in a multi-campus environment.

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

Christene M. Hettinga
Mayo Clinic
200 First Street SW
Rochester, MN 55905, USA

Mayo Foundation is an affirmative action and equal opportunity employer and educator

Explore Your
Potential

Postdoctoral Fellowships

Van Andel Research Institute (VARI) is an independent, not-for-profit organization building programs of basic science in the battle against cancer. Our investigators use cutting-edge technology and equipment, and have access to our core facilities in Monoclonal Antibody Production, Microarray Technology, Mouse Germline Modification, and Analytical, Cellular and Molecular Microscopy. Postdoctoral Fellowships are currently available for those who are motivated by a vision of excellence.

Faculty Includes:
George F. Vande Woude, PhD – (Director)
Molecular Basis of Cancer
Sara A. Courtneidge, PhD – (Deputy Director)
Signal Regulation and Cancer

Art S. Alberts, PhD – Cell Structure and Signal Integration
Brian Cao, MD – Antibody Technology
Nick S. Duesbery, PhD – Developmental Cell Biology
Brian B. Haab, PhD – Microarray Technology
Han-Mo Koo, PhD – Cancer Pharmacogenetics
Cindy K. Miranti, PhD – Integrin Signaling and Tumorigenesis
James H. Resau, PhD – Analytical, Cellular & Molecular Microscopy
Pamela J. Swiatek, PhD – Mouse Germline Modification
Bin Tean Teh, MD, PhD – Cancer Genetics
Craig P. Webb, PhD – Tumor Metastasis and Angiogenesis
Michael D. Weinreich, PhD – Chromosome Replication
Bart O. Williams, PhD – Cell Signaling and Carcinogenesis
Nian Zhang, PhD – Mammalian Developmental Genetics

Fellowships are awarded on an equal opportunity basis to recent recipients of a PhD, MD or equivalent biological or biochemical science degree. VARI offers a competitive salary and a comprehensive benefit package that includes health, life and disability insurance plus a 401K.

Although applications are accepted at any time, candidates are encouraged to apply for open positions well in advance of their availability dates. If interested, send a letter describing your research interests, curriculum vitae, plus names and addresses of three references to:

(Investigator's Name)
Van Andel Research Institute
333 Bostwick N.E.
Grand Rapids, MI 49503

Visit our Web site at **www.vari.org** for additional information about our organization. VARI is an Equal Opportunity Employer.

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Leaders in Discovery

POSITIONS OPEN

RESEARCH ASSOCIATE/ POSTDOCTORAL POSITIONS

Postdoctoral Research Associates positions are available in each of two related areas. Program One is focused on the elucidation of mechanisms by which protein tyrosine phosphatase (PTP) receptors regulate neurotrophin signaling. Program Two is focused on the development of small molecule mimetics of neurotrophins and small molecule strategies regulating PTPs. Together these programs will provide novel strategies for modulating regenerative plasticity *in vivo*. The Department of Neurology laboratories are located in the UNC Neurosciences Center and adjacent to major programs in neuroscience, genetics, genomics, and informatics, thereby providing outstanding opportunities for collaborations and application of new technologies. Experience in transgenic mouse models, morphological analysis, primary cell cultures, and a wide range of molecular biology techniques is important. The Research Triangle area of North Carolina offers numerous academic and industry collaborations and is widely recognized for its affordability, nationally ranked public schools, a population with diverse backgrounds, excellent climate, and proximity to well-known beaches and mountain retreats. Interested candidates should submit curriculum vitae, a brief statement summarizing interests, and the names and addresses of three references to: **Frank M. Longo, M.D., Ph.D., Department of Neurology, CB7025, Chapel Hill, NC 27599. E-mail: longof@neuro.med.unc.edu**. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS
Tuberculosis Research

The Department of Pathology and Laboratory Medicine, University of Texas Health Science Center at Houston, seeks a Postdoctoral Fellow for research on three newly funded NIHAU grants on tuberculosis. The grants will investigate (1) the role of complement in the pathogenesis of tuberculosis, (2) gene deletion mycobacterial mutants as vaccines for tuberculosis, and (3) genetic deletions in *M. tuberculosis* in relation to virulence in humans and mice. A Doctoral degree, proficiency in written and spoken English, and knowledge of immunological and molecular biological techniques is required. Experience in macrophage and lymphocyte studies, flow cytometry, antigen presentation, and mouse manipulations is desirable. Successful candidates will use new BSL−3 microbiology and vivarium facilities and well-equipped laboratories for immunologic, microbiologic, and molecular biologic studies. As the largest medical research center in the world, the Texas Medical Center provides a rich environment. Candidates should send résumés with references to: **Geoff Ferguson, 7000 Fannin, Suite 150, Houston, TX 77030. E-mail: geoffrey.ferguson@uth.tmc.edu**.

POSTDOCTORAL FELLOWSHIPS MOLECULAR GENETICS

Postdoctoral Fellowships in molecular genetics of neuropsychiatric diseases are available at Washington University, St. Louis, Missouri. M.D. or Ph.D. candidates may have degrees in genetics, molecular biology, neurology, or psychiatry. Projects range from genetic linkage and disequilibrium studies of complex traits to functional studies of disease genes. Program faculty located within the Departments of Psychiatry, Genetics, and Anatomy and Neurobiology are conducting molecular studies of Alzheimer's disease, attention deficit disorder, bipolar disorder, Parkinson's disease, substance dependence, and schizophrenia. *This is an NIMH Institutional Postdoctoral Fellowship grant. Only United States citizens and permanent residents may apply.*

Please send a letter of application including research interest, transcripts, a copy of your curriculum vitae, and the names of three references to: **Alison Goate, D.Phil., Washington University School of Medicine, Department of Psychiatry, 660 South Euclid Avenue, Box 8134, St. Louis, MO 63110-1093**.

Washington University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

CORIELL INSTITUTE for Medical Research

POSTDOCTORAL POSITION/ RESEARCH ASSOCIATE POSITION
Human Stem Cell Laboratory

Candidate should have Ph.D. or M.D. and background in molecular and neuro/cell biology. Project focuses on the molecular events underlying the neural differentiation of umbilical cord blood and adipose-derived mesenchymal stem cells. Send letter, curriculum vitae, summary of work, and three references to: **C. Tule, Coriell Institute for Medical Research, 403 Haddon Avenue, Camden, NJ 08103 U.S.A. FAX: 856-964-0254; e-mail: ctule@cimr.umdnj.edu**. *Affirmative Action/Equal Opportunity Employer.*

STEM CELLS FOR BRAIN REPAIR
***In Vivo* Gene Delivery for Neurodegenerative Diseases**
Department of Neuroscience
The Chicago Medical School

Two **POSTDOCTORAL FELLOWSHIPS** are available immediately to join funded projects investigating the above topics using *in vivo* and *in vitro* experimental models (see website below for details). Technical approaches used in the laboratory include cell and tissue culture, stereotaxic intracranial injection, behavioral assays, multiple immunofluorescence labeling, confocal and electron microscopy, and design-based stereology. Individuals who can contribute molecular/genetic approaches to the laboratory are highly desired. Send curriculum vitae and the names of three references to: **Daniel A. Peterson, Department of Neuroscience, The Chicago Medical School, 3333 Green Bay Road, North Chicago, IL 60064 U.S.A. E-mail: daniel.peterson@finchcms.edu; website: http://www.finchcms.edu/neuro/positions.html**. Deadline for submission: April 1, 2002.

POSTDOCTORALS

Researchers for a University of California, Berkeley/industry collaborative project. Competitive salary; opportunity for advancement. Several positions open immediately, in areas of (1) oncology/immunology. Tumor markers, therapeutic monitoring, cytostatic agents. Experience in cancer research or immunologic methods preferable. (2) Collagen/bone. Osteoporosis, fibrogenesis, and regulation of collagen turnover. Experience with protein isolation or mass spectrometry desirable. (3) Neurobiology/biochemistry. Demyelination, remyelination, amyloid β; metabolism (MS and Alzheimer's). Experience in protein or lipid biochemistry or mass spectrometry preferable. (4) Mass spectrometry. Peptides and proteins, isotope ratios for synthetic measurements. Experience in biological mass spectrometry required.

Send curriculum vitae and names of references to: **M. Hellerstein, M.D., Ph.D., 309 Morgan Hall, University of California, Berkeley, CA 94720. Telephone: 510-642-0646; FAX: 510-642-0535**.

ADVANCED ANALYTICAL PROTEIN CHEMISTRY
Mapping Ligand-Target Structural Interactions

NIH-supported **POSTDOCTORAL POSITION** immediately available. Project will characterize pharmaceutically important protein complexes via innovative mass spectrometric methods that generate empirical data for *in silico* protein structure and dynamics visualization. Position requires familiarity with protein chemistry, peptide mapping, or mass spectrometry; bioinformatics a plus but not required. Seeking motivated candidates. See **website: http://www.cwru.edu/med/biochemistry/faculty/anderson.html** for more information. To apply, send curriculum vitae and names of three references to **e-mail: vea@po.cwru.edu** and **e-mail: hdexchange@yahoo.com**.

POSITIONS OPEN

POSTDOCTORAL RESEARCHER POSITIONS

Postdoctoral Researcher positions are immediately available for research focused on mouse models of human breast cancer by conditional inactivation of p53 and the biological and biochemical functions of the checkpoint genes ATM/ATR. Our recent publications: ATM and NBS1, *Nature* **405:**473; ATM and Rad51, *J. Biol. Chem.* **274:**12748; ATR and Rad17, *Proc. Natl. Acad. Sci.* **98:**13102; tumor models, *Cancer Res.* **57:** 4123. Annual salary ranges: $31,044 to $46,056 depending on research experience. Training and experience in molecular biology, cell biology, biochemistry, or animal models preferred. Prospective candidates should forward their curriculum vitae and three references to:

Dr. Eva Lee, Professor
Departments of Biological Chemistry and Developmental and Cell Biology
240D, Medical Sciences I
University of California, Irvine
Irvine, CA 92697-1700
E-mail: leee@uthscsa.edu

The University of California, Irvine, is an Equal Opportunity Employer committed to excellence through diversity.

POSTDOCTORAL FELLOWS

Two NIH-funded Postdoctoral positions now available to qualified applicants with Ph.D. (or equivalent) and hands-on experience in tissue/cell culture and molecular biology techniques (screening, cloning, etc.); experience with transgenic animals desirable. Aim: to study molecular, cellular, and anatomic mechanisms underlying the transition of cardiac hypertrophy to failure in a transgenic mouse model. Good oral and written English skills needed. Salary commensurate with experience. Send curriculum vitae, brief description of research interests, and names of three references to: **Dr. Subha Sen, Department of Molecular Cardiology/NB50, Lerner Research Institute, Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, OH 44195. FAX: 216-444-3110; e-mail: sens@ccf.org**. *The Cleveland Clinic Foundation is an Equal Employment Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Postdoctoral position is available to M.D./Ph.D. or equivalent with background in molecular virology. Our laboratory uses molecular techniques to study SIV pathogenesis and transmission in the macaque model of AIDS. Strong background in molecular biology and cell culture required. Preference will be given to applicants with previous postdoctoral experience. Salary: $40,000 to $45,000 plus benefits. Please send curriculum vitae including the names and telephone numbers of three references to: **Dr. Stephen Smith, Department of Preventive Health and Community Medicine, University of Medicine and Dentistry of New Jersey, Saint Michael's Medical Center, 268 Dr. M. L. King Boulevard, Newark, NJ 07102. E-mail: stephens@cathedralhealth.org**.

POSTDOCTORAL POSITION BIOPHYSICAL CHEMISTRY
University of Toronto

A Postdoctoral position in biophysical chemistry at the Department of Pharmaceutical Sciences of the University of Toronto is available immediately to study the thermodynamics of biomolecular interactions including hydration. The investigations will employ spectroscopic, calorimetric, volumetric, and high-pressure techniques. Qualified individuals with backgrounds in physical chemistry of biopolymers may send their curriculum vitae, publication list, and two letters of recommendation by mail to: **Dr. Tigran V. Chalikian, Department of Pharmaceutical Sciences, Faculty of Pharmacy, University of Toronto, 19 Russell Street, Toronto, Ontario M5S 2S2 Canada. E-mail: chalikan@phm.utoronto.ca**.

2002 POSTDOCTORAL FELLOWSHIPS

DNAX

DNAX is a long-standing biotechnology company *located within the San Francisco Bay Area's "Silicon Valley" (a vibrant biotechnology community), adjacent to the Stanford University campus. We conduct pioneering basic and applied research leading to drug development in the areas of Immunology and Oncology, with the aim of creating effective therapeutics for a range of human diseases. DNAX offers a unique research environment that makes use of advanced technology, genomic and computational platforms–including microarray and proteomic systems–and state-of-the-art facilities.*

Postdoctoral Fellowships are an integral and successful component of the DNAX research program. DNAX Fellows come from all over the world to work in our highly rigorous, collaborative and resource-rich environment that offers unique opportunities to be at the cutting edge of scientific discovery. Fellows are encouraged to publish and present their work in scientific meetings, as well as participate in a range of internal, cross-disciplinary scientific forums. Our geographical proximity and research ties to the Stanford, UCSF and Berkeley campuses maintain our strong connection to academic circles. The program provides full (industry-leading) financial support and generous benefits for up to three years, and creates strong career opportunities in both academia and biotechnology. If you are interested in joining a highly productive and supportive community of Scientists and Fellows with an international composition and a distinguished alumni network, please contact the Human Resources Department.

Postdoctoral positions are immediately available in several of our laboratories including the following:

Ronald Herbst, Ph.D., Oncology
Investigate the function and regulation of tyrosine phosphatases. Of particular interest are PTPCAAX/PRL family members and their involvement in cancer. A solid background in molecular and cell biology as well as biochemistry are required.

Xiao Min Schebye, Ph.D., Oncology
Discover and validate novel therapeutical targets of cancer using functional genomics approaches. Applicant should have a Ph.D. in molecular biology, cell biology or biochemistry, with at least one first-author publication in a major journal and some practical experience in the field of cancer research.

Rene de Waal Malefyt, Ph.D., Immunology
Characterize biological activities of novel cytokines that have structural homology to IL-10 or IL-12. Applicants should have a Ph.D. in cellular immunology and be familiar with cell separation techniques and FACS analyses. Experience in Human Immunology or Scid-hu technology a plus.

Joseph Phillips, Ph.D., Immunology
Identify and characterize novel cell surface receptors that regulate Mast cell biological responses. Applicants should have a strong background in molecular and cellular immunology and be capable of undertaking *in vivo* models.

Please send a *curriculum vitae*, the names of three references and a one-page statement of research interests to:

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UNIVERSITÉ DE GENÈVE
FACULTÉ DE MÉDECINE

Postdoctoral Program in Genetics, Microbiology and Immunology

University of Geneva Medical School, Switzerland

Faculty members include:

Martine Collart (transcription, Ccr4-Not complex, yeast)
Beat Imhof (leukocyte migration, integrins, vascular adhesion molecules)
Walter Reith (molecular immunology, MHC class II genes, transcription)
Michel Strubin (RNA polymerase II, transcriptional activation, yeast)
Didier Trono (HIV, molecular virology, gene therapy)

Suitable candidates should have a PhD, MD or equivalent. Please send a complete CV, list of publications and the names and coordinates of 3 references to:

Marie de Peyer, secretariat
Department of Genetics and Microbiology
University of Geneva Medical School
CMU, 1 rue Michel-Servet
CH-1211, Geneva, Switzerland
tel: +41 22 702 56 59
fax:+41 22 702 57 02
e-mail: Marie.DePeyer@medecine.unige.ch

CSAR CENTER FOR SUBSTANCE ABUSE RESEARCH

Interdisciplinary Research on Drugs of Abuse

Neuroimmunopharmacology-Neuropharmacology-Molecular Pharmacology-Signal Transduction-Behavior

The Center for Substance Abuse Research at Temple University School of Medicine carries out interdisciplinary research on opioids, cannabinoids, cocaine, and drug interactions. Faculty have appointments in various basic science departments including Pharmacology, Microbiology and Immunology, Biochemistry, and Psychology. Areas of research include molecular pharmacology of opioid receptors, cross-talk between opioid and chemokine receptors, withdrawal and immune function, opioid effects on HIV infectivity, interactions between opioids and cannabinoids in the neural and immune systems, actions of cocaine on cellular and behavioral systems, novel opioid analgesics with peripheral action, and opioid and cannabinoid effects on body temperature.

Postdoctoral candidates should contact individual faculty members listed on the Center's web page, **www.temple.edu/csar** or write to **Dr. Martin W. Adler, Director of CSAR, Department of Pharmacology, 3400 North Broad Street, Philadelphia, PA 19140**

Temple University is an Equal Opportunity Employer. M/S/F/D/V

POSITIONS OPEN

POSTDOCTORAL POSITION
Ecology and Environmental Science

The Appalachian Laboratory (AL) of the University of Maryland Center for Environmental Sciences (UMCES) invites applications for one Postdoctoral Investigator. Appointment will be for two years with competitive salary, fringe benefits, and modest funds for travel and research. The successful candidate must hold a Ph.D. or equivalent and is expected to collaborate with one or more AL faculty members. Potential research areas include landscape/watershed ecology, biogeochemistry, restoration ecology, ecosystem/community dynamics, conservation biology, and behavioral/evolutionary ecology. Specific faculty research interests can be examined at **website: http://www.al.umces.edu**. Position may begin by September 2002. To apply, send a two-to-three-page letter outlining proposed research activities (with names of potential collaborating AL faculty); curriculum vitae; and a list of three references (names, addresses, telephone numbers, FAX, and e-mail addresses) to: **Dr. Steve Seagle, Postdoctoral Search Chair, UMCES Appalachian Laboratory, 301 Braddock Road, Frostburg, MD U.S.A.** Position will remain open until filled; review begins 8 March 2002. *UMCES is an Affirmative Action/Equal Opportunity Employer. UMCES AL is committed to making its programs, services, and activities accessible to persons with disabilities. You may request accommodations by calling Telephone: 301-689-7100.*

A **POSTDOCTORAL POSITION** in microbial pathogenesis is available to investigate virulence mechanisms of *Moraxella catarrhalis*, an etiologic agent of middle-ear disease in infants and young children. Emphasis will be placed on structure-function analysis of *M. catarrhalis* gene products involved in attachment of this pathogen to human cells and on regulatory factors controlling expression of these gene products. Experience with recombinant DNA techniques is required. Position includes salary, fringe benefits, and the opportunity to work in a dynamic research environment. Position available after April 1, 2002. Send curriculum vitae and the names and telephone numbers of three references to: **Dr. Eric J. Hansen, Department of Microbiology, The University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75390-9048. FAX: 214-648-5905; e-mail: eric.hansen@utsouthwestern.edu**. *UT Southwestern is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS available to study transcriptional regulation in mammalian cells and their associated viruses. Our goal is to define the role of human general cofactors (TFIID, PC4, and Mediator) and RNA polymerase II holoenzyme in transcriptional regulation using reconstituted transcriptional systems with naked DNA and chromatin (see *EMBO. J.* **17**:4478; *JBC* **274**:23480). We are also interested in hormone receptor functions and transcriptional control in human papillomaviruses (see *MCB* **20**:113; *JBC* **276**:34235) as well as core promoter and enhancer function (see *JBC* **276**:25503). Interested candidates should submit applications including curriculum vitae, copies of publications, statement of research interests, and names of three references to: **Dr. Cheng-Ming Chiang, Department of Biochemistry, Case Western Reserve University, 10900 Euclid Avenue, Cleveland, OH 44106. E-mail: cmc23@po.cwru.edu; website: http://www.cwru.edu/med/biochemistry/faculty/chiang.html**.

A **POSTDOCTORAL POSITION** is available to study the mechanism of DNA replication in eukaryotes using archaea as a model system. Knowledge of biochemistry and molecular biology is desired. Applicants should send curriculum vitae and names of three references to: **Zvi Kelman, Ph.D., Position R3-0261, CARB/UMBI, 9600 Gudelsky Drive, Rockville, MD 20850. FAX: 301-738-6255; e-mail: kelman@umbi.umd.edu**. *An Affirmative Action/Equal Employment Opportunity Employer.*

POSITIONS OPEN

Applications are invited for a **POSTDOCTORAL POSITION** in the Molecular Imaging Laboratory, Department of Radiology, The Univiersity of Texas M.D. Anderson Cancer Center, for imaging gene expression to monitor gene therapy led by **Vikas Kundra, M.D., Ph.D.** Candidates should have experience in molecular biology and viral delivery systems or signal transduction. Send your curriculum vitae to: **Vikas Kundra, M.D., Ph.D., Department of Diagnostic Radiology, Box 57, The University of Texas M.D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030. E-mail: vkundra@di.mdacc.tmc.edu**. *Equal Opportunity Employer. The University of Texas M.D. Anderson Cancer Center values diversity in its broadest sense. Diversity works at M.D. Anderson. Equal Employment Opportunity/Affirmative Action/smoke-free environment.*

POSTDOCTORAL POSITION
Cellular Neurophysiology
Ottawa Health Research Institute (OHRI)

Our research at the OHRI (affiliated with the University of Ottawa) focuses on intrinsic and synaptic properties; transmitter-receptor interactions; ligand- and voltage-gated ion channels; and second messengers and electronic coupling in mammalian hypothalamic and spinal cord neurons engaged in pathways regulating neuroendocrine, sympathetic, and circadian functions. We use single and dual patch clamp techniques assisted with near-infrared videomicroscopy, confocal and multiphoton imaging, and intracellular and retrograde tracers in hypothalamic and spinal cord slices. For details, check our laboratory at **website: http://www.ohri.ca**. Requires M.D. or Ph.D. degree, experience with *in vitro* slice and or dissociated cell preparations, and current and patch clamp recording techniques. Salary commensurate with experience. E-mail or FAX covering letter, curriculum vitae, and names of three references to: **Dr Leo Renaud, Neurology/Neurosciences, Ottawa Hospital, Civic Campus, 1053 Carling Avenue, Ottawa, Ontario K1Y 4E9 Canada. E-mail: lprenaud@ohri.ca; FAX: 613-761-5360.**

POSTDOCTORAL POSITIONS
Donald Danforth Plant Science Center

Postdoctoral positions are anticipated in a variety of scientific disciplines including biochemistry, computational and structural biology, cell biology, virology, immunology, molecular pathology and physiology, and genetics. Successful candidates will have evidence of publication and command of the English language. The Danforth Center is a not-for-profit, independent center for research. For descriptions of openings and information on the Danforth Center, see **website: http://www.danforthcenter.org**. *The Donald Danforth Plant Science Center is an Equal Opportunity/Affirmative Action Employer and encourages applications from underrepresented groups including minorities, women, and people with disabilities.*

ECOLOGY POSTDOCTORAL (two year) at University of Notre Dame Environmental Research Center (UNDERC) (**website: http://www.underc.nd.edu**) to conduct research from May through September at 7,500-acre tract in northern Michigan; remainder of year on campus. Individual teaches a five-day module and helps mentor research projects in undergraduate summer course. Housing provided at UNDERC. Applications accepted until position is filled with review beginning March 1, 2002. Position begins June 1, 2002. Submit curriculum vitae, three references, and description of research to: **Dr. Gary Belovsky, Department of Biological Sciences, University of Notre Dame, Notre Dame, IN 46556-0369. Telephone: 574-631-0172; e-mail: belovsky@nd.edu**. *Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS
Stanford University

Positions available immediately to study cellular and molecular aspects of muscular dystrophies and age-related muscle atrophy. Projects related to the dystrophies include studies of signal transduction mediated by the dystrophin and integrin protein complexes, mechanisms of injury and regulation of cellular defenses, and gene therapy. Projects related to aging and muscle atrophy include studies of myonuclear apoptosis and the role of Notch and Wnt signaling in satellite cell activation. Experience in cell and molecular biology is essential. Send curriculum vitae, summary of research interests, and names and contact numbers of three references to: **Thomas A. Rando, M.D., Ph.D., Department of Neurology and Neurological Sciences, Stanford University School of Medicine, Stanford, CA 94305-5235**. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL ASSOCIATE

An interdisciplinary NSF/NIH-funded research group in the Departments of Neurology and Radiology, University of Minnesota, seeks a **RESEARCHER** to focus on cortical surface extraction, registration, mapping, and analysis of MRI/fMRI data sets. See **website: http://www.neurovia.umn.edu** for more information.

Qualifications: skilled programmer with Ph.D. in computer science, engineering, neuroscience, or related discipline; UNIX/Linux experience; background in applied mathematics, image processing, computer graphics, and statistics; excellent oral and written communication skills. Electronic applications including curriculum vitae will be accepted until May 1, 2002, by: **D.A. Rottenberg, M.D.; e-mail: dar@neurovia.umn.edu**. *The University of Minnesota is an Equal Opportunity Educator and Employer.*

POSTDOCTORAL POSITION is immediately available to join a research team studying airway sensory neurobiology. Ongoing projects are conducted to investigate the ionic channels and intracellular signal transduction pathways involved in regulating the excitability of cultured pulmonary chemosensitive neurons. Electrophysiological and pharmacological approaches and cell and molecular biology techniques are applied to answer these questions. Background in neuroscience or cell biology is desirable. Salary competitive and commensurate with experience. Please send résumé and the names of two references to: **Lu-Yuan Lee, Ph.D., Department of Physiology, University of Kentucky Medical Center, Lexington, KY 40536-0298. FAX: 859-323-1070; e-mail: lylee@uky.edu**. *Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.*

RESEARCH ASSOCIATE

POSTDOCTORAL POSITION is immediately available in **Dr. George Tsokos'** laboratory (**e-mail: gtsokos@usuhs.mil**) in Bethesda, Maryland, to study gene transcription in human systemic lupus erythematosus cells. Strong candidates with training in gene transcription experimental approaches are preferred for this NIH-funded position. Requirements: Ph.D. or M.D. and experience in molecular biology. We are a nonprofit organization providing support services to the military medical community and offer a generous benefits package. Please forward curriculum vitae and references to: **Attention: 699HS/SNC/, Henry M. Jackson Foundation for the Advancement of Military Medicine; e-mail: careers@hjf.org**. *Affirmative Action/Equal Employment Opportunity.*

POSTDOCTORAL POSITIONS: Incumbents with Ph.D. in biochemistry/molecular biology. Training in enzymes, oxidative stress, transport, metabolism, and RNA technology. Curriculum vitae to: **Dr. S. D. Varma, Departments of Biochemistry and Ophthalmology, University of Maryland School of Medicine, MSTF Room 500 A, 10 South Pine Street, Baltimore, MD 21201. E-mail: svarma2384@aol.com**.

POSITIONS OPEN

Multiple **NEUROBIOLOGY RESEARCH TRACK** and **POSTDOCTORAL POSITIONS**. Available immediately to study (1) synaptic integration and sensory processing in mammalian olfactory bulb and piriform cortex. Experience in patch clamping and/or optical of Ca/voltage-sensitive dye imaging required. (2) Neural circuits underlying taste analgesia and changes in central nociceptive/analgesic mechanisms following inflammation. Expertise in *in vivo* electrophysiology, *in situ* hybridization/RT-PCR, and/or immunocytochemistry/tract tracing required. Applicants must have a Ph.D. or M.D. Positions offer highly competitive salary/fringe benefits and interaction with Neuroscientists in the Department (**website: http://neurobiology.umaryland.edu**) and the Neuroscience Program (**website: http://neuroscience.umaryland.edu/**). Send curriculum vitae and names of three references to: **Dr. M. Ennis, Department of Anatomy and Neurobiology, University of Maryland School of Medicine, 685 West Baltimore Street, Baltimore, MD 21201. E-mail: mennis@umaryland.edu**. *University of Maryland is an Affirmative Action/Equal Employment Opportunity/Americans With Disabilities Act Employer.*

POSTDOCTORAL POSITION
Division of Biology and Medicine
Brown University

Position available for individual interested in areas of protein structure-function, gene structure and regulation, protein-nucleic acid interactions, or molecular mechanisms of recombination. Previous experience with (or desire to learn) protein chemistry, nucleic acid biochemistry, DNA cloning, genetics, or *in vitro* systems. Please send résumé with desired starting date and list of three references to: **Arthur Landy, Brown University, Box G-J360, Providence, RI 02912. Website: http://biomed.brown.edu/Faculty/default.html**. *Brown University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS
Department of Biochemistry
McGill University

Two Postdoctoral positions available in the laboratory of **Professor Nahum Sonenberg**. Research includes signaling to translation factors, mouse knockout analysis, and HCV replication (see **website: http://www.medcor.mcgill.ca/~nahum**). Candidates should have a strong background in molecular biology. Please forward curriculum vitae and three references (names/addresses) to: **C. Lister, Biochemistry, McGill University, McIntyre Room 807, Montreal, Quebec H3G 1Y6 Canada. FAX: 1-514-398-1287; e-mail: colin.lister@mcgill.ca**.

POSTDOCTORAL POSITIONS: One available immediately; second available July 2002 to study biophysical interactions of proteins and RNA in translation (*J. Biol. Chem.* **275:**17740–17746; *J. Biol. Chem.* **276:**43083–43086). Experience in protein purification and molecular biology essential. Experience in identification of posttranslational modifications, fluorescence spectroscopy, or stopped-flow kinetics preferable. The successful applicant will work with a team of postdoctoral, graduate and undergraduate Researchers. Send curriculum vitae and three letters of recommendation to: **Dr. Dixie J. Goss, Chemistry Department, Hunter College CUNY, 695 Park Avenue, New York, NY 10021. E-mail: dgoss@hunter.cuny.edu**.

A POSTDOCTORAL POSITION is available at SUNY-Buffalo to study parkin and its involvement in Parkinson's disease. Successful candidates must have strong background in molecular biology, cell biology, and/or neuroscience. Required technical expertise includes molecular cloning, gene expression, and cell culture. Previous experience with transgenic or knockout mice is highly desirable. For more information, visit **website: http://www.smbs.buffalo.edu/phys/feng.htm**. Please send your curriculum vitae and a cover letter to: **Dr. Jian Feng; e-mail: jianfeng@buffalo.edu; FAX: 716-829-2699**.

POSITIONS OPEN

POSITION AVAILABLE
POSTDOCTORAL RESEARCHER
Ecosystem Ecology

The Department of Organismic and Evolutionary Biology seeks a Postdoctoral Fellow/Research Scientist to carry out modeling studies on terrestrial carbon dynamics. The position is for an initial period of one year starting in early 2002 with a renewal option for a second year. Candidates must have a Ph.D. in ecology, biogeochemistry, or a related field and experience with large-scale numerical modeling and data analysis. Proficiency in C or Fortran programming is highly desirable. Please send curriculum vitae and a brief description of research interests and references to:

Professor Paul Moorcroft
Harvard University
Department of Organismic and Evolutionary Biology
HUH, 22 Divinity Avenue
Cambridge, MA 02138
Telephone: 617-496-6744
FAX: 617-495-9484
E-mail: pmoorcroft@oeb.harvard.edu

Harvard University is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOW

A Postdoctoral position in a developmental neurobiology laboratory at the University of Utah School of Medicine is available immediately to study cellular mechanisms of activity-dependent development and survival in the auditory system. Because the main experimental approach is the introduction of transgenes into chick embryos via microelectroporation, applicants should have a strong background in molecular biology. Experience with experimental embryology would be an asset. Please send curriculum vitae to: **Drs. Lance Zirpel** and **Thomas N. Parks, Department of Neurobiology and Anatomy, University of Utah School of Medicine, 50 North Medical Drive, Salt Lake City, UT 84132. E-mail: zlance@neuro.utah.edu** or **tom.parks@hsc.utah.edu**. *The University of Utah is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH SCIENTIST POSITION is available to investigate biochemical sites of action of lipid-regulating agents on high-density lipoprotein (HDL) metabolism focused on receptor-mediated and transcriptional processes related to HDL. A highly motivated individual with experience in cellular/molecular biology and receptor identification/characterization is encouraged to apply. Experience in lipoprotein metabolism is desirable. Please send résumé to: **Dr. Moti L. Kashyap, Department of Veterans Affairs Health Care System, 5901 East Seventh Street (11/111 I), Long Beach, CA 90822. E-mail: moti.kashyap@med.va.gov**.

Ecological Modeler: **POSTDOCTORAL ASSOCIATE** needed for stream/watershed project at Western Kentucky University Center for Water Resource Studies. Spatially explicit modeling experience required; background in landscape ecology and GIS desired. Apply by 22 February 2002 for full consideration. Position details are available at **website: http://www.wku.edu/Dept/Support/HR/**.
Western Kentucky University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

A POSTDOCTORAL POSITION is available immediately in cardiovascular biology. The successful applicant will integrate into ongoing efforts in gene therapy to promote angiogenesis and in stem cell-mediated myocardial repair. A background in molecular or cell biology and experience with immunohistochemistry or eukaryotic cell culture is desirable. Must be comfortable working with animals. Contact: **Dr. Todd Rosengart, c/o Dr. Gerald Patejunas, Evanston Northwestern Healthcare, Research B659, 2650 Ridge Avenue, Evanston, IL 60201**.

POSITIONS OPEN

A POSTDOCTORAL POSITION is available to study host-mediated mechanisms involved in the pathogenesis of colitis. Novel chemotherapeutic agents will be evaluated for their ability to inhibit disease caused by *Cryptosporidium parvum*. This NIAID-NIH project is funded through July 2005 and is a joint project among Iowa State University, Kansas State University, the National Animal Disease Center, and Pace University. There will be opportunity for professional and career development. A Ph.D. in immunology or a related filed of study is required; molecular biology training is preferred. Send curriculum vitae and the names of three references to: **Dr. Michael J. Wannemuehler, Department of Veterinary Microbiology and Preventative Medicine, Iowa State University, Ames, IA 50011. E-mail: mjwannem@iastate.edu; Telephone: 515-294-3270.** *Iowa State University is an Equal Employment Opportunity Employer.*

POSTDOCTORAL APPLICATIONS are invited from candidates with experience in molecular biology techniques, particularly in cloning, protein purification, and derivation. Highly motivated Ph.D. in a relevant field with at least two years of experience. The position is for two years and could be extended if mutually desired (subject to review each year). It is available immediately. Competitive NIH-scale salary commensurate with experience with full benefits. The Urology Research Center is funded by grants from NIH, DoD, and industry and is conducting research in cancer treatment and prevention. Contact: **Jerzy Jankun, Ph.D., Director of Urology Research Center, Medical College of Ohio, Arlington Avenue, Toledo, OH 43614. FAX: 419-383-3691; e-mail: jjankun@mcoc.edu; website: http://golemxiv.dh.mco.edu/~jerzy/**.

POSTDOCTORAL POSITION is immediately available to study the regulation of muscarinic acetylcholine receptor's role by ras-related GTPases. Experience in cell signaling and molecular biological methods required. Position is funded by the NIH and AHA. Please send curriculum vitae and three references to: **Dr. Harish Radhakrishna, School of Biology and Petit Institute for Bioengineering and Biosciences, Georgia Institute of Technology; e-mail: harish.radhakrishna@biology.gatech.edu**. Details at **website: http://www.biology.gatech.edu/radhakrishna.html**. *Georgia Tech is an Equal Opportunity/Affirmative Action Employer.*

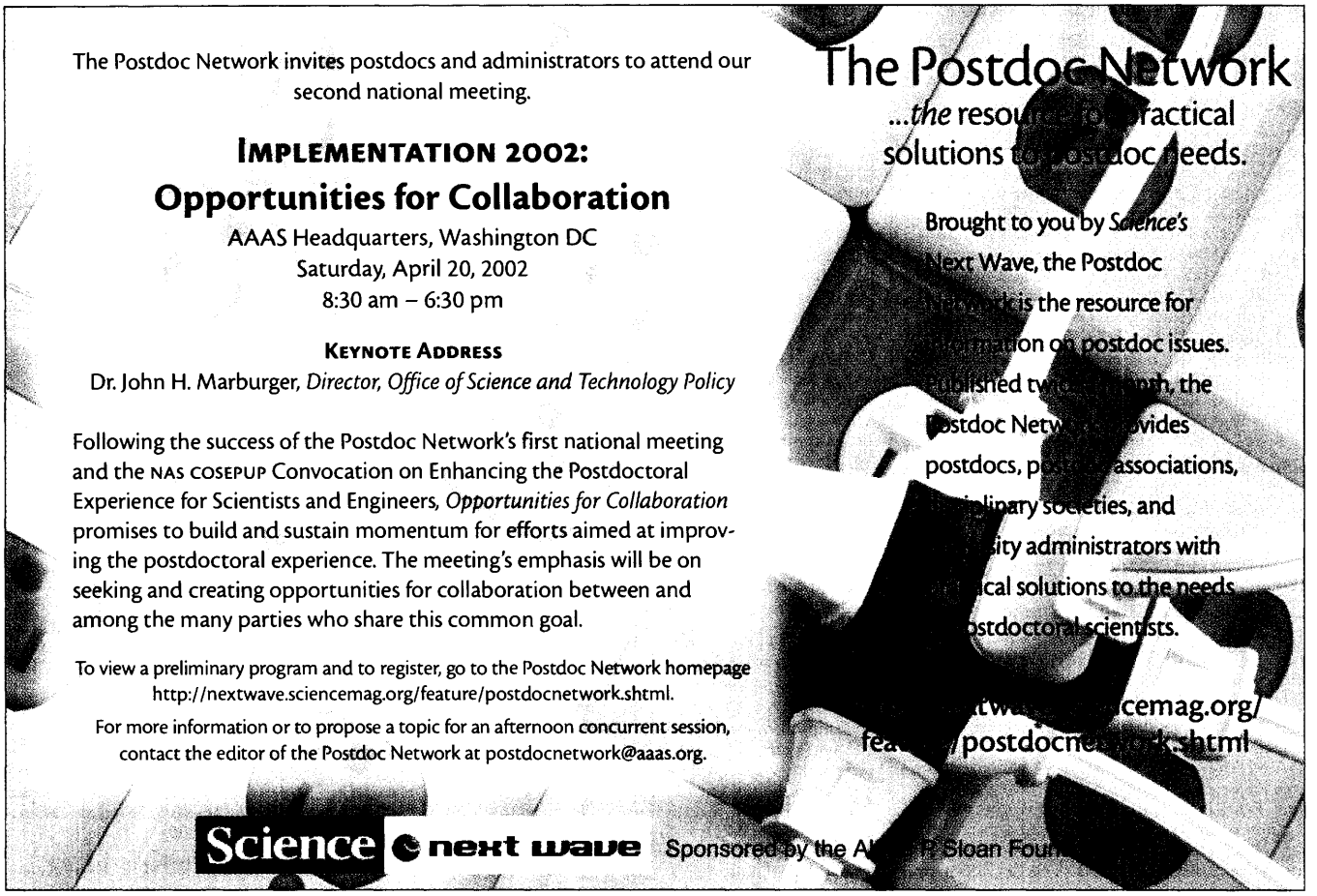
MOLECULAR MODELING OR SYNTHETIC CHEMIST
Canada

A RESEARCH POSITION is available at the INRS-Institut Armand-Frappier in a suburb of Montreal. Candidates should have a recent Ph.D in molecular modeling or synthetic organic chemistry. Interested candidates should send curriculum vitae and names and e-mail addresses of three potential references to: **Professor Lolita Zamir, INRS-Institut Armand-Frappier, 531, boulevard des Prairies, Laval, Quebec H7V 1B7 Canada**.

POSTDOCTORAL POSITION available immediately in a laboratory studying the role of phosphorylation of the inositol 1,4,5-trisphosphate receptor in the regulation of signal transduction. Previous electrophysiology experience is required. Please send letter of interests, curriculum vitae, and the names of three references to: **Dr.Alan Fein, Department of Physiology, University of Connecticut Health Center, Farmington, CT 06030-3505. FAX: 860-679-1269; e-mail: afein@neuron.uchc.edu**.

POSTDOCTORAL FELLOW
Noll Physiological Research Center

Postdoctoral Research Fellowship opportunity in aging and control of human skin blood flow. Ph.D. or M.D. with background/interest in vascular physiology or dermatology are invited to respond with curriculum vitae to: **Dr. W. Larry Kenney; e-mail: w7k@psu.edu**.
Affirmative Action/Equal Opportunity Employer.



FELLOWSHIPS

RESEARCH FUNDING OPPORTUNITY

BURROUGHS WELLCOME FUND

P.O. Box 13901
21 T.W. Alexander Dr.
Research Triangle Park, NC 27709-3901
Telephone (919) 991-5100 Fax (919) 991-5160
Web site: www.bwfund.org

Awards provide up to $500,000 to support advanced postdoctoral training and initial faculty appointment.

Awards are made to U.S. and Canadian universities on behalf of individual postdoctoral fellows.

The application deadline for awards beginning in the year 2003 is May 1, 2002.

The Burroughs Wellcome Fund is an independent private foundation dedicated to advancing the medical sciences by supporting research and other scientific and educational activities.

CAREER AWARDS AT THE SCIENTIFIC INTERFACE

Bridging Support for Physical, Chemical, and Computational Scientists Entering Biology

Deadline: May 1, 2002.

These awards are intended to foster the early career development of researchers with backgrounds in the physical, chemical, and computational sciences whose work addresses biological questions and who are dedicated to pursuing a career in academic research. Applicants are expected to draw from their training in a scientific field other than biology to propose innovative approaches to answer important questions in the biological sciences. Proposals that include experimental validation of theoretical models are particularly encouraged. The awards provide up to $500,000 over five years to support up to two years of advanced postdoctoral training and the first three years of a faculty appointment. Degree-granting institutions may nominate up to two candidates for the awards.

Candidates must hold a Ph.D. degree in the fields of mathematics, physics, chemistry (physical, theoretical, or computational), computer science, statistics, or engineering, and must not have accepted a faculty position at the time of application. Candidates who are not citizens of the United States or Canada must provide documentation of their visa status at the time of application. Temporary residents must, at the time of application, present evidence that lawful immigration status has been granted and that it will extend for the duration of the award.

Complete program information and application forms are available on BWF's Web site at www.bwfund.org

POSITIONS OPEN

POSTDOCTORAL POSITIONS
THE UNIVERSITY OF TEXAS
M. D. ANDERSON CANCER CENTER

Postdoctoral positions available at Department of Neuro-Oncology, The University of Texas M.D. Anderson Cancer Center, Houston, Texas. Looking for candidates with experience in molecular and cell biology. Current projects in the laboratory include oncolytic adenovirus and gene therapy, molecular mechanisms of cell cycle and apoptosis, functional studies on PTEN tumor suppressor, transduction signal, transgenic model for brain tumors, and angiogenesis. The successful applicants will have the choice of working with **Juan Fueyo, Maria-Magdalena Georgescu, Victor A. Levin, John McMurray, Vinay Puduvalli,** or **W. K. Alfred Yung**. Positions offer competitive salary plus excellent work environment. Responsibilities will include participation in ongoing, federally, and institutionally funded research programs. Send curriculum vitae to:

J. Fueyo, Department of Neuro-Oncology
Box 316
M.D. Anderson Cancer Center
1515 Holcombe Boulevard
Houston, TX 77030
Telephone: 713-792-3563
FAX: 713-745-1183
E-mail: jfueyo@mdanderson.org.

The University of Texas M.D. Anderson Cancer Center is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

POSTDOCTORAL FELLOWSHIP

Immediate opening for a Postdoctoral Fellow with a Ph.D. and/or M.D. degree seeking further training in the neuroscience of neurodegenerative diseases. Research focus is in neurodegenerative diseases including neuropathology, neuroimmunology, neurotoxicity, neurotransmitter/neuropeptide receptor systems, and investigational new drug development. Salary commensurate with experience. Candidates should send a letter of interest and research goals; curriculum vitae; and three letters of reference to be received by March 1, 2002, to: **Dr. John M. Lee M.D., Ph.D., Department of Pathology, Loyola University Medical Center, 2160 South First Avenue 110/2226, Maywood, IL 60153. FAX: 708-216-6735; e-mail jlee2@lumc.edu**.

Loyola University Chicago is an Equal Opportunity Employer and Educator.

POSTDOCTORAL POSITION (HHMI funded) to study mechanisms for establishing specialized domains within the ER and plasma membrane in metazoans. The initial focus will be on ankyrin-dependent targeting of IP3 R to the SR in cardiomyocytes (*J. Cell. Biol.* **147**:995–1008, 1999; **Mohler et al.**, *J. Biol. Chem.* January 7, 2002, epub) and of sodium channels to axon initial segments (*J. Cell Biol.* **155**:739–746, 2001). Qualifications: Ph.D. with publications in either molecular/cell biology or biochemistry. An interest and/or experience in molecular approaches to membrane transport is desirable. Send curriculum vitae, reprints/pdf files of publications, and the names of three references to: **Vann Bennett, Box 3892, Duke University Medical Center, Durham, NC 27710. E-mail: benne012@mc.duke.edu; FAX: 919-684-3590**.

POSTDOCTORAL POSITION available to study the molecular biology of metabolic bone disease. The laboratory is well equipped, well funded, and has a collegial environment. We prefer someone with some experience in molecular biology, cell biology, genetics, or metabolic bone disease. Please send curriculum vitae and date available to: **Michael Econs, M.D., Director, Division of Endocrinolgy and Metabolism, Indiana University School of Medicine, 541 North Clinical Drive, CL 459, Indianapolis, IN 46202-5111. FAX: 317-278-0658; e-mail: mecons@iupui.edu**. *Indiana University is an Affirmative Action/Equal Opportunity Educator and Contractor. Minorities/females/disabled are encouraged to apply.*

POSITIONS OPEN

AN EXCEPTIONAL OPPORTUNITY FOR THREE YOUNG SCIENTISTS
Work in Taiwan

Three **POSTDOCTORAL FELLOWS** are sought to join a multidisciplinary group working on research and development of single molecule biomedical technology or microarray biomedical applications. A single molecule biomedical core facility and a microarray core facility, which are part of the National Research Program in Genomic Medicine in Taiwan, are being established. We are looking for three Ph.D. Scientists with a background in the biophotonics (laser tweezers, FRET, confocal microscopy, or fluorescent spectrum) or biological sciences (biology, molecular biology, cell biology, or protein chemistry). Individuals having more than two years of postdoctoral experience with strong publication background can be considered at **ASSISTANT PROFESSOR** level. Interested individuals should send curriculum vitae and a cover letter explaining your interest in the position to: **Dr. Ian C. Hsu, Chairman, Department of Atomic Science, National Tsing Hua University, Hsinchu, 300, Taiwan. Telephone: 886-3-572-7303; FAX: 886-3-571-8649; e-mail: ichsu@mx.nthu.edu.tw**. More information about our laboratory is available at **website: http://140.114.106.30/**.

POSTDOCTORAL FELLOWSHIPS
Clinical Chemistry and Proteomics

The Johns Hopkins University Department of Pathology is accepting applications for Postdoctoral Fellowships in clinical chemistry. Two tracks are offered: (1) two-year clinical/research COMACC (Commission on Accreditation in Clinical Chemistry)-approved program and (2) cancer proteomics focused research program. Requirements: Ph.D. in chemistry-related field or M.D. with relevant clinical pathology training. Send cover letter and curriculum vitae to: **Daniel W. Chan, Ph.D., DABCC, Department of Pathology, The Johns Hopkins Medical Institutions, 600 North Wolfe Street, Meyer B–121, Baltimore, MD 21287**. *Equal Opportunity Employer.*

A **POSTDOCTORAL POSITION** is available in the biochemistry section of the Orthopaedic Research Laboratory of Columbia University. Current research interests include the role of extracellular matrix proteins in structure and function of cartilage and the vasculature, mechanisms of arthritis and cartilage tumor, and cartilage repair. Applicants should have a Ph.D. in biochemistry, cell biology, or equivalent. Knowledge and skills in orthopaedic research and signal transduction are highly desirable. Please send curriculum vitae and names of three references to: **Dr. Hui Chen, Head, Biochemistry Section, ORL, BB1417, Columbia University, 630 West 168th Street, New York, NY 10032. FAX: 212-305-2741; e-mail: hc2037@columbia.edu**. *We are an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS to study signaling proteins, transcription factors, and gene expression profiles. Applicants must have expertise in molecular/cell biology and protein biochemistry. Send résumé to: **A.-N. Tony Kong, Professor, Department of Pharmaceutics, Ernest Mario School of Pharmacy, Rutgers University, 160 Frelinghuysen Road, Piscataway, NJ 08854. E-mail: kongt@rci.rutgers.edu**.

POSTDOCTORAL POSITION available immediately to study CFTR chloride ion channels using structure/function approaches and molecular modeling. Experience in electrophysiological or molecular biological methods required. Position funded by the NIH and the NSF. Contact: **Dr. Nael McCarty, School of Biology, Georgia Institute of Technology. E-mail: nael.mccarty@biology.gatech.edu**. Details at **website: http://www.biology.gatech.edu/mccarty/nmlabtop.htm**. *Georgia Tech is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL or **RESEARCH ASSOCIATE POSITIONS** are available to study transforming growth factor beta (TGFb) signaling in mammalian cells. Projects include isolation and identification of novel signaling components (*EMBO. J.* **20(11)**: 2789–2801, 2001); a delineation of the role of the MAP kinase pathway in TGFb-mediated responses (*EMBO. J.* **18(5)**:1345–1356, 1999); or an analysis of TGFb-mediated apoptosis in B-lymphocytes (*JBC* **275(49)**:38363–38370, 2000). Research associates are paid in accordance with experience. Send a brief description of research experience and curriculum vitae to:

Philip H. Howe, Ph.D.
Department of Cell Biology, NC1
Cleveland Clinic Foundation
9500 Euclid Avenue
Cleveland, OH 44195
Telephone: 216-445-9750
FAX: 216-445-7855
E-mail: howep@ccf.org

POSTDOCTORAL POSITION
Massachusetts General Hospital and Harvard Medical School

A Postdoctoral Research Position is available immediately in the Transplantation Biology Research Center at Massachusetts General Hospital to study transplantation tolerance in large animal models. Previous advanced study and/or training in immunology is required. Individuals applying for this position must have either an M.D. or Ph.D. degree. Please submit curriculum vitae, statement of research interests, and the names of three references to: **David H. Sachs, M.D., Massachusetts General Hospital, Transplantation Biology Research Center, MGH-East, Building 149-9019 13th Street, Boston, MA 02129. FAX: 617-726-4067**. *Preference will be given to U.S. citizens or permanent residents.*

POSTDOCTORAL POSITIONS available to study the molecular mechanism(s) involved in epidermal growth factor signaling and regulation of adenylyl cyclase (see *Science* **283**:1328, 1999; *J. Biol. Chem.* **276**:22742, 2001; ibid. **276**:47583, 2001; *Gene* **269**:13, 2001). Studies involve mutagenesis of signaling elements, genetic screening, expression, purification of recombinant proteins and *in vitro* reconstitution of signaling. Applicants must have a recent Ph.D. and experience in biochemical and/or molecular techniques. Send curriculum vitae and names of three references to: **Dr. Tarun B. Patel, Department of Pharmacology, University of Tennessee, Memphis, 874 Union Avenue, Memphis, TN 38163. E-mail: tpatel@utmem.edu**. *UT, Memphis is an Equal Employment Opportunity/Affirmative Action/Title VII/Title IX/Section 504/Americans With Disabilities Act Employer.*

A **POSTDOCTORAL POSITION** is available to study the molecular genetics of the nuclear receptors PPARγ and PPARδ [*Mol. Cell* **4**:585, 1999; *PNAS* **99**:303, 2002]. Projects include the use of gene targeting, stem cells, and cDNA microarrays to study epithelial defferentiation, adipogenesis, and energy metabolism. See **website: http://www.jax.org/research/barak**. Experience in molecular biology and cell culture required. Please send curriculum vitae, bibliography, and names of three references to: **Dr. Yaacov Barak, The Jackson Laboratory, 600 Main Street, Bar Harbor, ME 04609. E-mail: ybarak@jax.org**. *The Jackson Laboratory is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available to study transcriptional regulatory networks in the intestinal pathogen *Vibrio cholerae*. The project will use molecular and cellular biology to study *in vivo* expression of virulence genes and biochemistry to elucidate the mechanisms of action of various transcription factors. A strong background in molecular and cellular biology and biochemistry is desired. Send curriculum vitae and names of three references to: **Dr. Karen Skorupski, Department of Microbiology and Immunology, Dartmouth Medical School, Hanover, NH 03755. E-mail: karen.skorupski@dartmouth.edu**.

Postdoctoral training in Cellular & Molecular Pharmacology

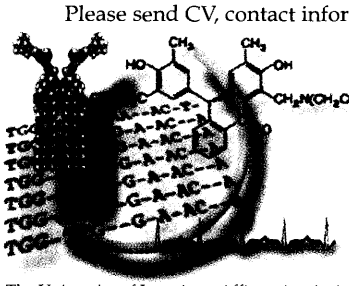
THE UNIVERSITY OF IOWA
College of Medicine

The Department of Pharmacology offers a rich, interactive environment for postdoctoral researchers to complete their training. Excellent opportunities are available in these areas:

- *Cancer & cell cycle mechanisms*
- *Growth factors & hormone regulation*
- *Neurological function & dysfunction*
- *Receptors & signal transduction*
- *Pain pathways, mechanisms & management*
- *Stroke & hypertension*
- *Synaptic plasticity*

For details of specific faculty interests -
http://www.medicine.uiowa.edu/pharmacology

Candidates must have a PhD and/or MD degree. Please send CV, contact information for 3 referees, and brief statement identifying potential faculty mentor(s).



Department of Pharmacology
The University of Iowa
BSB 2-471, 51 Newton Road
Iowa City, IA 52242
email:
pharmacology@uiowa.edu

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

POSTDOCTORAL FELLOWSHIP
GENE TRANSFER INTO HEMATOPOIETIC STEM CELLS

Center for Cancer Research
National Cancer Institute

POST-DOCTROAL POSITIONS are now available in the Experimental Transplantation and Immunology Branch of the National Cancer Institute (NCI) in the laboratory of **Dr. Dennis Hickstein**. The laboratory focuses on the genetic correction of hematopoietic stem cells in models of genetic disease and hematologic malignancy. The aim of the current studies is to develop novel gene therapy approaches for the canine genetic disease leukocyte adhesion deficiency or CLAD. The disease phenotype in CLAD results from primary molecular defect in the leukocyte integrin CD 18 which results in the failure to express the CD11/CD18 adhesion complex on the leukocyte surface. In this search preference will be given to individuals with experience in molecular genetic techniques and experience with tissue culture. The laboratory is part of a highly interactive group emphasizing clinical application of basic investigation.

Interested individuals should send curriculum vitae, brief description of research interests and experience, and contact information for three references to:

Dennis D. Hickstein, M.D.
Senior Investigator
Experimental Transplantation and Immunology
Center for Cancer Research
National Cancer Institute
Bldg. 10, Rm 12N-226, MSC 1907
National Institutes of Health
Bethesda, MD 20892
Email: hicksted@mail.nih.gov

The NCI is an Equal Employment Opportunity and Affirmative Action Employer that values and fosters diversity throughout the entire organization. Selection for this position will be based solely on merit, with no discrimination for non-merit reasons such as race, color, religion, gender, national origin, politics, marital status, physical or mental disability, age, sexual orientation, or membership in an employee organization.

POSTDOCTORAL RESEARCH

THE WISTAR INSTITUTE 1892

The Wistar Institute, an independent research organization located on the University of Pennsylvania campus, currently seeks postdoctoral applicants in the areas listed below; these are full-time, year-round opportunities.

T Cells Against Cancer. Position open for postdoctoral fellow to characterize cancer patients' T cell responses in an organotypic culture system with emphasis on adhesion molecules, cytokines and chemokines. Applicant must have published experience in cellular immunology and will join a team of scientists working on cancer vaccines. Please include description of research experience, along with CV and references. Reply to **Dr. Dorothee Herlyn (dherlyn@wistar.upenn.edu).**

Tumor-Stroma Interactions. Positions to study cell-cell interactions between fibroblasts derived from bone marrow stem cells and malignant cells and between fibroblasts and endothelial cells, as well as their precursors. Studies will focus on cell-cell signaling, morphogenesis of human skin, esophagus, colon and vessels in three-dimensional organotypic culture models, human embryonal stem cell differentiation pathways, and transformation of precursor cells. Interested applicants are encouraged to visit the lab Web site at www.wistar.upenn.edu/herlyn. Reply to **Dr. Meenhard Herlyn (herlynm@wistar.upenn.edu).**

Regulation of Epstein-Barr Virus Latency. Immortalization of human B-lymphocytes by EBV depends on the establishment of a stable extrachromosomal replicon that maintains a stable copy number and strict pattern of gene expression. We are studying the viral and cellular proteins that regulate the chromatin structure, cell-cycle dependent replication, DNA damage checkpoint response, and plasmid maintenance of EBV minichromosomes. In a separate project, we are studying how B-lymphocyte growth signals regulate the switch from latent to lytic gene expression of the viral minichromosome. Reply to **Dr. Paul Lieberman (lieberman@wistar.upenn.edu).**

RNA Editing and Mouse Development. To study the RNA editing which alters the properties of GluR ion channels and serotonin receptors: molecular action of ADAR gene family members involved in the RNA editing mechanism and developmental analysis of mice with mutated ADAR gene loci and defects in the hematopoitic system. Previous experience in molecular techniques and/or with genetic manipulation of mice is essential. Degree received within last three years preferred. See Science 290: 1765, 2000; PNAS 98: 6571, 2001; Cell 107: 415, 2001. Reply to **Dr. Kazuko Nishikura (kazuko@ wistar.upenn.edu).**

Human Telomere Structure, Variation, and Evolution. One position focuses on gap-filling and completion of the human reference sequence in subtelomeric regions, including detection and analysis of subtelomeric transcripts and gene families. The second uses physical mapping methods (site-specific DNA cleavage, fluorescent in situ hybridization) to analyze large subtelomeric polymorphisms near human telomeres, including their frequency and distribution in humans and in non-human primates, and their effects upon subtelomeric recombination and subtelomeric gene expression. Interested applicants are encouraged to review the lab Web site (www.wistar.upenn.edu/Riethman). Reply to **Dr. Harold Riethman (riethman@wistar.upenn.edu).**

Regulation of Chromatin Structure and Cellular Proliferation. We are using a combination of rigorous protein purification and functional analysis in vivo and in vitro to elucidate the role of novel multiprotein complexes in regulation of chromatin structure and cellular proliferation. These studies will not only provide novel insights into the signaling pathways that impinge upon chromatin structure but also identify new genes whose mutations may underlie cancer. We are looking for ambitious postdoctoral candidates with training in molecular biology. Cell 104: 247, 2001, Cell 102: 257, 2000, Genes and Development 14: 1048, 2000. Reply to **Dr. Ramin Shiekhattar (shiekhattar@wistar.upenn.edu).**

Cancer and Lung Proteomics. Positions to study protein profile changes: 1) associated with metastasis in breast cancer, melanoma, pancreatic and ovarian cancer; 2) in serum of a mouse model with human tumors to detect and develop new serological tumor markers; and 3) lung disease and repair. Studies will utilize a combination of novel fractionation, 1-D, and 2-D gel methods developed in the lab combined with mass spectrometry methods. Reply to **Dr. David Speicher (speicher@wistar.upenn.edu).**

Molecular Genetics of Transcription Regulation in Drosophila. Our main interest is to understand the molecular mechanisms of how chromatin insulator and anti-insulator elements (Promoter-Targeting Sequence, PTS, see Cell 99:567-575, 1999) function to regulate long-range enhancer-promoter interactions. We are also interested in the in vivo functions of chromatin remodeling/modifying complexes that lead to the activation or repression of transcription. Recent Ph.D. and experience in biochemistry and molecular biology, or Drosophila genetics and molecular biology preferred. Reply to **Dr. Jumin Zhou (zhouj@wistar.upenn.edu).**

Successful candidates will have a Ph.D. and/or M.D./Ph.D. in the biological sciences. Please send a CV and three letters of reference to the **Human Resources Dept., Attn: (appropriate faculty member), The Wistar Institute, 3601 Spruce Street, Philadelphia, PA 19104.**

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POSITIONS OPEN

POSTDOCTORAL POSITION
Computational Chemistry
Computer Science and Mathematics Division

The Computer Science and Mathematics (CMS) Division **(website: http://www.csm.ornl.gov/csm-home.html)** at the Oak Ridge National Laboratory (ORNL) invites outstanding candidates to apply for an immediate opening in computational chemistry. The successful applicant will participate in a highly interdisciplinary project on the development of advanced software tools for the automatic synthesis of high-performance algorithms for applications such as correlated electronic structure methods.

This position offers an opportunity to interact with a broad range of research activities at a world-class laboratory for computational science including the Center for Computational Sciences (CCS), which hosts one of the largest unclassified computing capabilities in the world.

Position requires a Ph.D. in chemistry or closely related field, experience in the implementation of correlated electronic structure methods, and a desire to work closely with Computer Scientists and other Computational Scientists. Applicants with experience in parallel computing or the NWChem package are especially encouraged. A strong background in scientific publications is also encouraged. Initial appointment is for one year.

For consideration, please submit curriculum vitae and cover letter including a description of research interests, chemistry software packages used, and software development experience to: **David Bernholdt, Computational Chemistry, Computer Science and Mathematics Division, Oak Ridge National Laboratory, P.O. Box 2008, Oak Ridge, TN 37831-6367. E-mail: bernholdtde@ornl.gov**. Please reference Project Number ORNL02-14-CSMD when applying for this position.

This appointment will be offered through the ORNL Postdoctoral Research Associates Program **(website: http://www.orau.gov/orise/edu/postgrad/ornlpdoc.htm)**, which is administered by the Oak Ridge Institute for Science and Education (ORISE). Further information regarding this program as well as visa and clearance requirements can be found under the Appointment Information link at this website. *ORNL, a multiprogram research facility managed by UT-Batelle, LLC, for the U.S. Department of Energy, is an Equal Opportunity Employer committed to building and maintaining a diverse workforce. The program is open to all qualified U.S. and non-U.S. citizens without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.*

POSTDOCTORAL FELLOWSHIP POSITION AVAILABLE

Immediately available for a motivated individual to study the regulation of lymphocyte development, activation, and autoimmunity by Cbl family signaling molecules (*Nature* **403**:216, 2000). The focus of the laboratory is to understand the mechanisms by which these adaptor molecules influence various intracellular signaling pathways required for lymphocyte lineage development and function. Please send curriculum vitae and three letters of reference to: **Hua Gu, Ph.D., Laboratories of Immunology, NIAID/NIH, 12441 Parklawn Drive, Room 125, Rockville, MD 20852 U.S.A. E-mail: hgu@niaid.nih.gov**.

POSTDOCTORAL POSITIONS are available to study cancer genetics or the molecular basis for primate evolution. Both lines of research use state-of-the-art genomic technologies including DNA microarray-based mutation detection and gene expression analysis. Interested persons with a Ph.D. and/or M.D. degree and a strong background in molecular biology, biochemistry, and/or evolutionary biology are encouraged to apply. Please send curriculum vitae and addresses of three references to: **Dr. Joseph G. Hacia, Keck School of Medicine, University of Southern California, 2250 Alcazar Street, IGM 240, Los Angeles, CA 90089-9075. FAX: 323-442-2764; e-mail: hacia@hsc.usc.edu**.

POSITIONS OPEN

POSTDOCTORAL POSITION IN ECOLOGICAL GENETICS
Biology Department
Grinnell College

The Department of Biology at Grinnell College invites applications for a two-year postdoctoral position beginning in August 2002. The successful applicant will participate in research on the ecological genetics of plant mating systems and teach in a liberal arts college environment under the guidance of a faculty mentor. A recent Ph.D. in plant ecology, population genetics, ecological genetics, or related field is required as is an interest in teaching and supervising the research of undergraduates. In their letters of application, candidates should address their interest in developing as a teacher and scholar in an undergraduate liberal arts environment that values diversity and emphasizes close faculty-student interaction. To be assured of full consideration, complete applications should be received by March 1, 2002. Send curriculum vitae, three letters of recommendation, and copies of all transcripts to: **Dr. Vincent M. Eckhart, Mellon Postdoctoral Search Committee, Department of Biology, Grinnell College, Grinnell, IA 50112-1690. E-mail: eckhart@grinnell.edu; FAX: 641-269-4285**. For further information about Grinnell College, please see **website: http://www.grinnell.edu**. *Grinnell College is an Equal Opportunity/Affirmative Action Employer committed to attracting and retaining highly qualified individuals who collectively reflect the diversity of the nation. No applicant shall be discriminated against on the basis of race, national or ethnic origin, age, gender, sexual orientation, marital status, religion, creed, or disability.*

Two **POSTDOCTORAL POSITIONS** available in New Orleans, Louisiana. First position involves the study of glucose-regulated gene expression in T lymphocytes of young and aging individuals. Studies involve (1) analysis of gene expression using real time PCR and (2) analysis of posttranslational modifications of specific transcription factors. **Dr. Donald K. Scott**.

Anticipated opening: Second position involves the study of the cell biology and enzymology of peptide hormone synthesis in neuroendocrine tissues and cell lines. Studies involve (1) production and enzymatic analysis of recombinant mutant prohormone convertase (PC) forms and (2) cell biological studies of PCs and their binding proteins (*J. Cell. Biol.* **139**:625, 1999; *J. Biol. Chem.* **139**:97, 2000). **Dr. Iris Lindberg**.

Independent, motivated individuals with Ph.D.s are encouraged to apply for these positions in established laboratories in New Orleans, an exciting, low-cost-of-living city. Funding secure for at least three years; laboratories are modern and well equipped. Competitive salary with yearly meeting travel. Please send your curriculum vitae with names, e-mail addresses, and telephone numbers of three references. State which position you are interested in to: **Postdoctoral Search, the Department of Biochemistry and Molecular Biology, Louisiana State University Health Sciences Center, 1901 Perdido Street, New Orleans, LA 70112. E-mail: ilindb@lsuhsc.edu** or **e-mail: dscott3@lsuhsc.edu**. *LSUHSC is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Saint Louis University, a Catholic Jesuit Institution dedicated to education, research, and health care, has an NIH-funded Postdoctoral position available to study the physiologic significance of the pharmacologic actions of the prolactin releasing peptides in the brain, at the whole animal, cellular, and molecular levels. Applicants must be willing to work at all three levels of study, and *North American-trained applicants are preferred*. Please send résumé including names and addresses of three potential references to: **Willis K. Samson, Ph.D., Pharmacological/Physical Science, Saint Louis University, 1402 South Grand, St. Louis, MO 63104**. *Saint Louis University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSITIONS OPEN

POSTDOCTORAL RESEARCH FELLOW
Cell Cycle Regulatory Networks in *Drosophila*

NIH-funded Postdoctoral position available immediately to study regulation of cell proliferation during *Drosophila* development. Opportunity to conduct independent research on new members of a cell cycle regulatory network identified as part of an ongoing proteomewide protein interaction-mapping project. Study the function of new cell cycle regulators using peptide aptamer technology developed in the laboratory along with traditional genetic and molecular techniques (e.g., see *PNAS* **95**:14266–14271; *Dev. Biol.* **227**:661–672). This position requires a Ph.D. and research experience working with *Drosophila*. For more information, go to **website: http://www.genetics.wayne.edu/rfinley/lab.html**. Send résumé and arrange to have three letters of recommendation sent to: **Dr. Russ Finley, Center for Molecular Medicine and Genetics, Wayne State University School of Medicine, Detroit, MI 48201 U.S.A. E-mail: rfinley@genetics.wayne.edu**. Wayne State University is a premier institution of higher education offering more than 350 academic programs through 14 schools and colleges to more than 31,000 students in metropolitan Detroit, Michigan. *Wayne State University is an Equal Opportunity/Affirmative Action Employer.*

CELLULAR AND MOLECULAR IMMUNOLOGY GLYCOLIPID BIOCHEMISTRY
Harvard Medical School

POSTDOCTORAL FELLOWSHIP is available at the Brigham and Women's Hospital to study the cellular and molecular mechanisms by which glycolipid antigens and CD1 proteins activate T cells and dendritic cells (*Immunol. Rev.* **172**:285; *Nature* **404**:884). The ideal applicant will have a Ph.D. or M.D. with a background in cellular immunology, bacteriology or lipid chemistry and have a desire to expand skills in these areas. Highly motivated applicants should forward a letter describing research interests and curriculum vitae electronically to: **Branch Moody, M.D., Smith 514, 1 Jimmy Fund Way, Boston, MA 02115. E-mail: bmoody@rics.bwh.harvard.edu**.

POSTDOCTORAL RESEARCH POSITIONS

The Department of Molecular Biology at Princeton University currently has Postdoctoral positions available in the areas of molecular biology, biochemistry, physics, neuroscience, and genetics. Candidates are required to have a Ph.D. or M.D. in related field. Interested applicants should send curriculum vitae, references, and a brief description of research interests to: **Nancy Barthelemy, Department of Molecular Biology, Princeton University, Lewis Thomas Laboratory, Princeton, NJ 08544. FAX: 609-258-3980**. *Princeton University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION to study mechanisms of synaptic plasticity in the development of central sensory pathways. Requires experience with *in vivo* or *in vitro* electrophysiology techniques. Great colleagues, NIH-funded salary, and well-equipped laboratory in the heart of cosmopolitan Atlanta, Georgia. See **website: http://biology.gsu.edu/neuro/index.htm**. Send curriculum vitae and names of three references to: **Sarah L. Pallas, Ph.D., Department of Biology, Georgia State University, P.O. Box 4010, Atlanta, GA 30302. FAX: 404-651-2509; e-mail: spallas@gsu.edu**.

POSTDOCTORAL FELLOW to study heterotrimeric G proteins and the microtubule cytoskeleton. Ph.D. and biochemistry, cell biology, and/or molecular biology experience required. Salary based on experience. For fullest consideration, send curriculum vitae by 1 April 2002 to: **Mark M. Rasenick, Ph.D., Department of Physiology, University of Illinois at Chicago, 835 South Wolcott (M/C 901) Chicago, IL 60612**. *University of Illinois at Chicago is an Affirmative Action/Equal Opportunity Employer.*

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Immunex provides a highly collaborative and resource-rich environment for postdoctoral fellows to follow their research passion for up to three years. Previous fellows have made major contributions to the 1200+ publications authored or co-authored by Immunex scientists. As a fellow, you are given the freedom to choose your Mentors and projects and are encouraged to present your research findings at both internal and external meetings. Overall, the program provides fellows with an excellent foundation for a career in either biotech or academia.

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- Bioinformatics
- Combinatorial chemistry
- Cytokine biology
- Dendritic cell biology
- Genomics
- Inflammation
- Medicinal chemistry
- Molecular biology
- Molecular modeling
- Oncology
- Protein engineering
- Proteases
- Proteomics
- Signal transduction
- Vascular biology
- Viral gene transduction
- Transgenics and gene knock-outs

Fellowship candidates should have a PhD and/or MD and a track record of research accomplishment. Applications should be e-mailed to: postdoc@immunex.com, combining a cover letter and CV in a single attachment file in PDF format (Microsoft Word also acceptable).

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For more information, application guidelines or to apply online, please visit our website. Interested candidates must submit a full CV, including name, address and three references, no later than March 15, 2002. To apply, you may complete an on-line application at **www.genzyme.com/careers**, Requisition ID# 1312. An equal opportunity employer committed to a culturally diverse workforce.

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POSITIONS OPEN

POSTDOCTORAL POSITION
Computational Chemistry
Computer Science and Mathematics Division

The Computer Science and Mathematics (CSM) Division **(website: http://www.csm.ornl.gov/csm-home.html)** at the Oak Ridge National Laboratory (ORNL) invites outstanding candidates to apply for an immediate opening in computational chemistry. The successful applicant will participate in a highly interdisciplinary project on the development of advanced software tools for the automatic synthesis of high-performance algorithms for applications such as correlated electronic structure methods. This position offers an opportunity to interact with a broad range of research activities at a world-class laboratory for computational science including the Center for Computational Sciences (CCS), which hosts one of the largest unclassified computing capabilities in the world. Position requires a Ph.D. in chemistry or closely related field, experience in the implementation of correlated electronic structure methods, and a desire to work closely with Computer Scientists and other Computational Scientists. Applicants with experience in parallel computing or the NWChem package are especially encouraged. A strong background in scientific publications is also encouraged. Initial appointment is for one year.

For consideration, please submit curriculum vitae and cover letter including a description of research interests, chemistry software packages used, and software development experience to: **David Bernholdt, Computational Chemistry, Computer Science and Mathematics Division, Oak Ridge National Laboratory, P.O. Box 2008, Oak Ridge, TN 37831-6367. E-mail: bernholdtde@ornl.gov**. Please reference Project Number ORNL02-14-CSMD when applying for this position.

This appointment will be offered through the ORNL Postdoctoral Research Associates Program **(website: http://www.orau.gov/orise/edu/postgrad/ornlpdoc.htm)**, which is administered by the Oak Ridge Institute for Science and Education (ORISE). Further information regarding this program as well as visa and clearance requirements can be found under the "Appointment Information" link at this website. *The program is open to all qualified United States and non-U.S. citizens without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.*

ORNL, a multiprogram research facility managed by UT-Battelle, LLC, for the U.S. Department of Energy, is an Equal Opportunity Employer committed to building and maintaining a diverse work force.

Two NIH-funded **POSTDOCTORAL POSITIONS** available in the Tykeson Multiple Sclerosis Research Laboratory for recent Ph.Ds. Projects include (1) structure/function studies of MHC-derived recombinant TCR ligands (RTLs) using circular dichroism and surface plasmon resonance (SPR/Biacore), (2) solution phase binding studies of MHC-derived molecules and recombinant TCRs, and (3) mechanistic studies with the goal of understanding and controlling T lymphocyte activation at the molecular level. (*JBC* **276:**24170, 2001; *J. Immunol.* **167:** 4386, 2001; **164:**3924, 2001; *Protein Engineering* **12:** 771, 1999). Previous experience with SPR or CD required. Previous experience with heterologous protein expression in bacteria highly desirable. Excellent opportunities for collaborative studies with Crystallographers, Physical Biochemists, and Cellular Immunologists. Send curriculum vitae and names of three references to: **Dr. Gregory G. Burrows, Oregon Health and Science University, L-219, Portland, OR 97201. E-mail: ggb@ohsu.edu**.

POSTDOCTORAL POSITIONS available to study the p53 tumor suppressor MDM2 and MDMX in the excellent environment of H. Lee Moffitt Comprehensive Cancer Center. Ph.D. degree and strong background in molecular biology or biochemistry are required. Salary will be commensurate with experience and performance. Please send curriculum vitae to: **Dr. Jiandong Chen, MRC3057A, 12902 Magnolia Drive, Tampa, FL 33612 U.S.A. E-mail: jchen@moffitt.usf.edu**.

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIPS

NIH-funded neurovirology-molecular biology training program at the University of Colorado Health Sciences Center (UCHSC) offers Postdoctoral Fellowships in the laboratories of: **Jeffrey Bennett**: neurotrophins and eye development. **Randall Cohrs** and **Donald Gilden**: molecular mechanisms of herpes virus latency in human ganglia. **Kathryn Holmes**: molecular pathogenesis of coronavirus infection. **Ravi Mahalingam**: animal model of VZV latency. **Donald Gilden, Gregory Owens**, and **Mark Burgoon**: identification of an antigen in multiple sclerosis. **David Patterson**: chromosomal abnormalities and neurodegenerative diseases. **Jerome Schaack**: virus transcription. **Roderic Smith**: modification of neuronal excitation by viral-mediated gene transfer. **Kenneth Tyler**: virus-induced apoptosis in the nervous system. For more information, please contact: **Dr. Donald Gilden, Professor and Chairman, Department of Neurology, Number B182, UCHSC, 4200 East Ninth Avenue, Denver, CO 80262. Telephone: 303-315-8281; FAX: 303-315-8720; e-mail: don.gilden@uchsc.edu**. *Applicants must be U.S. citizens or hold a permanent resident alien card. UCHSC is an Equal Opportunity/Affirmative Action Employer.*

PLANT-HERBIVORE/NATURAL ENEMIES INTERACTIONS

POSTDOCTORAL POSITION is available at Bucknell University **(website: http://www.bucknell.edu/)** Department of Biology, Lewisburg, Pennsylvania, starting summer 2002 to study the interactions of goldenrods or oaks, their gall-inducing insects, and natural enemies. Areas of interest include host-race formation and speciation, host-plant resistance and 2° plant chemistry, herbivore impacts on hosts, population regulation, and genetics. Fellow will offer one seminar course each academic year; candidates should address their interests in developing as a teacher and scholar. Applicant review begins 15 March 2002 and continues until the multiyear position is filled. Ph.D. required. Send curriculum vitae, a statement of research and teaching interests, and have three references sent to: **Dr. Warren Abrahamson, 1706 North Lakeview Lane, Flagstaff, AZ 86004. E-mail: abrahmsn@bucknell.edu; Telephone: 928-714-9662; website: http://www.facstaff.bucknell.edu/abrahmsn/**.

Bucknell University encourages applications from women and members of minority groups. Equal Employment Opportunity/Affirmative Action.

NIH-funded **POSTDOCTORAL POSITIONS** available for recent graduates to study molecular, cellular, and genetic mechanisms underlying epilepsy, mental retardation, and anxiety/anxietylike conditions by using transgenic animal models. Strong background in molecular and/or cellular biology is highly desirable. More information about the laboratory can be obtained by visiting our **website: http://www-users.med.cornell.edu/~mtoth/main.html**. Interested individuals should send curriculum vitae and contact information for three references to: **Dr. M. Toth, Room LC-522, Program in Neuroscience and Program in Pharmacology, Weill Medical College of Cornell University, 1300 York Avenue, New York, NY 10021**. *Equal Employment Opportunity/Affirmative Action/Minorities/Females/Disabled/Veterans.*

POSTDOCTORAL POSITION/RESEARCH ASSOCIATE/RESEARCH ASSISTANT PROFESSOR in NIH-funded laboratory studying rheumatoid arthritis: (1) gene therapy and (2) angiogenesis, cell adhesion, and cytokines (*Nature* **376:**517; *Science* **258:**1798; *J. Clin. Invest.* **101:**746). Experience with adenoviral vectors, immunoassays, angiogenesis and cell adhesion assays, arthritis animal models, gene knockout mice, signaling, and molecular biology desirable. Send curriculum vitae and three reference names to: **Dr. Alisa Koch, Northwestern University Medical School, Ward 3-315, 303 East Chicago Avenue, Chicago, IL 60611. FAX: 312-503-0994; e-mail: ae-koch@northwestern.edu**.

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIPS IN NEUROENDOCRINOLOGY
Three Positions

(22UC3142,43,44) The University of Cincinnati College of Medicine is seeking individuals with an interest in the neuroendocrinology of homeostasis. We are seeking postdoctoral fellows for a recently awarded NIH training grant that focuses on energy balance, obesity, reproduction, and stress. This training grant is part of targeted institutional growth in neuroendocrinology and involves a number of successful, highly interactive Investigators. The neuroendocrine environment at the University of Cincinnati is marked by highly collaborative research programs and state-of-the-art research initiatives including transgenic genomics and proteomics facilities. Training is available in molecular biology, neuroanatomy, and physiological/behavioral analysis. Applications will be evaluated on a rolling basis but we expect to make awards prior to April 1, 2002. Further information can be found at **website: http://psychiatry.uc.edu/traininggrant**. Questions can be directed to: **Dr. Randy Seeley; e-mail: randy.seeley@uc.edu; Telephone: 513-558-6664**. *The University of Cincinnati is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS
Reproductive Biology

Two NIH-supported Postdoctoral Positions are available to study (1) the cellular and molecular mechanisms associated with the process of implantation in primates and (2) mechanisms associated with the establishment and development of endometriosis in a nonhuman primate model. Preference will be given to candidates with expertise in reproductive or developmental biology with emphasis on biochemical and molecular regulation of cell function. In addition, a strong background in signal transduction associated with metabolic processes is highly desirable. The reproductive biology program at the University of Illinois is multidisciplinary and candidates will interact closely with both Basic and Clinical Scientists. Submit curriculum vitae and contact information for three references to: **Dr. Asgi T. Fazleabas, Department of Obstetrics and Gynecology, M/C 808, University of Illinois at Chicago, 820 South Wood Street, Chicago, IL 60612. FAX: 312-996-4238; e-mail: asgi@uic.edu**. *UIC is an Equal Opportunity Employer.*

POSTDOCTORAL FELLOWSHIP
W.M. Keck Center for Transgene Research
The University of Notre Dame

Applications are invited for a Postdoctoral Fellowship position available in a multidisciplinary research group to develop and characterize deficiencies of hemostatic and related factors in gene knockout mice. The successful candidate would have a Ph.D. and/or M.D. and demonstrate a strong background in biochemistry, molecular biology, cell biology, animal physiology, or related fields.

Interested candidates should send curriculum vitae, a statement of research goals, and three letters of recommendation to:

Melanie E. DeFord
Assistant Director
W.M. Keck Center for Transgene Research
University of Notre Dame
Notre Dame, IN 46556

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POSTDOCTORAL POSITION available immediately in structure/function studies of proteins involved in transient handling and reduction of metal ions. Chemistry and protein experience ideal. Interest in rapid reaction kinetics essential. Please send curriculum vitae and contact information for three references to: **Dr. Susan Miller, Department of Pharmaceutical Chemistry, University of California, San Francisco, CA 94143-0446. E-mail: smiller@cgl.ucsf.edu**. *UCSF is an Affirmative Action/Equal Opportunity Employer.*

University of California
San Francisco

UCSF

Comprehensive
Cancer Center

Research Fellowships in Prostate Cancer

The NCI-designated UCSF Comprehensive Cancer Center is dedicated to the discovery and evolution of new ideas and information about cancer, from the research to the clinical implementation phases of cancer control. The Prostate Cancer Center will have openings in its research fellowship program for July 2002. The fellowship provides research training opportunities for medical, urological, and radiation oncologists, as well as recent graduates of PhD programs. Funding is provided for two years.

Participating scientists include:

Tumor Immunology and Immunotherapy
James Allison, PhD
James Marks, PhD, MD

Clinical Trials in Cellular and Humoral Immunotherapy
Eric Small, MD

Experimental Therapeutics
Elizabeth Blackburn, PhD
Frank McCormick, PhD, FRCP
Kip Guy, PhD
Jon Ellman, PhD

Imaging Technology
Magnetic Resonance Imaging and Spectroscopy
John Kurhanewicz, PhD
Daniel Vigneron, PhD

Positron Emission Tomography
Henry van Brocklin, PhD

Nuclear Hormone Receptors
Keith Yamamoto, PhD
Robert Fletterick, PhD

Cancer Genetics
Allan Balmain, PhD
Colin Collins, PhD
Thea Tlsty, PhD

Informatics
Ajay Jain, PhD

Invasion and Metastasis
Charles Craik, PhD
Marc Shuman, MD
Zena Werb, PhD

Animal Models
Gerald Cunha, PhD

Gene Expression
Chris Haqq, MD, PhD

Epidemiology
June Chan, ScD

Outcomes Research
Peter Carroll, MD
Gary Grossfeld, MD
Deborah Lubeck, PhD
Mack Roach, III, MD

Postdoctoral applicants should have a PhD and/or MD and experience in one of the areas mentioned above; salaries range from $30,000 to $50,000 depending on experience.

For information on the UCSF Comprehensive Cancer Center, visit **http://cc.ucsf.edu.**

Interested applicants should submit a curriculum vitae, brief statement of research interest, and names of references to: **UCSF Prostate Cancer Center; Cynthia Ashe, Principal Administrative Analyst; 1600 Divisadero Street, C451, Box 1695; San Francisco, CA 94143-1695.**

The University of California, San Francisco is an Equal Opportunity Employer.

DEPARTMENT OF MOLECULAR MICROBIOLOGY AND IMMUNOLOGY POST-DOCTORAL POSITIONS

The Department of Molecular Microbiology and Immunology at Brown University is internationally recognized for its combined expertise in studying host-pathogen interactions that regulate the balance between infection and resistance. We currently have several post-doctoral positions in Immunology and Virology.

Christine A. Biron, Ph.D., Chair: Positions are available for individuals interested in cytokines and innate immune responses to viral infections. Previous experience in immunology, virology, biochemistry, or molecular biology required.

Walter J. Atwood, Ph.D.: Two post-doctoral positions to investigate interactions between the human neurotropic virus, JCV, and host cell receptors. The major focus of our work is studying early events that mediate infection of cells by JCV. These early events include but are not limited to studies of virus-host cell receptor interactions, endocytic trafficking of virus from the plasma membrane to the nucleus, and virus induced membrane signaling.

Laurent Brossay, Ph.D.: A post-doctoral position to investigate the role of NK receptors during pathogenic or non-pathogenic activation of NK cells and regulation of NK T cell functions by activating and inhibitory receptors.

George S. Yap, Ph.D.: A post-doctoral position available to study Type I immunity to the intracellular parasite, Toxoplasma gondii. Our laboratory focuses on understanding the genetic regulation of cytokine and T cell responses to infection.

Send *curriculum vitae*, three letters of recommendation, and recent reprints to:

Ms. Amanda Buckley
Box G-B6
Brown University
Providence, RI 02912

Brown University is an Equal Opportunity/Affirmative Action Employer.

Postdoctoral Research Opportunities
Mycobacterium tuberculosis Post-Genomic Research Laboratory of Human Bacterial Pathogenesis
Rocky Mountain Laboratories

Postdoctoral positions are available immediately to study several aspects of *Mycobacterium tuberculosis* pathogenesis and population genetics. The following areas are being investigated with genomic and post-genomic approaches: (1) molecular pathogenesis, with special attention focused on infections in humans; (2) molecular population genetics of host and infection specificity using high-throughput single nucleotide polymorphism (SNP) analysis, and (3) host genetics of susceptibility to infection.

The Laboratory of Human Bacterial Pathogenesis contains state-of-the-art research facilities for genomics and post-genomics investigations, including high-throughput sequencing and SNP analysis, DNA microarray analysis (pathogen and host), and proteomics. A new biosafety level 3 laboratory and animal care facility (including non-human primates) are also available. RML is located in the scenic Bitterroot River Valley in western Montana. There is ready access to a full array of outdoor recreational opportunities, including hiking, skiing, and fishing. Stipends are in the range of $31,000-$42,000.

Send a curriculum vitae, reprints, brief statement of career goals, and names, addresses, telephone numbers, and e-mail addresses of three references to:

James M. Musser, M.D., Ph.D. Laboratory Chief
Rocky Mountain Laboratories, NIAID, NIH
Laboratory of Human Bacterial Pathogenesis
903 South 4th Street
Hamilton, MT 59840
E-mail: jmusser@niaid.nih.gov

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POSITIONS OPEN

TWO POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS
Virginia Mason Research Center
Seattle, Washington

Position available for an ambitious Scientist interested in (1) molecular control of the cell cycle in T lymphocytes or (2) the immune response to breast and ovarian cancer. See **website: http://www.vmresearch.org/research_nelson.htm** for more information.

Position available to study the role of Scurfin, product of the FoxP3 gene, in T cell activation. The FoxP3 gene is mutated in scurfy mice and in human patients with IPEX syndrome. The product of the FoxP3 gene, Scurfin, is a member of the forkhead/winged-helix family of transcriptional regulators. The project involves the use of *in vivo* and *in vitro* systems to study Scurfin function in T cell activation. Experience in working with mice and primary lymphocytes advantageous. See **website: http://www.vmresearch.org/research_ziegler.htm** for more information.

Please apply separately for each by sending curriculum vitae and letters of recommendation to:

Human Resources
Virginia Mason Research Center
1201 Ninth Avenue, Seattle, WA 98101
E-mail: jobs@vmresearch.org
Website: http://www.vmresearch.org

Equal Opportunity Employer/Affirmative Action.

RESEARCH ASSISTANT OR FELLOW

We are seeking a Research Assistant or Fellow in medical physics, biophysics, or bioengineering for a position on a multidisciplinary project involving imaged-based analysis of therapeutic agents within the brain. This translational research will be initiated in appropriate small animal models with the intention of ultimately applying this methodology in brain tumor patients. This work will involve high-resolution small animal imaging including magnetic resonance imaging (MRI) and positron emission tomography (microPET™). The successful candidate should therefore have a broad background that includes training and experience in physics and imaging as well as biology, particularly physiology and/or pharmacology. Experience with MRI and/or PET as well as small animal experimentation is preferred. Computer literacy and a working knowledge of pharmacokinetic analysis/compartmental modeling are essential. Please respond to: **Mark M. Souweidane, M.D., Associate Professor of Neurological Surgery, Weill Medical College of Cornell University, e-mail: mmsouwei@med.cornell.edu**.

CAREER IN OPTOMETRY, OPTOMETRIC RESEARCH, OR TEACHING

The New England College of Optometry offers a unique program for those with a Doctorate in the sciences: biology, chemistry, physics, psychology, etc. Candidates have the opportunity to obtain the Doctor of Optometry (O.D.) degree in 27 months. The program begins annually in June. Employment opportunities exist in clinical practice, industry, optometric faculty positions, and research. Contact: **Admissions Office, Department S, 424 Beacon Street, Boston, MA 02115. Telephone: 1-800-824-5526; e-mail: admissio@ne-optometry.edu; website: http://www.ne-optometry.edu**. Application deadline: March 1, 2002.

POSTDOCTORAL FELLOWSHIP is available for one year beginning March 1, 2002. Applications from individuals with a Ph.D. and expertise in biochemistry and molecular biology are invited. Review of packets will begin February 22, 2002, and continue until a successful candidate has been identified. Please send curriculum vitae and statement of research interests along with a list of three references to: **Dr. Marie Wooten, 331 Funchess Hall, Auburn University, Auburn, AL 36849. E-mail: wootemw@mail.auburn.edu**. *Auburn University is an Equal Opportunity/Affirmative Action Employer. Women and ethnic minorities are encouraged to apply.*

POSITIONS OPEN

KANSAS STATE UNIVERSITY DIVISION OF BIOLOGY

Two **POSTDOCTORAL POSITIONS** are available to investigate mechanisms of baculovirus gene regulation. This NIH-funded project includes structural analysis of a novel viral RNA polymerase and the characterization of genes involved in virus-host interactions. Applicants should have a Ph.D. and strong background in molecular biology, preferably with experience in protein biochemistry. Kansas State University is located in the scenic Flint Hills of Kansas in a pleasant college community offering diverse cultural and recreational opportunities. Submit curriculum vitae, a brief overview of prior experience and interests, and names and contact information for three references to: **Dr. A. Lorena Passarelli, Kansas State University, Division of Biology, 232 Ackert Hall, Manhattan, KS 66506. E-mail: lpassar@ksu.edu**. Review of applications will begin February 18, 2002, and will continue until the positions are filled.

KSU is an Equal Opportunity Employer and highly encourages diversity among its employees.

Three **POSTDOCTORAL POSITIONS** are available at Georgia Tech to study lateral gene transfer, plasmid ecology, and marine microbial diversity (**Sobecky** laboratory: **website: http://www.biology.gatech.edu/sobecky.html**) or the molecular mechanism of bacterial metal respiration (**DiChristina** laboratory; **website: http://www.biology.gatech.edu/dichristina.html**). Applicants should have a Ph.D. in microbial genetics, microbiology, biochemistry, or molecular biology. Send curriculum vitae and statement of interest with contact information for three references to: **Dr. Patty Sobecky (e-mail: patricia.sobecky@biology.gatech.edu)** or **Dr. Thomas DiChristina (e-mail: thomas.dichristina@biology.gatech.edu), School of Biology, Georgia Institute of Technology, Atlanta, GA 30332**. *Georgia Tech is an Equal Opportunity Employer.*

Two **POSTDOCTORAL POSITIONS** are available at the University of Central Florida to study the structure and function of membrane proteins. One position requires expertise in plasmid construction, gene cloning, mutagenesis, and protein engineering. The other position requires interest in studying membrane proteins by FTIR, circular dichroism, and fluorescence spectroscopy. Please send curriculum vitae to: **S. A. Tatulian, CD3, University of Central Florida, 12722 Research Parkway, Orlando, FL 32826. FAX: 407-384-2816; e-mail: statulia@mail.ucf.edu**.

The University of Central Florida is an Equal Opportunity/Affirmative Action Employer. Application materials (including transcripts) are public documents available for review upon request.

POSTDOCTORAL FELLOWSHIPS AVAILABLE

Two Postdoctoral Fellowships are immediately available for those interested in studying the tumor suppressor genes and oncogenes involved in premaligant lesions and transformation of human breast and ovarian cancer. Candidates must have a strong background in cancer molecular biology. Send your curriculum vitae and the names and telephone numbers of three professional references to: **Jinsong Liu, M.D., Ph.D., Department of Pathology, Box 85, The University of Texas M.D. Anderson Cancer Center, 1515 Holcombe, Houston, TX 77030-4095. Telephone: 713-745-1102; FAX: 713-792-5529; e-mail: jliu@mdacc.tmc.edu**.

Lymphocyte and macrophage signaling: **POSTDOCTORAL** positions to study mechanism/function of tyrosine kinase- and G protein-mediated ionic signaling in lymphocytes and macrophages. Molecular physiology/immunology laboratory has state-of-the-art instrumentation to conduct patch clamp, confocal imaging, and molecular immunology. Top salary for all levels. Particular interest in individuals with patch clamp or imaging experience. Send résumé and three references to: **Dr. Bruce Freedman, University of Pennsylvania; e-mail: bruce@vet.upenn.edu**.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATES

NIH-funded program project to characterize a novel neuronal receptor during aging. The molecular structure and ion channel properties of cloned glutamate/NMDA receptors will be investigated. Laboratory is equipped with patch clamp recording instrumentation and calcium ion fluorescence imaging as well as all modern molecular biology instrumentation. Required: Ph.D. in life sciences and/or M.D. experience in electrophysiology. For information, contact: **Elias K. Michaelis, M.D., Ph.D.; e-mail: emichaelis@ku.edu**. To apply, send letter of application, curriculum vitae, and contact information for three references to the address below.

Position available to study cardiac signal transduction at a molecular and cellular level using wild-type- and β-adrenoceptor knockout mice models. Required: extensive experience in the areas of G protein-coupled receptors, G proteins, molecular biology, and cell culture. For information contact: **Roland J. Seifert, Ph.D.; e-mail: rseifert@ukans.edu**. To apply, send letter of application, curriculum vitae, and two letters of reference to the address below.

Send application materials to: **Lanaea Heine, University of Kansas, Higuchi Biosciences Center, 2099 Constant Avenue, Lawrence, KS 66047. E-mail: lheine@ku.edu**.

POSTDOCTORAL RESEARCHER (MOLECULAR BIOLOGIST)
Comparative Biomedical Sciences
Louisiana State University

We are seeking highly motivated and independent individuals to carry out research in the fields of invasion and metastasis and molecular biology of cancer. Required qualifications: Ph.D. or equivalent degree in molecular biology, biochemistry, cell biology, or related field; experience in molecular and cellular biology. Additional qualifications desired: experience with nude/transgenic mice. For a full description of scientific projects, visit **website: http://www.vetmed.lsu.edu/van/cbs-update/marchetti.htm**. Application deadline is April 1, 2002, or until candidate is selected. Send curriculum vitae, references, and a cover letter explaining how you meet or exceed the position requirements to: **Dr. Dario Marchetti, Associate Professor, Department of Comparative Biomedical Sciences, School of Veterinary Medicine, Skip Bertman Drive, Louisiana State University, Reference Log Number 0726, Baton Rouge, LA 70803. Telephone: 225-578-9897; FAX: 225-578-9769; e-mail: dmarchetti@vetmed.lsu.edu**. *LSU is an Equal Opportunity/Equal Access Employer.*

Saint Louis University, a Catholic, Jesuit Institution dedicated to education, research and health care, is seeking applicants for a **POSTDOCTORAL POSITION** available in the medical biochemistry laboratory of the Department of Internal Medicine at Saint Louis University School of Medicine. The successful candidate will study the biochemistry of the feeding processes of malaria parasites including the effects of antimalarial drugs on the vesicular uptake and processing of hemoglobin. Applicants should have recently earned a Ph.D. in biochemistry, microbiology, cell biology, or related field. E-mail curriculum vitae and three references to: **Coy D. Fitch, M.D.; e-mail: fitchcd@slu.edu**. *Saint Louis University is a Affirmative Action/Equal Opportunity Employer and encourages nominations of and applications of women and minorities.*

POSTDOCTORAL RESEARCH ASSOCIATE position to conduct porcine fine-mapping studies is available in the Animal Science Department at the University of Nebraska, Lincoln. Qualifications are a Ph.D. degree in animal genetics, statistics, or related field. Screening of applicants will begin on March 1, 2002. Contact: **Dr. Rodger Johnson; e-mail: rjohnson5@unl.edu** for additional information. *The University of Nebraska is committed to a pluralistic campus community through Affirmative Action and Equal Opportunity. We assure reasonable accommodation under the Americans With Disabilities Act. Contact Dr. Johnson at Telephone: 402-472-6404 for assistance.*

NATIONAL CANCER INSTITUTE

Be an NCI Cancer Prevention Fellow

THE NATIONAL CANCER INSTITUTE (NCI) sponsors the Cancer Prevention Fellowship Program (CPFP). Its purpose is to train individuals from a multiplicity of health professions and biomedical science disciplines to become leaders in the field of cancer prevention and control.

What will I get out of the program?

- Master of Public Health degree
- NCI Summer Curriculum in Cancer Prevention
- Mentored research opportunities at the NCI
- Professional development and leadership training

What areas of cancer prevention research are available?

- Chemoprevention
- Clinical/Translational Research
- Early Detection/Biomarkers
- Epidemiology
- Ethics and Evidence-Based Decisionmaking
- Intervention Studies
- Laboratory-Based Research
- Primary Prevention
- Social and Behavioral Research
- Statistical Methodology

Am I eligible?

You must have a doctorate degree (M.D., D.D.S., D.O., J.D., Ph.D. or equivalent). Foreign education must be comparable to that received in the United States.

You must also be either a citizen of the U.S. or a resident alien eligible for citizenship within 4 years at the time of application (September 1).

How long is the program?

Fellows are accepted for up to 5 years of training beginning in July. The typical duration is 3 years (year 1: M.P.H.; years 2-3: NCI Summer Curriculum and mentored research).

When are applications due?

Applications are due September 1, 2002, for entry into the program July 1, 2003.

How do I apply?

To receive a catalog, contact:*
Douglas L. Weed, M.D., M.P.H., Ph.D.
Director, Cancer Prevention Fellowship Program
National Cancer Institute
6130 Executive Boulevard (EPN)
Suite 3109, MSC 7361
Bethesda, MD 20892-7361

* Please provide home address and where you heard about the program.

Further inquiries:
Mrs. Barbara Redding
Phone (301) 496-8640
Fax (301) 402-4863
E-mail br24v@nih.gov

For more information visit our Web site at:
http://cancer.gov/prevention/pob/
or
http://resresources.nci.nih.gov/links.cfm

Selection for these positions will be based solely on merit, with no discrimination for non-merit reasons, such as race, color, gender, national origin, age, religion, sexual orientation or physical or mental disability. NIH provides reasonable accommodations to applicants with disabilities. If you need reasonable accommodation during any part of the application and hiring process, please notify us. The decision on granting reasonable accommodation will be handled on a case-by-case basis.

THE NATIONAL CANCER INSTITUTE IS AN EQUAL OPPORTUNITY EMPLOYER.

POSTDOCTORAL RESEARCH POSITION NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

A postdoctoral position is available in Spring 2002, for studies on rotaviruses, agents with segmented double-stranded RNA genomes that are the primary cause of acute diarrhea in infants and young children. Possible research areas include elucidating the role of viral proteins in modulating acute antiviral responses such as interferon induction and PKR activation, identifying cis-acting elements in the non-polyadenylated viral mRNAs that affect translational efficiency, and describing the role of viral proteins in genome packaging and replication. Applicants should have a strong background in molecular virology, immunology, or protein chemistry and hold a Ph.D. or M.D. degree. Salary begins at $31,000 and increases depending on experience. Please send curriculum vitae and the names of three references to:

Dr. John T. Patton, Senior Scientist
Laboratory of Infectious Diseases, NIAID, NIH
Building 7, Room 117, MSC 0720
Bethesda, MD 20892
FAX: (301) 496-8312
e-mail: jpatton@niaid.nih.gov

NIH is an Equal Opportunity Employer.

Isis Pharmaceuticals, Inc., is a leading genomics-based drug discovery and development company that is focused on RNA. Our goal is to create important new drug discovery technology platforms that will improve the productivity of the pharmaceutical industry, and will enable our discovery and development of important new drugs to treat disease and improve the lives of patients. We have integrated our expertise to create two exciting technologies, Antisense and Ibis Therapeutics, a robust pipeline of drugs in development and genomics services (GeneTrove™). We are currently seeking the following professionals to join our team:

Senior Scientist/Scientist Medicinal Chemistry

We are looking for a highly talented and motivated synthetic organic chemist to participate in the design and synthesis of molecules directed towards development of antisense agents. The desired candidate should possess a Ph.D. with 1-3 yrs or MS degree with 3-5 yrs of academic or industrial experience in synthetic organic/medicinal chemistry. The ideal candidate will have extensive experience with multi-step organic synthesis, chromatographic purification techniques and spectroscopic characterization of compounds. The candidate should be able to perform creative and independent research and should be able to work on multiple projects as part of cross-functional discovery team. Excellent written and verbal communication is essential. Experience in nucleoside, nucleotide synthesis is desirable. Experience with peptide synthesis and conformation also a plus. The preferred candidate should have demonstrated record of creativity and significant research accomplishments. Please reference job code 670-BB in all correspondence.

Toxicology - Post Doctoral Fellow

We are seeking a post doc to investigate mechanisms of toxicity of antisense oligonucleotides. Candidate will use latest techniques in molecular toxicology to characterize ancillary effects of oligonucleotides and identify molecular mechanisms. Requires strong background in toxicology, molecular pathology, or pharmacology. Experience with array technology is highly desirable. This position represents an opportunity to do academic style research in an industrial environment. Please reference job code 693-AL in all correspondence.

Please send resumes to: **Isis Pharmaceuticals, (Reference Code), 2292 Faraday Ave., Carlsbad, CA 92008; Fax: (760) 603-2700; E-mail: resume@isisph.com**. Principals only. No phone calls please. *EOE.*

ISIS™ PHARMACEUTICALS

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POSITIONS OPEN

NIH-funded **POSTDOCTORAL POSITION** available to study the role of the transcription factor gene, Brn4/Pou3f4, during inner ear development. Mutations in the human ortholog of this gene, POU3F4, constitute the highest incidence of X-linked congenital deafness in humans. We are using mouse genetic techniques including transgenic/knockout mouse technologies (*J. Neurosci.* **19**:5980–5989, 1999; *Hum. Mol. Gen.* **9**:79–85, 2000; **website: http://www.uphs.upenn.edu/ins/faculty/crenshaw.htm**) to characterize the developmental role of Brn4. The successful applicant will have a Ph.D. or M.D. and research experience in inner ear biology, molecular biology, genetics, or development. Applicants should e-mail a letter of interest, curriculum vitae, and arrange for three letters of recommendation to be sent to: **E. Bryan Crenshaw III, Ph.D., Department of Neuroscience, University of Pennsylvania School of Medicine, 145 Johnson Pavilion, Philadelphia, PA 19104-6074. E-mail: crenshab@mail.med.upenn.edu**. *The University of Pennsylvania is an Equal Opportunity Employer and strongly encourages applications from women and minorities.*

POSTDOCTORAL POSITION
Immunologist/Microbiologist

Training in immunology/microbiology required to study immune responses to Group B streptococcal vaccines. Send curriculum vitae to: **Dr. L. Paoletti, 181 Longwood Avenue, Channing Laboratory, Harvard Medical School, Brigham and Women's Hospital, Boston, MA 02115. Telephone: 617-525-2678; FAX: 617-525-2682; e-mail: lpaoletti@channing.harvard.edu**. *We are an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW. An established laboratory is seeking a motivated Ph.D. or M.D. to study the differentiation of mouse and human embryonic stem cells to hepatocytes. Interested candidates should submit updated curriculum vitae and bibliography plus three letters of recommendation to: **Dr. Savio L.C. Woo, One Gustave L. Levy Place, Box 1496, New York, NY 10029. FAX: 212-849-2572; e-mail: savio.woo@mssm.edu**.

POSTDOCTORAL POSITION is available immediately to study the molecular pathway of receptor-mediated apoptosis (*JBC* **276**:3361, 2001; **JBC**, in press, available online, 2002) at the Guthrie Research Institute (**website: http://www.guthrie.org/research**). Strong background in molecular biology and/or protein chemistry is essential. Send application with two letters of reference to: **Dr. Nan-Shan Chang, Guthrie Research Institute, 1 Guthrie Square, Sayre, PA 18840. FAX: 570-882-4643; e-mail: nschang@inet.guthrie.org**.

MOLECULAR TOXICOLOGY/PHARMACOLOGY. An NIEHS-supported **POSTDOCTORAL OPPORTUNITY** is immediately available at the University of South Florida. The research focus is on the molecular biology of the Ah receptor signal transduction pathway. Expertise in the area of cell culture, DNA cloning, and protein expression is necessary and expertise in the area of transgenic animals is desirable. Submit curriculum vitae and e-mail addresses of three references to: **Dr. Rick Pollenz; e-mail: pollenz@chuma1.cas.usf.edu**.

POSTDOCTORAL POSITION available immediately in the area of the transcriptional control of rRNA metabolism-related genes (see *MCB* **21**:8638, 2001). Applicants will work with Affymetrix microarrays and must have experience in molecular biology and computing. Competitive salary/fringe benefits. Send curriculum vitae with three reference letters to: **Dr. Michael A. McAlear, Integrated Genomic Sciences, Wesleyan University, Middletown, CT 06459-0175. E-mail: mmcalear@wesleyan.edu**.

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIPS
The Sloan-Swartz Center for Theoretical Neurobiology
California Institute of Technology

Postdoctoral Fellowships are available from the Sloan-Swartz Center for Theoretical Neurobiology at Caltech, which promotes integration of theoretical and experimental work in neurobiology. Applicants must have a background in physics, mathematics, engineering, computer science, or similar theoretical disciplines and wish to do research in theoretical neurobiology by working in experimental neurobiology laboratories. Typically, a Sloan-Swartz Fellow works closely with two sponsors from the Caltech faculty participating in the Sloan-Swartz Center, one from a theory laboratory and one from an experimental laboratory. Theoretical faculty include **Abu-Mostafa, Barr, Bruck, Koch, Perona,** and **Psaltis**. Experimental faculty include **Allman, Andersen, Fraser, Kennedy, Konishi, Laurent, Lester, Pine, Schuman,** and **Shimojo**. Please submit curriculum vitae, two or three letters of recommendation, and a brief research proposal or description of research interest. Please send applications or requests for more information to: **Richard Andersen, Division of Biology, MC 216-76, California Institute of Technology, Pasadena, CA 91125 U.S.A. E-mail: cierina@vis.caltech.edu**. Application deadline is April 1, 2002.

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

POSTDOCTORAL POSITION available immediately to study the role of complement receptors (CD21 and CD35) in autoimmunity and tolerance, using both mouse and human systems (see *Immunity* **15**:775, 2001). The training environment benefits from strong collaborative arrangements within the combined immunology program at the University of Colorado Health Sciences Center, the Barbara Davis Center for Diabetes, and the National Jewish Center for Immunology. A strong background in biochemistry or cellular immunology is required. Please send curriculum vitae, a brief statement of research interests, and the names of three references to: **Dr. Susan A. Boackle, Department of Medicine, Box B–115, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Denver, CO 80262. E-mail: susan.boackle@uchsc.edu**. *An Equal Opportunity Employer.*

Concordia University, Seward, Nebraska, seeks nominations and applications for the Department of Biological Sciences. This **FULL-TIME INSTRUCTIONAL POSITION** may include the following areas: human anatomy, physiology, microbiology, molecular biology, general biology, and related areas.

This position requires a commitment to the mission of Concordia University, Seward, Nebraska, and to the Lutheran Church-Missouri Synod. Nominations and applications may be sent to: **Sandy Shaw, Concordia University, 800 North Columbia Avenue, Seward, NE 68434. FAX: 402-643-4073; e-mail: sshaw@seward.cune.edu**.

Clinical Research Management, Inc. requires a full-time **POSTDOCTORAL FELLOW** and a **TECHNOLOGIST** for vaccine process development at the Walter Reed Army Institute of Research in Silver Spring, Maryland. Candidates must have a strong command of the basic concepts in microbiology and biochemistry. Candidate must have experience in protein purification and characterization, microbiological techniques, fermentation, laboratory organizational, and data presentation skills. Please send résumés to **FAX: 800-538-1420** or **e-mail: crmjobs@aol.com**.

POSITIONS OPEN

POSTGRADUATE RESEARCHERS
DEPARTMENT OF NEUROBIOLOGY AND BEHAVIOR
University of California, Irvine

Postdoctoral positions are periodically available in the Department of Neurobiology and Behavior at the University of California, Irvine. These positions are for one or two years under the sponsorship of the following faculty members: **D. Aswad**, neurochemistry and molecular neurobiology; **L. Cahill**, brain mechanisms of emotion and memory; **T. Carew**, cellular and molecular mechanisms of memory; **C. Cotman**, brain aging, Alzheimer's, cell biology, biochemistry; **R. Frostig**, functional organization of cortex; **C. Gall**, regulation of neuronal gene expression; **R. Josephson**, design of skeletal muscle; **C. Kawas**, epidemiological studies of risk factors for AD, neuropsychology of AD, clinical-pathological correlation studies of late-life dementing disorders; **H. Killackey**, developmental neuroanatomy; **F. LaFerla**, Alzheimer's neural apoptosis, transgenic animal modeling; **M. Leon**, brain development; **J. Marshall**, neuropharmacological approaches to behavioral analysis; **J. McGaugh**, neurobiology of learning and memory; **R. Metherate**, synaptic physiology and plasticity in sensory neuroprocesses; **R. Miledi**, molecular neurobiology and physiology of ion channels and receptors; **I. Parker**, intracellular calcium and cell signaling; **G. Sperling**, cognition, vision, and visual perception; **O. Steward**, mechanisms of synapse growth and plasticity; **G. Striedter**, neuroethology, behavioral neuroscience, evolutionary neurobiology; **K. Sumikawa**, molecular neurobiology of synapses; **S. Tang**, molecular mechanisms of synaptic plasticity and memory or the hippocampus; **N. Weinberger**, neural bases of attention and learning; **J. Weiss**, excitatory amino acids in neural signaling and neurodegeneration; **P. Yahr**, behavioral neuroendocrinology. Please send curriculum vitae along with names and addresses of three references to: **Monica Stamps, Personnel Analyst, Neurobiology and Behavior, 2205 McGaugh Hall, Irvine, CA 92697-4550. E-mail: mstamps@uci.edu; FAX: 949-824-2447**. Visit our Department **website http://darwin.bio.uci.edu/neurobio/**. *The University of California, Irvine, is an Equal Opportunity Employer committed to excellence through diversity.*

POSTDOCTORAL FELLOW POSITION. Immunologist to investigate the molecular and cellular mechanisms responsible for energy and development of autoimmunity in transgenic mice expressing antiganglioside antibodies. Background in mouse cell immunology and immunochemistry, cell signaling, and molecular biology required. Must be fluent in English. Salary: $40,000 to $50,000 depending on qualifications and experience. Send curriculum vitae and two references to: **Norman Latov, M.D., Ph.D., Department of Neurology and Neuroscience, Weill Medical College of Cornell University, 525 East 68th Street, Suite F–610, New York, NY 10021. E-mail: no12002@med.cornell.edu**. *Cornell Univesity is an Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS available immediately to study signal transduction mechanism mediated through adhesion receptor in relationship to cellular survival and apoptosis. Experience in cell biology and protein chemistry essential; molecular biology preferred. Respond with curriculum vitae and name of references to: **Stanley E. D'Souza, Ph.D., Department of Physiology, School of Medicine A1105 HSC, University of Louisville, Louisville, KY 40292. E-mail: sedsou01@louisville.edu**.

POSTDOCTORAL RESEARCH ASSOCIATE POSITION in plant community ecology available at the Ecological Restoration Institute, Northern Arizona University. Two-year position working with research team studying fire ecology and forest dynamics. Extensive fieldwork and strong quantitative statistical and/or modeling skills are needed. Please see the complete position description under 'jobs' at **website: http://hr.nau.edu/Home/**. *NAU is an Equal Opportunity/Affirmative Action Employer.*

Postdoctoral Research Opportunities
Staphylococcus aureus Post-Genomic Research
Laboratory of Human Bacterial Pathogenesis
Rocky Mountain Laboratories

Postdoctoral positions are available immediately to study several aspects of *Staphylococcus aureus* pathogenesis and population genetics. The following areas are being investigated with genomic and post-genomic approaches: (1) molecular pathogenesis, with special attention focused on infections in humans; (2) molecular population genetics of antimicrobial agent resistance, and (3) molecular basis of infection specificity.

The Laboratory of Human Bacterial Pathogenesis contains state-of-the-art research facilities for genomics and post-genomics investigations, including high-throughput sequencing, DNA microarray analysis (pathogen and host), and proteomics. A new biosafety level 3 laboratory and animal care facility (including non-human primates) are also available. RML is located in the scenic Bitterroot River Valley in western Montana. There is ready access to a full array of outdoor recreational opportunities, including hiking, skiing, and fishing. Stipends are in the range of $31,000-$42,000.

Send a curriculum vitae, reprints, brief statement of career goals, and names, addresses, telephone numbers, and e-mail addresses of three references to:

James M. Musser, M.D., Ph.D. Laboratory Chief
Rocky Mountain Laboratories, NIAID, NIH
Laboratory of Human Bacterial Pathogenesis
903 South 4th Street
Hamilton, MT 59840
E-mail: jmusser@niaid.nih.gov

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Postdoctoral Research Opportunities
Group A *Streptococcus* Post-Genomic Research
Laboratory of Human Bacterial Pathogenesis
Rocky Mountain Laboratories

Postdoctoral positions are available immediately to study several aspects of group A *Streptococcus* pathogenesis. The following areas are being investigated with genomic and post-genomic approaches: (1) molecular pathogenesis, with special attention focused on infections in humans, and (2) vaccine research, including non-human primate infection models.

The Laboratory of Human Bacterial Pathogenesis contains state-of-the-art research facilities for genomics and post-genomics investigations, including high-throughput sequencing, DNA microarray analysis (pathogen and host), and proteomics. A new biosafety level 3 laboratory and animal care facility (including non-human primates) are also available. RML is located in the scenic Bitterroot River Valley in western Montana. There is ready access to a full array of outdoor recreational opportunities, including hiking, skiing, and fishing. Stipends are in the range of $31,000-$42,000.

Send a curriculum vitae, reprints, brief statement of career goals, and names, addresses, telephone numbers, and e-mail addresses of three references to:

James M. Musser, M.D., Ph.D. Laboratory Chief
Rocky Mountain Laboratories, NIAID, NIH
Laboratory of Human Bacterial Pathogenesis
903 South 4th Street
Hamilton, MT 59840

E-mail: jmusser@niaid.nih.gov

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NATIONAL CANCER INSTITUTE

POSTDOCTORAL (PH.D./M.D.) OPPORTUNITIES

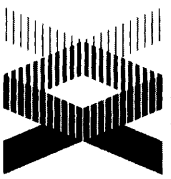
Biochemistry
Biology
Biomedical Science
Biostatistics
Cellular Biology
Cellular Immunology
Chemistry
Developmental Biology
Drosophila Genetics
Epidemiology
Functional Genomics
Genetics
HIV Research
Immunology
Molecular Biology
Molecular Genetics
Molecular Immunology
Molecular Radiobiology
Molecular Virology
Mouse Genetics
Nutrition
Pharmacology
Virology

NCI is the Nation's primary agency leading cancer research. Facilities located in Bethesda, Rockville, Gaithersburg and Frederick Maryland, are the best-funded and equipped laboratories in the United States. NCI offers an environment for postdoctoral fellows to interact with scientists from a wide range of life/medical sciences, and to attend lectures given by international renowned scientists. Stipend range $32,004 to $38,628 commensurate with experience. Health insurance provided, and optional family health insurance coverage available.

The postdoctoral fellowship experience at the NCI can serve as a first postdoctoral training assignment, or offer more experienced postdoctoral scientists an opportunity to further their training in more advanced methods, to acquire new research capabilities, to make changes in the direction of their research, or to receive training in fundamental sciences and clinical disciplines for the purpose of enhancing the transfer of biotechnology to cancer clinical programs. Program duration is 2 to 5 years. Candidates must have less than 5 years postdoctoral experience. U.S. citizenship, permanent residency (green card), or current U.S. training authorization is required.

Apply online at our StarCatcher Employment Web Site; **http://generalemployment.nci.nih.gov** or send resume, bibliography of publications, three references and a cover letter stating your research interests to: **National Cancer Institute, 6116 Executive Blvd, Suite 502, Bethesda, MD 20892-8342, Ref: Source Code 2002-Science Magazine.**

The NCI is an Equal Employment Opportunity and Affirmative Action Employer that values and fosters diversity throughout the entire organization



POSTDOCTORAL POSITIONS
Genome Technology Branch
National Human Genome Research Institute
National Institutes of Health

Postdoctoral research positions are available in the laboratory of Dr. Eric Green for individuals interested in mammalian genetics and genome analysis at the National Human Genome Research Institute (NHGRI). The major areas of research include:

- **Generation and Characterization of Mouse Models Derived by Gene-Knockout Technologies**
- **Comparative Genome Sequence Analysis Using Laboratory- and Computational-Based Methods**

Additional information can be found at:

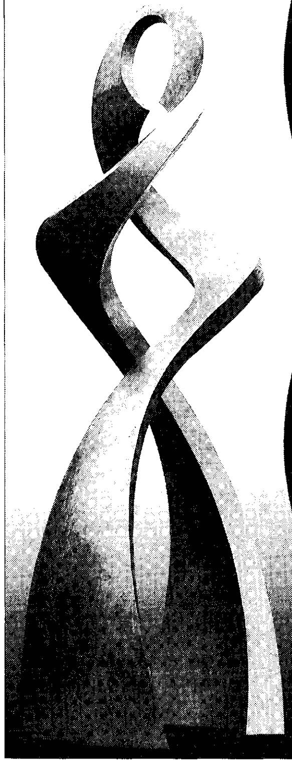
www.nhgri.nih.gov/Intramural_research/People/green.html

Candidates should possess an MD and/or PhD and have less than five years of postdoctoral experience. Please send a letter, CV, and three letters of reference to:

Ms. Dana Jordan
NHGRI/NIH
50 South Dr.
Bldg. 50, Rm. 5423, MSC 8004
Bethesda, MD 20892
(or gtbapply@nhgri.nih.gov)

The NIH is an Equal Opportunity Employer and applications by women and minorities are strongly encouraged.

STOWERS INSTITUTE FOR MEDICAL RESEARCH



Postdoctoral Fellowship Program at The Stowers Institute for Medical Research

The Stowers Institute seeks more effective means of preserving health and preventing disease through basic research on genes and proteins that control fundamental processes of cellular life. In the course of pursuing this goal, the Stowers Institute offers exceptional opportunities for postdoctoral research training.

Program leaders include scientists analyzing the genetic pathways and function of genes and proteins involved in meiosis, multiplication, recombination, patterning, differentiation, migration, and death of cells as well as experts in bioinformatics, transgenics, and genomics.

Mentors include:
Robb Krumlauf, Joan Conaway, Ron Conaway, Kent Golic, Scott Hawley, Olivier Pourquie, Linheng Li, Jennifer Gerton, Ting Xie, Jim Coffman, Chunying Du, Paul Trainor, Arcady Mushegian and Brian Sauer

More information may be found at:

www.stowers-institute.org

The Stowers Institute is committed to equal opportunity in all its programs.

OHSU
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Postdoctoral Positions: Neuroscience

Neurological Sciences Institute of Oregon Health & Science University

Significant research developments have led to the need for an increased number of talented postdoctoral researchers at the Neurological Sciences Institute. Our scientifically diverse institute is located on the West Campus of OHSU, a rapidly expanding center for neuroscience research. Interested candidates should contact the NSI faculty member directly. See OHSU website for contact information at www.ohsu.edu/nsi/faculty. OHSU is an Affirmative Action/Equal Opportunity Employer.

Sue A. Aicher, Ph.D.
Anatomical studies of nociceptive and autonomic neurons in the brainstem and spinal cord.

Neal H. Barmack, Ph.D.
Molecular components embedded in cerebellar circuitry.

R. Lane Brown, Ph.D.
Molecular and cellular physiology of CNG channels; phototransduction in retinal ganglion cells of the circadian system.

Vincent M. Coghlan, Ph.D.
Cellular signal transduction; regulation of protein kinases and phosphatases.

Robert M. Duvoisin, Ph.D. & W. Rowland Taylor, Ph.D.
Function of metabotropic glutamate receptors in the retina.

Alvin Eisner, Ph.D.
Studies of female hormones and vision, using psychophysical and ophthalmological techniques.

Fay B. Horak, Ph.D., P.T.
Human postural control, vestibulospinal balance disorders, kinematics, kinetics, and EMG.

H. Peter Larsson, Ph.D.
K^+ channel structure and function; fluorescence and cysteine accessibility.

Shaun F. Morrison, Ph.D.
CNS regulation of autonomic function, thermoregulation, and electrophysiology.

Patrick D. Roberts, Ph.D.
Theoretical and computational neuroscience.

David J. Rossi, Ph.D.
Mechanisms of brain damage by ischemia; mechanisms regulating signal processing at CNS synapses.

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Postdoctoral Researcher MEDICINAL CHEMISTRY

You will develop synthetic methodology using allyl- and vinylsilanes to form nitrogen containing bicyclic compounds and then apply the methodology to the total synthesis of biologically interesting natural products. This is a one-year appointment with potential for a second-year renewal. You must have a PhD in Organic Chemistry or related discipline and a background in the design/execution of multi-step organic synthesis. Knowledge of chromatographic and spectroscopic analysis methods (NMR, column chromatography, HPLC, etc.) and strong problem-solving and documentation skills are also required. A good publication record is a plus.

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The NIH is dedicated to building a diverse community in its training and employment programs

POST-DOCTORAL FELLOWSHIPS

The Institut des Hautes Etudes Scientifiques (IHES), an international research institute based near Paris (France), whose activity has been so far focused on Mathematics and Theoretical Physics, started a new research activity at the interface of these disciplines with genetics and molecular biology. One of its aims is to contribute to the analysis and design of biological experiments by developing new tools to represent and study biological data.

The Institute offers **two two-year post-doctoral positions** for doctors having a background in mathematics, computer science, biophysics, biology and/or biochemistry, with special interests in one of the following topics: biophysics of macromolecules, macromolecular networks, sequence analysis, molecular evolution and phylogenetic trees, databases and data-mining, architecture of high-throughput experiments, pattern recognition, as well as in related areas.

Applications should be sent before April 30, 2002 to:
Mme Helga DERNOIS
Institut des Hautes Etudes Scientifiques
35, route de Chartres
F 91440 - Bures-sur-Yvette, France
dernois@ihes.fr

The decision will be taken by May 30, 2002

PRE- and POSTDOCTORAL TRAINING IN MAMMALIAN GENETICS

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

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

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

To apply contact:
Suzanne Serreze
The Jackson Laboratory
600 Main Street
Bar Harbor, ME 04609
Phone: 207-288-6420
FAX: 207-288-6079
email: sbs@jax.org • http://www.jax.org

EO/AA Employer

Postdoctoral Position

National Institutes of Arthritis and Musculoskeletal and Skin Diseases

The National Institutes of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) of the National Institutes of Health is seeking a highly motivated candidate to fill a postdoctoral position in an interactive microarray laboratory to study the genetics and molecular biology of human population variation and disease. The successful candidate should have a PhD in human genetics, molecular biology or M.D. and an interest in gene expression profiling.

For more information on the principal technology utilized, refer to:
Nature Genetics 1999; 21:10:14
URL:
(http://www.nature.com/ng/chips_interstitial.html)

Send a curriculum vitae and research summary, and have three letters of recommendation sent to:

David Duggan, Ph.D.,
Associate Investigator, NIAMS,
National Institutes of Health,
Building 9, Room 1W-111
9000 Rockville Pike MSC 0908,
Bethesda, MD 20892-0908,
Email: David_Duggan@nih.gov

Applications must be submitted by March 7, 2002

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best of both worlds

UCB Research Inc. brings together the best of two worlds, a pioneering entrepreneurial spirit backed by the strength of an established pharmaceutical industry leader. Together, these attributes allow UCB to advance important new treatments for allergy, immunology, and central nervous system disorders. We are seeking enthusiastic, creative scientists to join UCB Pharma's US based research team located in Cambridge, MA.

Visit us on February 18th at The Hynes Convention Center in Boston for the Science Career Fair

Product Safety & Metabolism

Safety Evaluation Manager/ Toxicologist

Responsibilities will include the monitoring and review of pre-clinical safety and mechanistic studies performed externally under contract. You will also participate in the preparation and review of regulatory documentation in support of our worldwide submissions and be involved with contacts with regulatory authorities, particularly those in the US and Canada. The successful candidate will possess a Ph.D. in a toxicology-related field and have extensive experience in a toxicology department of a research organization or a pharmaceutical company.

Pharmacology

Research Associate (MC)

This position requires a working knowledge of neurophysiology and experience with extracellular and patch-clamp recording in sensory neurons. A BS or MS in biology with 1-3 years of experience in a laboratory setting is essential. Excellent written and oral communication skills and the ability to work independently in a team-oriented environment are necessary for this position.

Research Associates

We have several openings for Research Associates with *in vitro* and *in vivo* experience. Requirements for these positions are a BS or MS in biology or immunology with 1-4 years experience in industry.

Cell & Molecular Biology

Research Associate

This position requires experience with DNA/RNA/protein manipulation analysis, and expression as well as cell culture expertise. A BS/MS degree plus two years of research experience in molecular/cellular biology is desirable and industrial experience is a plus.

Medicinal Chemistry

Principal Scientist

This position requires a Ph.D. in Synthetic Organic Chemistry along with post-doctoral training in the same area. In addition, a minimum of 6 years of successful, small molecule, drug discovery experience in an industrial environment as evidenced by patents and publications is required. Applicants must also have at least 3 years of experience supervising other Ph.D. and MS chemists.

Senior Scientists/Research Associates

We have several openings for candidates who have experience in multi-step organic synthesis and contemporary purification techniques.

Target Discovery and Bioinformics

Research Associate

This position requires experience in DNA and protein analysis to characterize potential therapeutic targets. A BS/MS degree with at least 2 years of relevant molecular biology and biochemistry experience is required.

Senior Scientist

This position requires an individual with leadership skills and a strong background in target identification and functional validation of novel targets. Applicants should hold a Ph.D. with postdoctoral experience and extensive experience in molecular cloning and current genomics technologies.

ucb Pharma

UCB Research, Inc.

For additional details on each position, please refer to the careers page of our Web site located at www.ucbresearch.com. If qualified, please forward your resume and salary requirements to: research.recruiter@ucb-group.com

GLOBAL OPPORTUNITIES

ANNOUNCEMENT

Department of Biological Sciences at Faculty of Science-Kuwait University announces positions for staff members in the fields of Mammalogy, Desert Ecology and Flowering Plant Taxonomy.

Position conditions

1. Ph.D. or equivalent for all positions from an accredited university.
2. At least 5 years teaching experience.
3. An excellent research-conducting capability.
4. Experience in supervising graduate students.
5. Excellent skill in English language.
6. Preference will be for associate and full professors.

Position benefits

1. Tax-free salary.
2. Furnished accommodations with utilities paid.
3. Paid annual vacation, health insurance, round trip tickets for the staff member, the spouse and 3 of his children.
4. Research facilities and funds are provided with approved research projects.
5. Contract to commence 1 September 2002 for a period of two years, possibility of renewal.

Papers required for the position

1. Personal CV.
2. Address, e-mails, telephone numbers and fax for the applicant.
3. Addresses for three recommendations.
4. Photocopy of the applicant's passport data pages.
5. Copies of academic qualification certificates (B.Sc., M.Sc., Ph.D.).
6. List of under- and postgraduate courses.
7. List of supervised graduate students with titles of theses.
8. List of published papers with copies of the recent ones.

Please send your papers to:
Dean's Office
Faculty of Science
Kuwait University
P.O. Box 5969
Safat, 13060, Kuwait

Last date for receiving applications is February 28, 2002.

For more information: **Fax: (965)4847054; E-mail: biosc@kuc01.kuniv.edu.kw**

EPPLEY INSTITUTE

FACULTY POSITIONS
CANCER RESEARCH

University of Nebraska Medical Center
NEBRASKA'S HEALTH SCIENCE CENTER
A Partner with Nebraska Health System

The Eppley Institute for Research in Cancer of the University of Nebraska Medical Center (**UNMC**) is seeking faculty to conduct research in three general areas. These faculty appointments are tenure leading with academic rank based on candidates' qualifications.
- **Basic Cancer Research:** all areas of molecular, cellular or structural biology related to cancer
- **Cancer Prevention:** molecular, genetics and/or genomics based approaches to cancer prevention
- **Tumor Immunology:** basic or clinical aspects of tumor immunology

The Eppley Institute is an academic unit of UNMC and a key component of the UNMC Eppley Cancer Center, an NCI-designated Cancer Center. Both the Eppley Institute and Cancer Center are in a dynamic growth phase. Applicants should possess a Ph.D., M.D. or other terminal degree and appropriate postdoctoral training. Successful applicants will be expected to develop funded laboratory research programs, collaborate with other faculty and participate in the pre- and post-doctoral training programs of the Eppley Institute, including an NCI-funded Cancer Research Training Program and a DOD-funded Breast Cancer Training Program.

Applicants should indicate which position they are applying for and forward a complete curriculum vitae, a 3 page description of research accomplishments and future research plans, and a minimum of 3 letters of reference to: **Dr. Kenneth H. Cowan, Director, Eppley Institute for Research in Cancer, University of Nebraska Medical Center, 986805 Nebraska Medical Center, Omaha, Nebraska, 68198-6805.** Review of applications will begin November, 2001 and will continue until the positions are filled. See **http://www.unmc.edu/Eppley/** for more information.

The University of Nebraska Medical Center is an equal opportunity employer.

MIT

ASSISTANT PROFESSOR

The Massachusetts Institute of Technology's Department of Nuclear Engineering invites applications for a tenure track position at the assistant professor level in the broad area of nuclear science and engineering, including radiation science and technology, fission energy, and plasma physics and fusion technology.

Particular consideration will be given to candidates with interest and expertise in radiation science and technology. Applicants should have a Ph.D. in an engineering or physical sciences discipline and a track record of excellence in research. Responsibilities will include teaching undergraduate and graduate subjects in nuclear science and engineering and its applications. It will also include teaching basic electrical engineering undergraduate subjects in collaboration with MIT's Electrical Engineering and Computer Science Department.

To apply, applicants should send curriculum vitae, description of research interests and the names of three references by April 15, 2002 to: **MIT Dept. of Nuclear Engineering Faculty Search, Building 24-124, 77 Massachusetts Ave., Cambridge, MA 02139-4307.**

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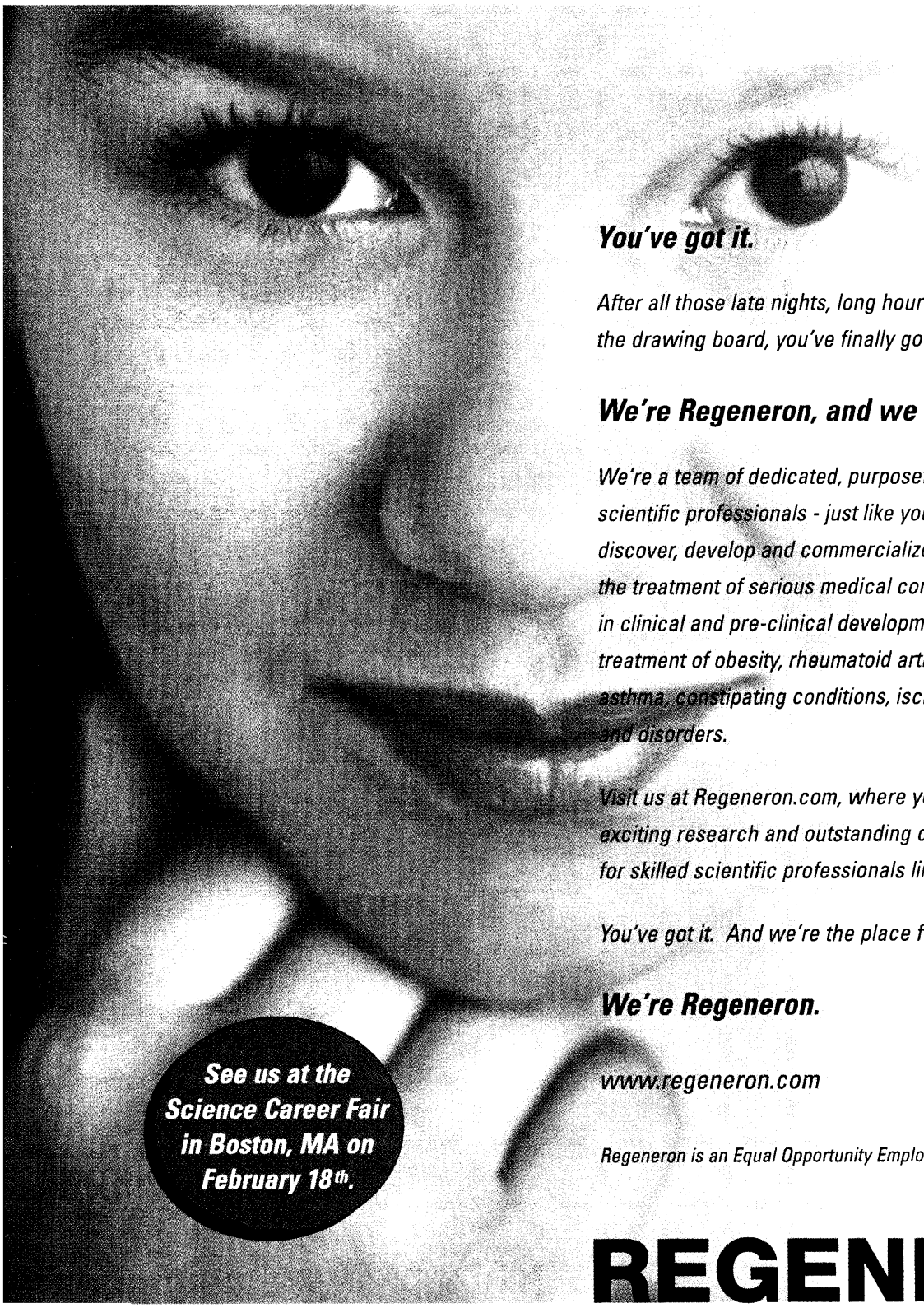
E U R E K A .



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CHAIR
Department of Experimental Diagnostic Imaging

Applications are invited for the position of Chair, Department of Experimental Diagnostic Imaging at The University of Texas M. D. Anderson Cancer Center in Houston, Texas. The new Chair will receive substantial resources to support future growth and development. Applicants should have an established record of scientific excellence in either Radiology or a basic biological science and an international reputation in areas that complement the research of the current Diagnostic Imaging faculty. Applications are sought from individuals who are trained as either M.D.'s or Ph.D.'s. If an M.D., certification by the American Board of Radiology is required if the candidate is eligible for such certification. Applicants are being sought at the Associate or Professor level for a tenured position.

The successful candidate will be expected to assume a leadership role integrating investigations in basic and translational research activities throughout the division. This new department is expected to provide leadership in the functional and molecular imaging of cancer. Thus, a background and interest in a biological science is highly desirable.

The University of Texas M. D. Anderson Cancer Center is a busy, actively growing, premiere cancer center with more than 20,000 new patient registrations per year. Equipment in the Division of Diagnostic Imaging includes 11 state-of-the-art CT scanners (8 multi-slice), 6 MRI scanners (1 dedicated to research) and a full complement of imaging devices in Nuclear Medicine, Ultrasound, Vascular Interventional Radiology, and PET. Micro PET, Micro CT and VCT are currently available for research activities.

An existing clinical PET scanner (CTI HR+) will soon be complemented with two (2) PET/CT imaging devices (GE/LS). A 3T MRI will be installed during this calendar year. The Division of Diagnostic Imaging consists of four (4) departments (Radiology, Nuclear Medicine, Diagnostic Imaging Physics, and Experimental Diagnostic Imaging). The division performs approximately 1200 procedures per day including 350 CT's, 90-100 MRI's and 70-80 nuclear medicine procedures.

The major role for the Department of Experimental Diagnostic Imaging is to develop and lead functional and molecular imaging activities directed toward the cancer problem at the cellular and molecular level. The focus will be on pre-clinical and translational imaging research. Strong relationships with Rice University and The University of Texas in Austin provide additional opportunities in nano-technology and optical imaging.

Interested individuals should submit their C.V. and brief summary of research interests, and names of referees to: **Raphael Pollock, M.D., Chair, Department of Experimental Diagnostic Imaging Search Committee, The University of Texas M. D. Anderson Cancer Center, 1515 Holcombe Blvd., Box 113, Houston, Texas 77030.**

The University of Texas M. D. Anderson Cancer Center is an affirmative action/equal opportunity employer. Women and minority candidates are encouraged to apply. EEO/AA Smoke-free environment.

BIOTECHNOLOGY

Science for Life Chiron
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PRINCIPAL SCIENTIST

Chiron, a world leader in biotechnology, located in Emeryville, California, seeks Principal Scientist.

This position plays a central role in the generation of monoclonal antibodies to the targets of interest for therapeutic development. Actual rank of offer will be based on experience and skills of the candidate. Strategic planning and hands-on execution of experiments in the generation of the monoclonal antibodies, including strategies of immunization, choice of humanization technologies, managing outside contractors, carry-on hybridoma fusions, maintenance of hybridoma cell culture, and subcloning of hybridoma cell lines of interests as candidates of later GMP manufacture cell lines.

Requires PhD or MS in Immunology or related fields with more than five years of monoclonal antibody generation experience. Industry experience a plus. Experience with vaccination, hybridoma fusion, hybridoma cell culture and subcloning of hybridoma cell lines a must.

To apply, please send resume, indicating job # **D5425-SFC**, to **jobs@chiron.com**.
For more information, please visit
www.chiron.com.
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The Bioinformatics Program at Boston University is inviting applications for tenure-track appointments in Bioinformatics and Computational Biology. Junior and senior level candidates with established international reputations in the field are encouraged to apply. All candidates must have a strong commitment to interdisciplinary computational research and education. Boston University has established a flourishing PhD program in Bioinformatics with 45 PhD students currently pursuing leading edge research in areas ranging from whole-genome analysis and cancer to systems biology and molecular/cell modeling (**http://bioinformatics.bu.edu**).

The faculty and students are often involved in collaborative research with the NCBI at the NIH, the BU Array Facility, the MIT Genome Center, the Institute for Genomic Research, Boston area medical schools and numerous biotech companies in New England. All faculty in the Bioinformatics Program have appointments in traditional departments such as Biology, Chemistry, Biomedical Engineering, Mathematics, Computer Science and others.

To apply please send a resume (including the names of at least four references) to:

Chair, Bioinformatics Search Committee
C/O Caroline Lyman
Bioinformatics Program
Boston University
Boston, MA 02215

CHAIR, DEPARTMENT OF NEUROLOGY

UMDNJ - Robert Wood Johnson Medical School
New Brunswick, NJ

The University of Medicine and Dentistry of New Jersey - Robert Wood Johnson Medical School seeks candidates for the position of Chair, Department of Neurology. Candidates must have an MD degree, be Board Certified, have a distinguished record of teaching, research and clinical service, and be eligible for licensure in New Jersey. The academic rank will be commensurate with education and experience. Candidates should have demonstrated success in promoting excellent teaching and scholarship, as well as in developing clinical programs. Candidates with administrative experience are encouraged to apply.

The Department of Neurology is known nationally and internationally for outstanding clinical and research programs in the area of movement disorders (clinical and genetic studies of Parkinson's Disease). Other clinical areas of expertise in the department include neurobehavior, neuro-ophthalmology epilepsy, neuromuscular disorders and neurogenetics. The Department of Neurology has an NIH supported neuroscience division working on neurodegenerative disease.

Highly visible basic science and clinical programs in the medical school constitute excellent resources for growth of the neurosciences. These include the Department of Neuroscience and Cell Biology, the Gerontological Institute, a statewide program for aging disorders, dementia and Alzheimer's Disease under the Departments of Psychiatry and Medicine, the Cancer Institute of New Jersey, the Child Health Institute of New Jersey (a research institute focused on studying development and the basis of pediatric disease), the Center for Advanced Biotechnology and Medicine and a pediatric neurotoxicology center.

Nominations should include a brief statement of the attributes and qualities of the individual which make them ideally suited for this position and, if possible, a copy of the candidate's curriculum vitae. Applications should include a curriculum vitae and a brief personal statement. Please send applications to the chair of the search committee:

David H. Carver, M.D., Chair of Search Committee
Associate Dean for Faculty Affairs
675 Hoes Lane, Rm. 134
Piscataway, NJ 08854

UMDNJ, is an Affirmative Action/Equal Opportunity Employer, M/F/D/V, and a member of the University Health System of New Jersey. Regrettably, we can respond only to those candidates chosen for an interview. To learn more about us, visit our website: **http://www.umdnj.edu/hrweb/**

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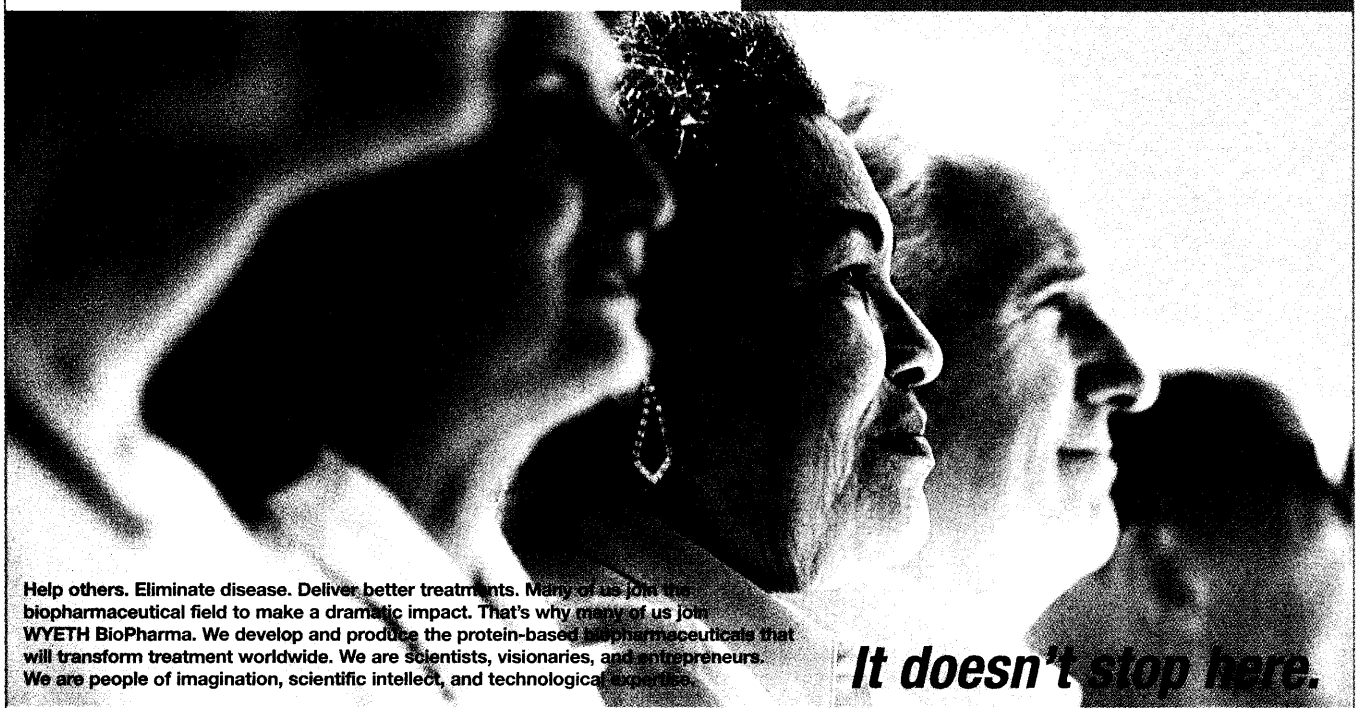

Help others. Eliminate disease. Deliver better treatments. Many of us join the biopharmaceutical field to make a dramatic impact. That's why many of us join WYETH BioPharma. We develop and produce the protein-based biopharmaceuticals that will transform treatment worldwide. We are scientists, visionaries, and entrepreneurs. We are people of imagination, scientific intellect, and technological expertise.

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Engineering Staff – Purification Process Development (Job Code: 8667)

Develop membrane separation steps suitable for the manufacture of protein therapeutics for use in human clinical studies (Phase I, II, and Pivotal).

- BS in Chemical Engineering with 6+ years of work experience or MS with 4+ years industrial experience

Lab Head – Purification Process Development (Job Code: 3078)

Develop large-scale processes suitable for the manufacture of protein therapeutics for use in human clinical studies (Phase I, II, and Pivotal). Support purification processes for commercial products.

- Ph.D. in Biochemistry, Chemistry, or related discipline with 6-8 years industrial experience

Staff Scientists – Molecular Biology/Cell Culture Development (Job Code: 3073)

Develop and characterize mammalian cell lines expressing recombinant therapeutic proteins.

- Ph.D. and at least 3+ years experience
- Proven track record in cell and molecular biology

Staff Scientist/Engineer – Purification Process Development (Job Code: 7973)

Develop large-scale chromatography processes suitable for the manufacture of protein therapeutics for use in human clinical studies (Phase I, II, and Pivotal).

- Ph.D. in Engineering, Biochemistry, Chemistry, or related discipline with 0-4 years of industrial experience or BS/MS with 8+ years industrial experience

Staff Scientists – Virology/ Molecular Biology (Job Code: 7774)

Lead viral safety programs for recombinant biopharmaceutical products and participate in the design, development, and implementation of both classical and molecular-based assays for virus detection and quantitation.

- Ph.D. and 3+ years of postdoctoral experience in virology
- Extensive experience in virus growth, detection and characterization, including PCR-based virus detection methods

Enjoy the space, the time, and the freedom to advance your ideas. At WYETH BioPharma, you'll enjoy a progressive work environment, diverse avenues of growth, generous salaries, and superior benefits like an on-site fitness center, matching 401(k), pension, health, dental, life, and tuition assistance.

Submit your resume, indicating Job Code, to: WYETH BioPharma, One Burtt Road, Andover, MA 01810. E-mail: recruiter006@genetics.com or Fax: 978-247-2440.

For detailed position descriptions, visit us online at:

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OHIO UNIVERSITY 1804

Faculty Position

Edison Biotechnology Institute/Department of Chemistry and Biochemistry

The Edison Biotechnology Institute (**http://www.ohiou.edu/biotech/**) and the Department of Chemistry and Biochemistry (**http://main.chem.ohiou.edu/**) at Ohio University invite applications to join a unique and growing interdisciplinary research environment. We seek an outstanding, innovative and creative scientist who utilizes modern tools and approaches to investigate genetically based human health issues. Our current strengths are in molecular, cellular, endocrine and developmental biology emphasizing gene discovery and functional genomics using transgenic and gene disruption technology. The successful candidate must be capable of maintaining a vigorous, creative, and independent, externally funded research program.

The Institute has a strong commitment to excellence in research, scholarship, and teaching of graduate and undergraduate students. A blend of both academic and industrial collaborations, a focus on entrepreneurship and the development of new technologies combined with a modern facility make this a unique research opportunity.

Applicants must have a Ph.D. or M.D., a significant history of publication and funding, and exhibit interpersonal skills that will build cooperation across departments and organizations. The position, which may be filled at any professorial rank, is a joint appointment between the units and is tenurable in the Department of Chemistry and Biochemistry where the successful candidate will contribute to the Biochemistry curriculum. The appointment may start as early as July 1, 2002.

To apply, please send a curriculum vitae, a brief statement of current and future research plans and the names and addresses of at least three references to:

John J. Kopchick, Ph.D.
Chair, Search Committee
Edison Biotechnology Institute
Ohio University
Athens, OH 45701

Screening of applications will begin on March 8, 2002 and will continue until the position is filled. Women and minorities are especially encouraged to apply.

Ohio University is an Equal Opportunity/Affirmative Action Employer.

PRINCIPAL INVESTIGATOR

Department of Medicine Research Institute

The Research Institute of the Department of Medicine at Winthrop-University Hospital seeks an individual to assume the position of Principal Investigator in a newly formed multidisciplinary research unit designed to investigate aspects of vascular biology relevant to clinical medicine. The successful applicant will have an M.D. or Ph.D. and a track record of extramural funding. Expertise in the field of vascular biology is a prerequisite and will include experience with animal models of angiogenesis and/or vascular injury and experience in endothelial and/or vascular smooth muscle cell culture. Applicants should forward their curriculum vitae to: **Mr. Paul W. Whalen, Administrator, Department of Medicine, Winthrop-University Hospital, 259 First Street, Mineola, NY 11501.** EOE-m/f/d/v

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GLOBAL OPPORTUNITIES

Sultan Qaboos University

College of Agriculture

Sultan Qaboos University, the National University of the Sultanate of Oman has the pleasure to invite applicants for the post of **Senior Technician** in the Department of Soil and Water.

Duties and Responsibilities

The candidate will support a range of multidisciplinary soil and water activities. In addition, he/she will supervise a team of departmental technicians and advice on requisition and maintanace of instruments, support teaching classes, and lead the analysis of soil and water samples using ICP, AAS, IC, GC, uv-visible spectroscopy. Candidates should have a sound understanding of laboratory-bench use of ICP for non-routine analysis. The role of the **Senior Technician** will require a flexible approach to achieving good laboratory practice for the department.

Requirements

Candidates should hold a Master's degree in analytical chemistry (or equivalent), with at least 5 years experience of laboratory work. Applicants with previous participation in quality control and multi-laboratory analysis program will be advantageous.

The University offers an attractive tax-free salary, annual return airfares, health care at nominal cost, accommodation an other attractive allowances. General information about the University and the College is available on the university's World Wide Web Homepage http://www.squ.edu.om.

Interested candidates are requested to send their Curriculum Vitae with supporting documentation quoting our **Ref: ADV/AGR/SOIL_WTR/01/2002,** to the address below: faxed to **(+968)513255** or e-mailed to vacancies@squ.edu.om

Director, Personnel Affairs - Sultan Qaboos University
P.O Box 50, Al-Khod, PC 123, Sultanate of Oman

University of Pittsburgh School of Medicine

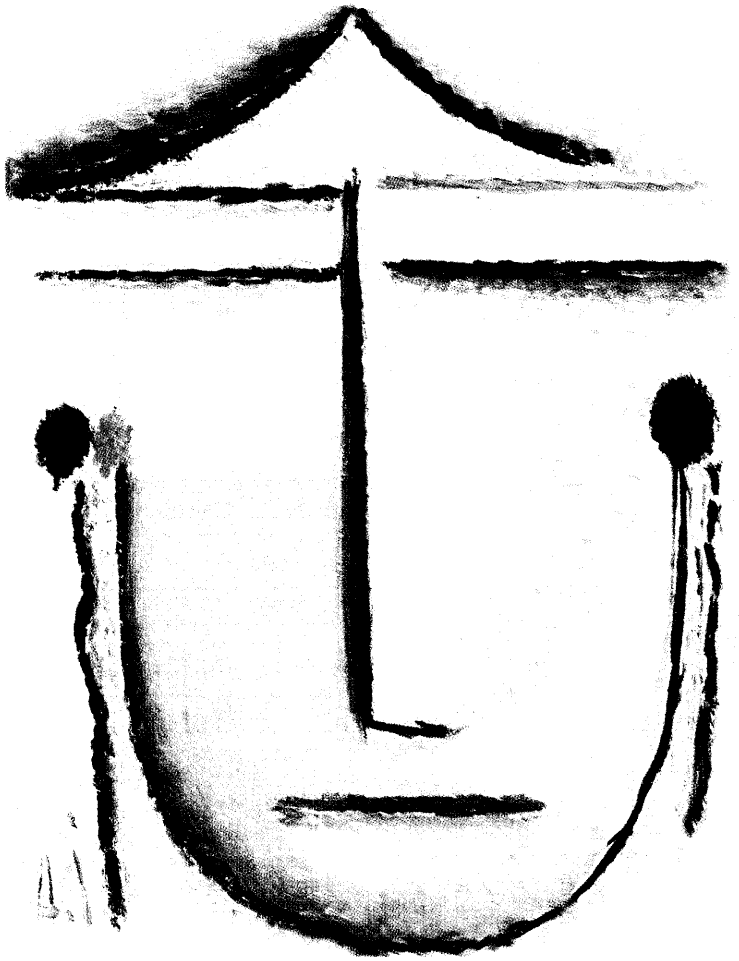
Chair, Department of Neurobiology

The University of Pittsburgh School of Medicine invites applications for Chair of its Department of Neurobiology, a position with endowed research support. This well-funded Department (www.neurobio.pitt.edu) currently has 18 tenure stream faculty with substantial research strengths in neural development, circuit and systems function, cellular communication, and brain disorders. The Department of Neurobiology is situated in a highly interactive and growing neuroscience research community, including a campus-wide neuroscience Ph.D. program with 72 graduate students. Additional resources include the Pittsburgh Institute for Neurodegenerative Disease, the Center for the Neural Basis of Cognition, the Pittsburgh Developmental Biology Center, a Transgenic Mouse Facility, a Microarray Facility, and the Pittsburgh Supercomputing Center. The School of Medicine will also erect its third new Biomedical Science Tower within the next three years, with substantial space devoted to neuroscience research.

Interested candidates should submit a letter and curriculum vitae to:

Search Committee
C/o David A. Lewis, MD
Department of Psychiatry
3811 O'Hara Street
W1650 BST
Pittsburgh, PA 15213

lewisda@msx.upmc.edu



Human Genome Sciences

Number One in Genomic Medicine

THE FACE OF FUTURE PHARMACEUTICALS

Employment Opportunities

SCIENTISTS, PROCESS ASSOCIATES & PROCESS ENGINEERS, PURIFICATION PROCESS DEVELOPMENT

Develop, optimize and scale-up purification processes for recombinant proteins and antibodies for use in clinical and commercial operations. Requires a PhD, MS, or BS in Chemistry, Biochemistry or Bioengineering with 2-4 years related experience; process validation and technical transfer skills a plus. **Job Code: TR**

SCIENTIST, PROTEIN DEVELOPMENT

Develop methodologies for small- and large-scale protein purification. Requires a PhD in Protein Chemistry, Biochemistry or related discipline and 2 years industrial experience with extensive knowledge of protein purification and characterization. Familiarity with cGMP protein purification and molecular biology is a plus. **Job Code: YL**

ASSOCIATE DIRECTOR, PURIFICATION PROCESS DEVELOPMENT

Develop and manage a team responsible for purification processes for recombinant proteins and antibodies, including optimization, scale-up and technology transfer. Requires a PhD in Protein Chemistry/Biochemistry/Biochemical Engineering with 5-7 years or an MS with 10-15 years process development experience. Familiarity with cGMP operations and process validation a must. **Job Code: TR**

SCIENTIST, PROTEIN PURIFICATION

Provide scientific and technical support for process research of novel proteins. Requires a PhD in Biochemistry/Bioengineering with 3 years of experience in protein chemistry or biopharmaceutical process development. Supervisory experience is highly desirable; cGMP experience is a plus. **Job Code: GC**

As a leader in the field of genomics, we offer exciting opportunities for future growth, competitive salaries and excellent benefits—and a chance to be a part of one of the most exciting fields in healthcare research today. For more information about careers at HGS and our current openings, or to submit a resume, contact: Human Resources, 9410 Key West Avenue, Rockville, MD 20850, fax (301) 309-1845, email resume@hgsi.com. EOE.

www.hgsi.com

POSITIONS OPEN

CHAIR, DEPARTMENT OF PATHOLOGY
University of North Dakota School of Medicine and Health Sciences

The University of North Dakota School of Medicine and Health Sciences invites applications and nominations for the position of Chair in the Department of Pathology. We seek an outstanding Medical Scientist with a strong research record in pathology who has a proven ability to obtain extramural support. All appropriate areas of research will be considered although research in the neurosciences would complement existing programs.

The Chair will oversee a department of 12 faculty members. The successful candidate will be expected to broaden and strengthen research within the Department and to participate in medical, graduate, and allied health education and therefore must be committed to excellence in teaching and research. The applicant should also possess interpersonal and leadership skills in mentoring faculty, directing students, and performing administrative duties.

This position does not include an active clinical pathology practice, the focus being on teaching, research, and administration. The Department is heavily involved in the design and implementation of undergraduate medical education. The Department presently directs both graduate and undergraduate programs in clinical laboratory science including a distance education modality and the cytotechnology program. The new Chair may elect whether or not to continue to direct these programs.

Further information is available at **website: http://www.med.und.nodak.edu**. Review of applications will begin immediately and the search will remain open until the position is filled. Applicants should submit detailed curriculum vitae; statement that addresses administrative philosophy, research goals, and teaching interests; and the names and addresses of three references to:

James E. Mitchell, M.D.
Professor and Chair, Department of Neuroscience
Chair of the Search Committee
University of North Dakota
School of Medicine and Health Sciences
1919 Elm Street North
Fargo, ND 58103
E-mail: mitchell@medicine.nodak.edu

Other sources of information on various aspects of the position include other members of the Search Committee. Regarding basic research at UNDSOM&HS, contact: **Manuchair Ebadi, Ph.D., Associate Dean for Research (e-mail: mebadi@medicine.nodak.edu); Ed Carlson, Ph.D., Professor and Chair of Anatomy and Cell Biology (e-mail: ccarlson@medicine.nodak.edu);** or **Richard Vari, Ph.D., Assistant Dean for Science in Medicine Education (e-mail: rdvari@medicine.nodak.edu)**. Regarding educational programs, contact: **Robert Rubeck, Ph.D., Associate Dean, Office of Academic Affairs and Information Resources (e-mail: rrubeck@medicine.nodak.edu)**. Regarding the Pathology Department, contact: **Mary Neboulski-Banman, Instructor in Pathology (e-mail: mbanman@medicine.nodak.edu)**.

The University of North Dakota is an Equal Opportunity/Affirmative Action Institution.

Two **POSTDOCTORAL POSITIONS** are immediately available focusing on (1) the molecular mechanisms for the regulation of the immune response by the lung environment and (2) the role of p38 MAP kinase on activation and death of T cells. Techniques involved in these projects include the generation of genetically modified mice, molecular biology, gene chips, and cellular immunology. Applicants should have background in some of these areas or lung biology. Interested candidates please submit curriculum vitae and names of three references to: **Dr. Mercedes Rincón, Department of Medicine/Immunobiology Program, Given Medical Building D305, University of Vermont, 89 Beaumont Avenue, Burlington, VT 05405. E-mail: mrincon@zoo.uvm.edu**.

POSITIONS OPEN

TRANSLATIONAL GENE TRANSFER
University of Minnesota

The University of Minnesota Stem Cell Institute, Institute of Human Genetics, Cancer Center, Blood and Marrow Transplant Program, and Department of Genetics and Cellular and Developmental Biology invite applications for a tenure-track position at the rank of **ASSISTANT, ASSOCIATE,** or **FULL PROFESSOR** in the area of translational gene transfer in hematopoietic stem cells. The goals of the individual recruited to this position will be responsible for improving gene transfer techniques in stem cells of patients with hematological and nonhematological disorders. The individual will join an active group of laboratory and clinical Investigators comprising the Program of Experimental Therapeutics.

The successful candidate will have an M.D. or Ph.D. degree and a track record of accomplishments and expertise in gene transfer in human or nonhuman hematopoeitic stem cells. Successful candidates will be expected to develop an extramurally funded research program. Excellent facilities are available in the University of Minnesota School of Medicine and the Molecular and Cellular Therapeutics GMP facility for large-scale human clinical investigations. Opportunities exist for collaborative research projects. Salary and start-up funds will be competitive. Primary departmental appointment will depend upon the candidate's background.

Applicants should send current curriculum vitae, statement of research interests and intentions, and three letters of reference to: **John E. Wagner, M.D., Scientific Director of Clinical Research of the Blood and Marrow Transplantation Program and Stem Cell Institute, University of Minnesota, Mayo Mail Code 366, 420 Delaware Street S.E., Minneapolis, MN 55455-0392 U.S.A.**

Completed applications should be received by April 15, 2002; however, the search will remain open until the position is filled. *The University of Minnesota is an Equal Opportunity Educator and Employer.*

INSTRUCTOR in genetics: The Department of Biological Sciences seeks applicants for a temporary Instructor position to begin fall 2002. An M.S. in biological sciences or related field is required as well as experience and a strong interest in teaching at the undergraduate level. The primary responsibility of this individual will be to develop laboratory modules, instruct lecture, and implement a teaching assistant training program for a general genetics course. The course is taught using state-of-the-art instructional technology. The position is available for one year as full-time nine month. Review of applications will begin March 15, 2002. Please send curriculum vitae and statement of teaching purpose along with names and contact information for three references to: **Dr. Marie Wooten, Department of Biological Sciences, 331 Funchess Hall, Auburn University, Auburn, AL 36849. E-mail: wootemw@mail.auburn.edu**. *Auburn University is an Equal Opportunity/Affirmative Action Employer. Women and ethnic minorities are encouraged to apply.*

ASSISTANT/ASSOCIATE PROFESSOR
(Tenure Track)
Cell and Developmental Biology

Required qualifications: Ph.D. or equivalent degree in biological/biomedical sciences or related field, postdoctoral experience, research background in cell/developmental biology, ability to teach a development course in the professional curriculum, must have or will have extramural funding. Excellent aquatic and laboratory animal facilities. Salary and rank will be commensurate with qualifications including start-up package. Application deadline is March 12, 2002, or until candidate is selected. Submit letter of application and résumé to: **Gary E. Wise, Ph.D., Comparative Biomedical Sciences, School of Veterinary Medicine, Louisiana State University, Reference Number 014396, Baton Rouge, LA 70803. Telephone: 225-578-9889**. *LSU is an Equal Opportunity/Equal Access Employer.*

POSITIONS OPEN

RESEARCH GROUP LEADER POSITIONS
Molecular Physiology, Cell Biology, Developmental Genetics of Plants

ZMBP, Tuebingen, Germany. The Center has departmental structure; total size is 200 staff in 18 groups. Candidates are expected to set up a competitive research program to interact with other ZMBP groups and to teach plant physiology or developmental genetics. Language at the ZMBP is English. Positions are limited to six years. Salary is approximately 38.000 Euro (C1). The Center provides laboratory space and core funding (one technician, one Ph.D. student, budget, equipment funds). The successful candidate will benefit from common infrastructure (transformation, greenhouse, analytics, microscopy and computer support units, administration). For more information, contact: **W.B. Frommer (e-mail: wbf@zmbp.uni-tuebingen.de)** or **G. Juergens (e-mail: gerd.juergens@zmbp.unituebingen.de). Website: http://www.unituebingen.de/ZMBP**.

The university is an Equal Opportunity Employer.

POSTDOCTORAL POSITION available at the College of Physicians and Surgeons of Columbia University Department of Surgery. A Postdoctoral position involving research into the molecular mechanisms surrounding the transformation of inflammatory conditions into cancer is currently available. The project goal is to develop and manipulate the model using genetics, knockout/transgenic mice, and colonoscopy. Candidate must have an M.D. or Ph.D. The ideal candidate will be proficient in protein biochemistry, molecular biology, small animal work, and be able to function independently. Candidates should send curriculum vitae; statement of research interest and experience; and the names, addresses, and telephone numbers of three references to:

Emina H. Huang, M.D.
Department of Surgery
161 Fort Washington Avenue
New York, NY 10032

LABORATORY RESEARCH DIRECTOR/ ASSISTANT PROFESSOR

The Division of Rheumatology, Allergy, and Immunology of Virginia Commonwealth University seeks an Assistant Professor on the research/teaching track with experience in protein/enzyme biochemistry, cell, and molecular biology. Knowledge of mast cells is desirable. Working with the Principal Investigator, the candidate's responsibilities will include teaching, equipment maintenance, research, writing, and presentations. Candidates must be a Ph.D. or M.D. Interested candidates should send their curriculum vitae; letter of interest; and names of three references by April 30, 2002, to: **Dr. Lawrence Schwartz, Chair, Division of Rheumatology, Allergy, and Immunology, Virginia Commonwealth University, P.O. Box 980263, Richmond, VA 23298-0263. E-mail: lschwart@hsc.vcu.edu**. *Virginia Commonwealth University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, and persons with disabilities are encouraged to apply.*

POSTDOCTORAL POSITIONS
MOLECULAR AND CELLULAR BIOLOGY
Neurodegenerative Disease and Stroke

Available for the study of the molecular basis of amyloid deposition and cerebral hemorrhage in Alzheimer's and stroke patients: the effect of adaptor proteins on amyloid deposition and the role of cystatin C in hemorrhage. Positions available in the Center for Dementia Research at the Nathan Kline Institute, an affiliate of NYU School of Medicine. The Institute is situated close to New York City, providing a rich environment for postdoctoral training. Send curriculum vitae, three references, and statement of interests to: **Efrat Levy, Ph.D., NYU School of Medicine, 550 First Avenue, MSB249, New York, NY 10016. E-mail: levye01@med.nyu.edu**.

At Pfizer Global Research & Development, we build our success on the innovation, skills and entrepreneurial spirit of each of our employees. As an integral member of our team, you will find myriad opportunities to assert your scientific independence as you generate results that will advance our ultimate goal of creating life-enhancing therapies. You will also benefit from a wealth of resources, the support of an exceptional team, and the chance to work on some of the most exciting science in the industry. Count the ways you can impact lives as you bring your ideas to life at Pfizer in these positions in **Groton, Connecticut.**

Each Face Counts.

Senior Research Scientist, Pharmacogenomics

We currently have an opportunity available in our Department of Genomics and Proteomic Sciences to join the Pharmacogenomics initiative within Pfizer. Successful candidates will contribute to the goals of the Global Pharmacogenomics group by providing human genetics expertise in drug discovery and development. This position requires a PhD in Human Genetics and/or MD and a proven track record with emerging genetic technologies and novel analytical approaches to complex disease genetics. A background in Cardiovascular disease, Neuroscience or Cancer would be beneficial. Communication skills are an essential requirement, as this position involves interaction with a variety of clinical and discovery teams in Groton, as well as with global pharmacogenomics colleagues. Req. # 18Jan0210435

Assistant Scientist

An immediate opening exists in our Antibacterial Drug Discovery group for a scientist to characterize the efficacy of novel antibacterial agents in laboratory test systems. Primary responsibilities will include summarizing experimental data; entering data into an anti-infective database; reporting to project teams; and conducting PK/PD experiments. You will need a BS (or equivalent) in Microbiology or a related field (MS preferred), experience cultivating fastidious microbes, and the ability to learn new test systems and successfully work with pathogenic bacteria. The successful candidate will have excellent *in vivo* skills and aseptic technique, along with a thorough knowledge of bacterial diseases, microbial physiology, pharmacology or pharmacokinetics. Familiarity with Windows/NT PC machines and Microsoft Office suite is essential. Req. #08Jan0210195

Assistant Scientist

Working within our Antibacterial Drug Discovery group, you will characterize the activity of novel antibacterial agents in standard in vitro microbiological susceptibility assays. Responsibilities include summarizing experimental data, entering data into the anti-infective database and reporting information to project teams. You must have a BS or equivalent in a relevant field (MS in Microbiology is desirable) and 2+ years experience. The successful candidate must have knowledge of bacterial diseases, microbial physiology, minimal inhibitory concentration (MIC) determination methods and the general procedures for cultivation of microorganisms. Also required is an understanding of the strategies used to determine the mechanism of action and modes of resistance to antibacterial agents. Req. #20Dec0109315

Associate Biologist

In this role, you will be working in an immunology lab focused on lymphocyte signal transduction and enzyme biochemistry. You must have a BS in Biology, 3-5 years experience in lab research and a basic knowledge of immunology. Demonstrated cell biology/biochemistry skills are essential, as is familiarity with Fluorescence Activated Cell Sorting (FACS), signal transduction biology and *in vivo* assays. A solid background in lymphocyte biology is desirable. Req. #02Oct0107806

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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FACULTY POSITION (ASSISTANT/ASSOCIATE PROFESSOR)
Department of Cell Biology and Neuroscience
University of South Alabama
College of Medicine

Applications are invited for a tenure-track faculty position. Preference will be given to applicants with broad interests in the cellular and molecular aspects of neuroscience or cancer biology. Applicants should have a Ph.D. or M.D. degree and appropriate postdoctoral training. The successful applicant is expected to establish an active, extramurally funded research program and to participate in the teaching of basic sciences to medical and graduate students. Of particular interest are applicants who can contribute to the teaching of either gross anatomy or neuroanatomy. For more information about the Department, visit our **website: http://southmed.usouthal.edu/com/scb**.

Interested applicants should send curriculum vitae, a brief description of current and future research interests, and arrange to have three letters of recommendation sent to:

Dr. Glenn L. Wilson
Department of Cell Biology and Neuroscience
University of South Alabama
307 University Boulevard, MSB 1201
Mobile, AL 36688-0002

For full consideration, applications should be received by April 15, 2002. *The University of South Alabama is an Equal Opportunity/Affirmative Action Employer.*

BIOLOGICAL AND ENVIRONMENTAL SCIENCES: ASSISTANT PROFESSOR (full-time, tenure track) beginning August 1, 2002. Environmental Toxicologist. Ph.D. required. Responsibilities include lectures and/or laboratories in environmental chemistry, general toxicology, advanced toxicology, environmental toxicology and risk assessment, and hazardous and toxic wastes. Scholarly activities and a productive research program involving graduate and undergraduate students are expected. Advising students and participation in departmental matters are required. Preference will be given to candidates with demonstrated excellence in college or university teaching. Send curriculum vitae, transcripts, and three reference letters to: **Dr. Charles Nelson, Head, Department of Biological and Environmental Sciences, 615 McCallie Avenue, Department 2653, The University of Tennessee at Chattanooga, Chattanooga, TN 37403**. Screening of credentials will begin on March 8, 2002, and will continue until the position is filled. *The University of Tennessee at Chattanooga is an Equal Employment Opportunity/Affirmative Action/Title VI and IX/Section 504/Americans With Disabilities Act/Age Discrimination in Employment Act Institution.*

PHYSICIAN-SCIENTIST POSITION

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 by April 30, 2002, to: **Dr. Lawrence Schwartz, Chair, Division of Rheumatology, Allergy, and Immunology, Virginia Commonwealth University, P.O. Box 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.*

POSITIONS OPEN

FACULTY POSITION
Food Safety/Food Security

The Department of Veterinary Microbiology and Preventive Medicine in the College of Veterinary Medicine at Iowa State University invites applications for a tenure-track position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. The position is in the area of food safety/food security. The successful candidate will conduct research, teach graduate and professional (D.V.M.) students, and mentor graduate students. The position requires the development of an independent, extramurally funded research program (75% effort), which will focus on pathogens important in food safety and/or food security utilizing modern microbiological approaches. Instruction (20% effort) will include participation in courses in veterinary microbiology and food safety for D.V.M. students and graduate students. The position includes some university service and outreach responsibilities (5% effort) expected of all faculty members.

This position requires a Doctorate (Ph.D.) in a relevant field. The D.V.M. degree and ACVM Board certification (or eligibility) in veterinary microbiology or related field is preferred. For consideration at the Associate Professor level, teaching and/or research experience resulting in substantial scholarship is required. Iowa State University offers a competitive start-up package, modern research space, opportunities to collaborate with Scientists at the USDA/ARS National Animal Disease Center and the USDA/APHIS National Veterinary Services Laboratories, and modern research animal facilities. Proposed start date is July 1, 2002. Applications will be reviewed beginning March 15, 2002, and continue until position is filled. Candidates should send a letter of application including a statement of research interests, curriculum vitae, and names and contact information of at least three professional references to: **Dr. R.W. Griffith, Chair, Search Committee, Department of VMPM, 2164 Veterinary Medicine, Iowa State University, Ames, IA 50011-1250**.

Iowa State University is an Affirmative Action/Equal Opportunity Employer.

The Department of Pathology and Anatomy, Division of Cell Biology and Genetics, at the University of North Texas Health Science Center at Fort Worth invites applications for a state-supported, tenure-track faculty position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. Applicants must have at least three years of postdoctoral experience. The successful candidate will be expected to continue an active, established research program or demonstrate elevated potential for obtaining extramural funding. Consideration will be given to candidates with strong backgrounds in any area of molecular biology, cell biology, or molecular genetics. The selected individual will be expected to participate in teaching in the graduate and medical school programs. Competitive space and start-up funding are available. Applicants should send curriculum vitae, reprints of significant publications, a statement of research and teaching interests, and three references to: **Dr. Patrick R. Cammarata, Chair, Cell Biology and Genetics Search Committee, Department of Pathology and Anatomy, University of North Texas Health Science Center at Fort Worth, 3500 Camp Bowie Boulevard, Fort Worth, TX 76107-2699. Telephone: 817-735-2045; FAX: 817-735-2610; e-mail: pcammara@hsc.unt.edu**. Review of applications will begin upon receipt and continue until the position is filled. *UNTHSC is an Affirmative Action/Equal Opportunity Employer.*

ChemPacific Corporation is a fast-growing contract research, custom chemical company. We currently have two positions available within our company: (1) opening for a Ph.D.- /M.S.-level **BIOCHEMICAL ENGINEER** and (2) opening for M.S.- /B.S.-level **BIOCHEMIST**. Knowledge of molecular biology and microbiology preferred. Please send résumé to: **Helen Yang, ChemPacific Corporation, 6200 Freeport Centre, Baltimore, MD 21224. FAX: 410-633-5808**.

POSITIONS OPEN

FACULTY POSITIONS IN BIOMEDICAL ENGINEERING
Yale Univesity

As part of its expanded emphasis on engineering and applied science, Yale University anticipates faculty appointments in biomedical engineering at both the junior and senior levels. These faculty additions will further strengthen already substantial interactions between the Faculty of Engineering and Biological Scientists in the faculty of arts and sciences and in the School of Medicine. New faculty members will collaborate with our existing team of Engineers, Basic Scientists, and Clinical Scientists in providing research and education at both the undergraduate and graduate levels. While the areas of specialization are open, we are particularly interested in candidates with research interests in biomaterials, molecular imaging, microfluidics, and tissue engineering. Successful candidates will have the potential to interact with existing research thrusts in biomedical imaging, biosensing, biomechanics, and drug delivery.

Preference will be given to applications received before March 30, 2002. Please send complete curriculum vitae, example publications, statement of research/teaching interests, and the names and addresses of three references to:

Professor James S. Duncan
Chair, BME Search Committee
Faculty of Engineering
Yale University
P.O. Box 208267
New Haven, CT 06520-8267

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

THE NEURAL REGENERATION TRAINING PROGRAM
Reeve-Irvine Research Center
University of California, Irvine
Oswald Steward, Ph.D., Director

The Neural Regeneration Training Program provides intensive research training to **POSTDOCTORAL FELLOWS** in research areas related to neuronal regeneration and plasticity, especially in the injured spinal cord. The program is rich in basic science but guarantees exposure to clinical issues related to spinal cord injury. The Associates of the Reeve-Irvine Research Center include Basic Scientists and Physician Scientists carrying out research on nervous system injury, stroke, and neurodegenerative disorders and on basic processes that underlie nervous system development, regeneration, and plasticity. Faculty participants come from the Departments of Anatomy and Neurobiology, Developmental and Cell Biology, Neurobiology and Behavior, Neurology, Physical Medicine and Rehabilitation, and the VA Spinal Cord Injury Center in Long Beach, California. Faculty include **Oswald Steward, Ph.D.; Aileen Anderson, Ph.D.; Susan Bryant, Ph.D.; Anne Calof, Ph.D.; Carl Cotman, Ph.D.; Christine Gall, Ph.D.; Hans Keirstead, Ph.D.; Frank LaFerla, Ph.D.; Arthur Lander, Ph.D.; Vernon Lin, M.D.; Ronald Meyer, Ph.D.; Richard Robertson, Ph.D.; John Weiss, M.D., Ph.D**.

For more information, contact: **Maura Hofstadter; e-mail: mhofstad@uci.edu; Telephone: 949-824-3993**.

RESEARCHER in molecular parasitology experienced in defining the molecular components of the RNA editing machinery in trypanosome mitochondria. Ph.D. in molecular parasitology required including experience in culturing trypanosomes, proteins isolation and expression, recombinant DNA technology, and animal models of the diseases. Send curriculum vitae and three letters to: **Dr. L. Simpson, MIMG, 675 Charles E. Young Drive, Room 6780 MRL Building, Los Angeles, CA 90095. E-mail: simpson@kdna.ucla.edu.**

As one of the world's top five pharmaceutical organizations, AstraZeneca is on the front lines of drug discovery and development. Together, our nine R&D centers around the world have delivered some of the most effective and widely-used pharmaceuticals available. And today, with the addition of our state-of-the-art **AstraZeneca R&D Boston** center in Waltham, Massachusetts, we are better equipped than ever to deliver new drugs in the areas of Cancer and Infectious Diseases that ensure a higher quality of life for people around the globe.

Today, our aggressive drug discovery efforts continue to expand further through our US-based Cancer Discovery Research, Infection Discovery Research and leading-edge Enabling Science and Technology groups at AstraZeneca R&D Boston. This innovative new facility is home to excellent intellectual, scientific, and technological resources. Our work spans the full spectrum of drug discovery, from exploratory and medicinal chemistry to genomics, helping us to rapidly move from the gene to the clinic with high quality candidate drugs.

Join AstraZeneca R&D Boston in our dynamic scientific environment, as we work to bring life-enhancing medicines to patients around the globe.

ONE GLOBAL FORCE

FIRST FOR INNOVATION

CANCER DRUG DISCOVERY

- **Scientist - Bioinformatics**
  Job Code: ON01-110-06/07
- **Post Doc - Bioinformiatics/Protein, Sequence, Structure, Activity Analysis**
  Job Code: ON-02-110-02T
- **Principal Scientist/Medicinal Chemistry**
  Job Code: ON01-110-15
- **Scientists/Medicinal Chemistry**
  Job Code: ON-02-110-09
- **Scientist/DMPK**
  Job Code: ON01-110-19
- **Research Associates/DMPK**
  Job Code: ON01-110-20
- **Scientist/Research Associate - Automation Specialist**
  Job Code: ON01-110-22
- **Research Associates - Molecular/Cellular Biology**
  Job Code: ON02-110-01
- **Research Associates - In Vivo Sciences**
  Job Code: ON02-110-04
- **Research Associates/Medicinal Chemistry**
  Job Code: ON02-110-11

INFECTION DRUG DISCOVERY

- **Post-Doc/Medicinal Chemistry**
  Job Code: INF02-218-01T
- **Research Associate/Biochemistry**
  Job Code: INF01-221-01
- **Sr. Technician/Laboratory Services**
  Job Code: INF01-217-01

ENABLING SCIENCE & TECHNOLOGY DRUG DISCOVERY

- **Bioinformatics Group Leader**
  Job Code: EST02-311-01
- **Bioinformatics Scientist/Text Mining**
  Job Code: EST02-311-02
- **Principal Scientist - Medicinal/Synthetic Chemistry (Team Leader)**
  Job Code: EST01-102-02

R&D OPERATIONS

- **Regional Discovery Computational Manager**
  Job Code: DIS01-614-03
- **Technical Computing Information Services Director**
  Job Code: TCIS01-626-02
- **Facilities Engineer**
  Job Code: OPS01-210-01

For a more detailed description of the above positions, please visit our website: **www.astrazeneca-boston.com**

Candidates interested in contributing to the momentum of success at AstraZeneca, please forward your resume, **referencing Job Code,** to: **AstraZeneca R&D Boston, 35 Gatehouse Drive, Waltham, MA 02451; E-mail: hr@astrazeneca.com; Fax: 781.839.4530.** Diversity is the essence of our science, our careers and our lives. We are an equal opportunity employer.

AstraZeneca

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ASSOCIATE CHIEF OF STAFF FOR RESEARCH

VA Palo Alto Health Care System (VAPAHCS), Palo Alto, California, an affiliate of Stanford University School of Medicine, is accepting applications for the position of full-time Associate Chief of Staff for Reserch. *Applicants must be U.S. citizens* and have an M.D., Ph.D. or equivalent degree. Those with an M.D. or equivalent must hold a degree from an approved school, must hold a current and unrestricted license to practice medicine or surgery, and must be Board certified by an American Specialty Board. Applicants should have demonstrated significant and distinguishing accomplishments in both reserch and administration. Familiarity with compliance issues (given their increasing importance to the research program) and experience in the VA system are both highly desirable. The successful candidate will have to meet VA requirements for appointment as Associate Chief of Staff for Research and Stanford University School of Medicine requirements for faculty appointment at the **ASSOCIATE PROFESSOR** or **PROFESSOR** level. In addition to overseeing the operation of the research program and directing the Research Administration office, the appointee will be expected to maintain an outstanding research program of his or her own; to foster the growth of existing reserch programs; to facilitate the initiation of new programs; and to foster the careers of new Investigators. VAPAHCS, one of the largest and most complex VA facilities in the nation, has an extensive research program in the areas of medical research; rehabilitation research and development; health services research and development; and the VA Cooperative research with an annual research budget of $37 million. Please send cover letter and curriculum vitae to: **Jackie Bevins (05C), Human Resources Management Service, VA Palo Alto Health Care System, 3801 Miranda Avenue, Palo Alto, CA 94304**. Complete application packages must be received not later than March 25, 2002. For additional information, please call **Ms. Bevins; Telephone: 650-493-5000, Extension 64351**. *VAPAHCS is an Equal Opportunity Employer. Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates.*

MARGARET AND HERMAN SOKOL CHAIR IN CHEMISTRY
Montclair State University
College of Science and Mathematics

The College of Science and Mathematics at Montclair State University is pleased to invite applications for the Margaret and Herman Sokol Chair in Chemistry from outstanding Scientists whose research is focused on the chemistry of living systems, especially in the area of pharmaceutical or medicinal chemistry. The person selected for the Sokol Chair must demonstrate a strong commitment to conducting a vigorous research program as well as to the teaching and mentoring of science students.

The individual appointed to the Sokol Chair will be placed in a faculty position at a level appropriate to his or her experience and qualifications and will occupy the Sokol Chair for a five-year term that may be renewed. The Sokol Chair will provide support for two graduate students, start-up funds, and annual research support. Appointment to the Sokol Chair will be effective September 1, 2002.

Applications for the endowed Sokol Chair position should include a cover letter, résumé, and supporting letters of recommendation. Letters of nomination are welcome. Application materials, nominations, or inquiries should be received at the earliest possible date and directed to:

Dr. Jack Isidor, Chair
Department of Chemistry and Biochemistry
Montclair State University
Upper Montclair, NJ 07043
E-mail: isidorj@mail.montclair.edu

POSITIONS OPEN

TENURE-TRACK FACULTY POSITION
Metabolic Disease Research

The Department of Pathology at the Wayne State University School of Medicine is seeking a highly motivated, independent Scientist to join a multidisciplinary program in diabetes and obesity research. The position is tenure track at the level of **ASSISTANT PROFESSOR**. The applicant should have a Ph.D. and/or M.D. degree and appropriate postdoctoral research experience. The successful applicant will join the Center for Integrative Endocrine and Metabolic Research, which is a newly formed, highly interactive group of four laboratories working on molecular aspects of diabetes and obesity. Current research areas include the regulation of gene expression by metabolic signals, adipocyte physiology, and the control of feeding behavior. The Center occupies over 5,000 square feet of well-equipped, state-of-the-art laboratory space. Applicants should send curriculum vitae, a one- to two-page statement of research interests, and the names of at least three references to:

Dr. Todd Leff
Department of Pathology/CIMER
Wayne State University School of Medicine
Scott Hall
540 East Canfield
Detroit, MI 48201

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

ASSOCIATE PROFESSOR OF IMMUNOLOGY
Department of Microbiology and Immunology
Medical College of Ohio

Applications are invited for a 12-month, tenured/tenure-track faculty position. Applicants must have an independent, extramurally funded research program in an area of immunology such as immune response to microbial infection. In addition to teaching medical and graduate students, the successful candidate will be expected to participate in existing bacterial and fungal pathogenesis programs within the Department.

The Department is in a growth phase and there is the potential for the successful candidate to concurrently or subsequently recruit a second faculty position to support the development of immunology. MCO is a state school with a modern campus. To learn more about the Department and MCO, visit our **website: http://www.mco.edu**. Applicants should submit a statement of research goals with representative reprints, curriculum vitae, and the names of five references to: **Garry T. Cole, Ph.D., Chair, Department of Microbiology and Immunology, Medical College of Ohio, 3055 Arlington Avenue, Toledo, OH 43614-5806**. Applications should be received by March 15, 2002, although the search will continue until the position is filled. *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR
Bio/micrometeorology

Tenure-track position in the Department of Land, Air, and Water Resources at the University of California at Davis. Applicants should be experts in the computational modeling and/or experimental analysis of micrometeorological atmospheric processes and their coupling to chemical, physical, and/or biological components. The successful candidate is expected to develop a vigorous research program, teach atmospheric science classes at the undergraduate and graduate levels, and contribute to the Agricultural Experiment Station.

Additional information and the online application form are available at **website: http://lawr.ucdavis.edu/**. All applications should be submitted electronically by April 1, 2002.

The University of California at Davis is an Equal Opportunity/Affirmative Action Employer with a strong institutional commitment to the achievement of diversity among its faculty and staff.

POSITIONS OPEN

TWO POSITIONS AT THE ASSISTANT/ASSOCIATE PROFESSOR LEVEL
Department of Anatomy and Cell Biology
University of Florida College of Medicine

The Department of Anatomy and Cell Biology in conjunction with the University of Florida Shands Cancer Center invites applications for two tenure-track faculty positions at the level of Assistant or Associate Professor beginning on or after July 1, 2002. Applicants should have a Ph.D. and/or M.D. degree. The successful candidates will be expected to conduct independent, extramurally funded research in the general areas of molecular cell biology and cancer. Candidates will also be expected to participate in the training of medical and graduate students. The positions offer competitive salaries and start-up packages. Applicants should send their curriculum vitae; a brief description of research interests; and three letters of recommendation by March 31, 2002, to:

Brian Burke, Ph.D.
Search Committee Chairman
Anatomy and Cell Biology
University of Florida
P.O.Box 100235
Gainesville, FL 32610-0235

Applications may also be made electronically to **e-mail: cellbiol@anatomy.med.ufl.edu**. For further information, visit both the departmental **website: http://www.med.ufl.edu/anatomy/** and Shands Cancer Center **website: http://www.ufscc.ufl.edu/**. *The University of Florida is an Equal Opportunity/Affirmative Action Institution.*

STEM CELL BIOLOGY/GENE TRANSFER
University of Minnesota

The University of Minnesota Stem Cell Institute, Institute of Human Genetics, Cancer Center, and Blood and Marrow Transplant Program invites applications for a tenure-track position at the rank of **ASSISTANT, ASSOCIATE,** or **FULL PROFESSOR** in the area of gene transfer. The goals of the individual recruited to this position will be to study basic stem cell behavior, transfer, and persistent expression of genes in hematopoietic stem cells. The individual will join an active group of laboratory and clinical Investigators comprising the Clinical Program of Experimental Therapeutics.

The successful candidate will have an M.D. or Ph.D. degree and a track record of accomplishments and expertise in stem cell biology. Successful candidates will be expected to develop an extramurally funded research program. Excellent facilities are available in the University of Minnesota School of Medicine and the Molecular and Cellular Therapeutics GMP facility for large-scale human clinical investigations. Opportunities exist for collaborative research projects. Salary and start-up funds will be competitive. Primary departmental appointment will depend upon the candidate's background.

Applicants should send current curriculum vitae, statement of research interests and intentions, and three letters of reference to: **John E. Wagner, M.D., Scientific Director of Clinical Research of the Blood and Marrow Transplantation Program and Stem Cell Institute, University of Minnesota, Mayo Mail Code 366, 420 Delaware Street S.E., Minneapolis, MN 55455-0392 U.S.A.**

Completed applications should be received by April 15, 2002; however, the search will remain open until the position is filled. *The University of Minnesota is an Equal Opportunity Educator and Employer.*

A **POSTDOCTORAL POSITION** is available immediately for a project involving the application of gene therapy to prevent the rejection of porcine xenografts. Experience in stem cell isolation and transduction, cell culture, flow cytometry, and molecular biology is required. Interested candidates with a Ph.D. should send their curriculum vitae and the names of three references to: **Dr. Mary Kearns-Jonker, Department of Cardiothoracic Surgery, Children's Hospital of Los Angeles, 4650 Sunset Boulevard MS Number 66, Los Angeles, CA 90027. E-mail: mkearns@chla.usc.edu**.

Research the Possibilities...

Internationally renowned, **St. Jude Children's Research Hospital,** located in Memphis, Tennessee, fosters the unique insights of its many researchers to strive for one common goal: the eradication of catastrophic diseases in children. Focusing on biomedical research, researchers at St. Jude seek to interpret the molecular causes of disease, improve diagnosis and treatment, minimize immediate and long-term side effects, and ultimately, to find a cure for those diseases.

Our rapid expansion plans, supporting our continuing medical advances, allow our research staff to further develop and grow in their careers while working in a well founded, state-of-the-art facility. St. Jude Children's Research Hospital is one of the premier international academic and teaching institutions for pediatric disease research, and provides regular workshops, seminars and lectures presented by St. Jude faculty as well as distinguished visiting investigators. St. Jude is actively pursuing candidates with the skills and ambition necessary to expand the limits of science.

Don't miss this opportunity to excel in your career at our internationally renowned institution. St. Jude hires Research Staff in the following areas:

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Please plan to meet with our representatives at the AAAS/Science Career Fair on February 18, 2002 at the Boston, MA Hynes Convention Center.

We encourage candidates to visit our website for additional information on St. Jude, our available opportunities, and our home in Memphis.

www.stjude.org/hr

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

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Technical Service Scientist. Responsibilities include providing technical support for all of products at QIAGEN, which include nucleic acid purification, protein expression and purification, amplification enzymes, transfection products, and automated workstations, as well as support for any related applications. Additional duties include providing technical and non-technical training, writing and editing technical literature, presenting seminars and workshops, and attending scientific meetings. Some travel may be required. B.S./M.S./Ph.D. degree in molecular biology or related discipline and at least 3 years of laboratory experience required. Broad molecular biology experience and outstanding verbal and written communication skills required. Experience in plant molecular biology, transfection, recombinant protein expression and purification is desirable. (Reference TSS-0102).

Send resume to: **QIAGEN Inc. (Ref. TSS-0102) HR Dept., 28159 Avenue Stanford, Valencia CA 91366. Fax to: (661) 702-3653 e-mail hr@us.qiagen.com** No calls, please.

PET Director

NIDA-02-0003, PET Director: The Neuroimaging Research Branch, Intramural Research Program (IRP), National Institute on Drug Abuse (NIDA), NIH, invites applications for a Tenure/Tenure Track investigator position as Chief of the Positron Emission Tomography (PET) Section. The successful candidate is expected to develop an independent research program emphasizing the development and/or application of novel radiotracers to problems of drug abuse. As such, candidates must possess a Ph.D. or M.D./Ph.D. in organic, medicinal or physical chemistry, pharmacology, or a related field, with significant scientific achievements as an independent investigator and experience in developing and/or applying novel radiocompounds to study *in vivo* functional brain chemistry. The incumbent will be responsible for leading an existing vibrant group of scientists; therefore, excellent leadership and interpersonal skills and a strong research interest in the neurochemical and pharmacological mechanisms of drug abuse are required. The PET facility includes a Siemens HR+Exact PET camera, CTI models RDS111 cyclotron, complete hot and cold laboratory facilities, and *in vivo* and *in vitro* animal and tissue laboratories.

This opportunity is offered at a competitive salary level and includes a full Federal benefits package plus an operating budget in an exciting, multidisciplinary research environment. Relocation expenses may be paid. Interested applicants must submit a Curriculum Vitac with bibliography, a description of future research plans (no more than 5 pages), three letters of recommendation from non-collaborators, and a copy of the doctoral/medical degree (if in a foreign language, include a certified English translation) to: **Morgan DuBrow, Chief, Human Resources Management Section, NIH/NIDA/IRP, 5500 Nathan Shock Drive, Building C, Room 247, Baltimore, MD 21224. Mr. DuBrow is available on 410-550-1638, FAX 410-550-2224, e-mail: MDUBROW@intra.nida.nih.gov**. You may apply via mail, in person, by fax, or by e-mail. All application materials must be received by close of business on March 31, 2002; late applications will not be considered.

The NIH is an Equal Opportunity Employer, and applications from women and minorities are encouraged.

POSITIONS OPEN

TENURE-TRACK/TENURED FACULTY POSITIONS
Virology and Medical Microbiology

The Department of Microbiology and Immunology, Finch University of Health Sciences/The Chicago Medical School, is seeking two **ASSOCIATE PROFESSORS** with strong publication records and current extramural research funding in the fields of virology and medical microbiology emphasizing molecular pathogenesis and immunology, teaching medical and graduate students and directing training of Doctoral and/or Postdoctoral research trainees. The Department has established strength in the areas of molecular biology, immunology, and host-parasitic relationships. Excellent laboratory space and facilities, substantial start-up funds, and a competitive salary will be provided.

Applicants should send curriculum vitae, a summary of research accomplishments and future research plans, and names of three references to: **Yoon B. Kim, M.D., Ph.D., Professor and Chairman, Department of Microbiology and Immunology, Finch University of Health Sciences/The Chicago Medical School, 3333 Green Bay Road, North Chicago, IL 60064.** *Finch University of Health Sciences/ The Chicago Medical School is an Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR
Faculty Position in Tropical Marine Biology

The University of Guam Marine Laboratory invites applications for a tenure-track, 12-month position in tropical marine biology with an initial contract period of three years, available as early as July 2002. Candidates are sought with expertise in marine chemical ecology or marine natural products chemistry. Applicants must have a Ph.D. from a U.S. accredited institution or foreign equivalent in a relevant field, a strong record of research accomplishments, ability to teach graduate-level courses, and a willingness to mentor and supervise both graduate (M.S.) and undergraduate students. Applicants should send curriculum vitae, statement of research and teaching interests and plans, names and contract information of three references, copies of representative publications, and copies of undergraduate and graduate transcripts to: **Marine Biology Search Committee, Human Resources Office, University of Guam, UOG Station, Mangilao, Guam 96923.** Review will begin April 1, 2002. For additional information, contact: **Dr. Robert Richmond, Search Committee Chair; e-mail: richmond@uog9.uog.edu**. See expanded job description at website: **http://www.uog.edu/hro.** *An Equal Opportunity/Affirmative Action Employer.*

ASSOCIATE PROFESSOR OR PROFESSOR

(21UC0711) The University of Cincinnati seeks an Associate Professor or Professor with specialization in bioinformatics to serve as the Program Director for bioinformatics in the Department of Biomedical Engineering. This individual must have a Ph.D. in biology, biomedical engineering, biometrics, mathematics, or computer science/engineering or other related disciplines. The individual will be expected to develop a strong, independent research and educational program in bioinformatics related to computational or biological modeling leading to significant extramural funding and interdisciplinary collaborations at the University of Cincinnati. The salary is competitive and commensurate with faculty at similar levels of career. Contact:

William S. Ball, M.D.
University of Cincinnati
P.O. Box 210048
Cincinnati, OH 45221-0048
Telephone: 513-556-4131
FAX: 513-556-4162
E-mail: ball@athena.chmcc.org

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POSITIONS OPEN

TENURE-TRACK FACULTY POSITIONS DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY
University of Alabama at Birmingham Schools of Medicine and Dentistry

Applications are invited to fill two tenure-track faculty appointments in the Department of Pharmacology and Toxicology at the rank of **ASSISTANT** or **ASSOCIATE PROFESSOR**. The major responsibility of successful candidates will be original research supported by extramural sources. We seek individuals with a Ph.D. or equivalent graduate degrees who will develop an outstanding research program; mentor graduate students; and teach in the medical, dental, and interdisciplinary graduate programs. Candidates with expertise in cellular and molecular pharmacology or toxicology, drug metabolism, proteomics, pharmaco/toxicogenomics, or signal transduction in apoptosis and cancer are particularly encouraged to apply. The positions include an attractive start-up package, competitive salary and benefits, and are supported by excellent core facilities. Send application letter, curriculum vitae, future research plans, and names and contact information for three references to: **Dr. Robert Diasio, Chairman, Department of Pharmacology and Toxicology, Volker Hall, 1670 University Boulevard, University of Alabama at Birmingham Schools of Medicine and Dentistry, Birmingham, AL 35294. E-mail: robert.diasio@ccc.uab.edu.** *The University of Alabama at Birmingham is an Affirmative Action/Equal Opportunity Employer.*

BIOLOGIST

The Biology Department at the College of the Holy Cross invites applications for a two-year **VISITING APPOINTMENT** in cellular and molecular biology beginning in fall 2002. The successful candidate will teach a laboratory course in cell biology; an upper-division course in an area of expertise (e.g., immunology, neurobiology, virology), and a course for non-science majors. He or she may also supervise undergraduate research projects in cellular or molecular biology. The successful candidate will hold a Ph.D. at the time of appointment. Holy Cross, with an enrollment of 2,700 students, is a highly selective liberal arts college that values excellence in both teaching and research. Applicants should send or arrange to have sent curriculum vitae, teaching statement, transcripts, representative publications, and letters from three references to: **Dr. Robert Bertin, Chair, Department of Biology, College of the Holy Cross, Worcester, MA 01610.** *Review of applications will begin by March 8, 2002, and continue until the position is filled. The College of the Holy Cross is an Equal Opportunity Employer with an Affirmative Action Plan; committed to a policy of Equal Opportunity; and does not discriminate on the basis of race, color, religion, sex, age, national origin, veteran status, disability, or sexual preference.*

ENDOWED CHAIR IN DEVELOPMENTAL NEUROSCIENCE

The Department of Biology of Wake Forest University is seeking an established Developmental Neuroscientist for an endowed position as a Reynolds Professor. Wake Forest is a Doctoral II University that confers undergraduate and graduate degrees in the Colleges of Arts and Sciences, Law, Business, Management, Medicine, and Divinity. The University espouses the teacher/scholar ideal in which teaching and research are intimately related. The successful candidate will have received international recognition in the area of developmental neuroscience and must be committed to excellence in research and teaching. Collaboration with Investigators in several related departments will be encouraged. Applications including curriculum vitae and the names of three references should be sent to: **Wayne Silver, Department of Biology, Wake Forest University, Winston-Salem, NC 27109.** Application review will begin on April 15, 2002, and applications will be accepted until the position is filled. More information is available at **website: http://www.wfu.edu/reynoldsprofessor.** *Wake Forest University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FULL PROFESSOR POSITION
Biotechnology

The Department of Biology at The University of Texas at San Antonio (UTSA) **(website: http://www.utsa.edu)** invites applications for a tenured position as Full Professor of Biotechnology, preferably with experience in microbiology (pending budget approval). The Department of Biology consists of 27 faculty members and offers a B.S. degree in biology, M.S. degrees in biology and biotechnology, and a Ph.D. degree in biology. New biotechnology research facilities will be an integral part of the $83 million, 228,000-square-foot Biosciences and Engineering Building, which will be completed in 2004. A competitive start-up package is available. Required qualifications: The successful applicant will have a Doctoral degree in biology, biotechnology, or a related discipline and have either a well-established research program with a record of productivity and extramural funding in the academic sector or significant biotechnology accomplishments in the industrial sector. Responsibilities for this position will include adopting a leadership role in the biotechnology program at UTSA; maintaining an active, well-financed research program; participation in teaching day or evening courses offered either at the UTSA downtown campus or the main campus; and performing administrative service. Applicants must submit, by regular mail or courier service, a letter of application; a curriculum vitae; copies of recent publications; a statement of research plans; a statement of teaching interests and experience; and the names, postal addresses, e-mail addresses, and telephone numbers of three references. Review of applications will begin on March 1, 2002, and will continue until the position is filled pending budget approval. *Applicants who are not U.S. citizens must state current visa and residency status.* Address applications to: **Search Committee Chair, Department of Biology, The University of Texas at San Antonio, 6900 North Loop 1604 West, San Antonio, TX 78249. FAX: 210-458-5658.** *UTSA is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

The University of Massachusetts Medical School is seeking a dynamic leader for the position of **DIRECTOR OF THE DEPARTMENT OF ANIMAL MEDICINE**. The Animal Medicine Department includes facilities for species that range from nonhuman primates and aquatic species to extensive VAF and SPF facilities for rodents. The University of Massachusetts Medical School is a major research institution with 250 Research faculty conducting research in six buildings on the Worcester campus. The Medical School is committed to a major expansion of research in the area of genomics, neurosciences, cancer biology, chemical biology, immunology, and infectious diseases in a new state-of-the-art, 365,000-square-foot research building. The ideal candidate should have a D.V.M. or other suitable Doctoral degree and experience in managing a large and diverse animal medicine department. Applicants are invited to submit a letter of interest, current curriculum vitae, and names of three references to: **Aldo Rossini, M.D., Program in Molecular Medicine, Two Biotech, Suite 218, 373 Plantation Street, Worcester, MA 01605.** *The University of Massachusetts Medical School is an Affirmative Action/Equal Opportunity Employer.*

A **POSTDOCTORAL POSITION** is available immediately to study the effects of genetic mutations on endolymph homeostasis in murine models. Experience in electrophysiologic recording of endolymphatic potential and ion concentration in cochlear and vestibular endolymph is required and an M.D. degree in otolaryngology is preferred. The position is NIH funded. Prospective candidates should submit their curriculum vitae and names of three references to: **Daniel Marcus, D.S.; e-mail: marcus@ksu.edu.** *Kansas State University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

VERTEX

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BIOLOGY

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Oncology - Immunology - Neurology
(300-9)

Investigator/Sr. Staff Investigator
Oncology - Immunology
(300-7 & 300-5)

Cell Biology

Oncology/Signal Transduction Specialist
(300-14)

CLINICAL PHARMACOLOGY

Clinical Pharmacologist/
Sr. Clinical Pharmacologist
(740-6 & 740-15)

PHARMACOKINETICS/ DRUG METABOLISM

Staff Investigator
(740-4)

PROTEOMICS

Associate/Investigator,
Disease and Drug Mechanisms
(340-2)

X-RAY/CRYSTALLOGRAPHY

Associate/Investigator
(410-2)

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Scientist—Biosensors

This position, reporting in the Biosensors team, is for an Organic Chemist to provide chemistry expertise for the development of biosensors. The incumbent will conduct experiments to develop new fluorescent dyes and detection systems. Primary responsibilities will be synthesizing, purifying, and characterizing novel fluorescent dyes. The incumbent will also perform spectral characterization, functional tests, and other assays necessary for the preparation and evaluation of the synthetic materials; assist with identifying and evaluating new chemistry technologies applicable to improved diagnostics and detection formats; and prepare and maintain accurate records of all work performed and assist in the preparation of reports, patents and publications.

PhD in Organic Chemistry with experience in organic synthesis and 1–3 years of post-doctoral experience or equivalent is required. Experience in one or more of the following technologies would be especially relevant: dye chemistry, heterocyclic chemistry, bioconjugation methods, and fluorescence spectroscopy. A working knowledge of biochemistry and/or molecular biology is a plus. Excellent communication skills and the ability to work effectively in a multi-disciplinary environment is needed. A demonstrated ability to work independently with a record of scientific accomplishment supported by publications and/or patents required.

Scientist/Engineer

This position, reporting in the Biosensors Team, is for a Scientist or Engineer with experience in the design and development of spectroscopic detectors for the development of prototype biosensor monitoring devices. The incumbent will design and conduct experiments to develop or evaluate potential biosensor devices. Primary responsibilities will be to perform characterization, functional tests, and other assays necessary for the preparation and evaluation of the devices; assist with identifying and evaluating external technologies and potential opportunities for collaborations or partnerships related to biosensor prototypes; prepare and maintain accurate records of all work performed; and assist in the preparation of reports, patents, and publications.

Position requires an advanced degree; experience in Analytical Chemistry, Optical Engineering or related field; and experience with instrumentation development using one or more of the following technologies: fluorescence spectroscopy, optical fiber sensors, SPR (surface plasmon resonance), and/or chemical sensors. Excellent communication skills and the ability to work effectively in a multi-disciplinary environment are needed. A demonstrated ability to work independently with a record of scientific accomplishment supported by patents and/or publications required.

Scientist—Biosensors

This position, reporting in Biosensors, is for a scientist with expertise in implantable biomedical device technology for the development of implantable biosensors. The incumbent will design a program and conduct experiments to evaluate implant materials and biosensor devices; perform characterization, functional tests, and other assays necessary for testing of implant performance and biocompatibility in both *in vivo* and *in vitro* formats; and develop appropriate animal models for evaluating biosensor stability and performance over time. This position will be responsible for preparing and maintaining accurate records of all work performed and assisting in the preparation of reports, patents, and publications.

Requires a PhD in Biomedical Engineering or related field with experience evaluating implantable devices for biocompatibility. A working knowledge of biomaterials, fluorescence spectroscopy, and/or animal model implantation would be especially useful. Excellent communication skills and the ability to work effectively in a multi-disciplinary environment will be needed. The candidate should also have a demonstrated ability to work independently with a record of scientific accomplishment supported by patents and/or publications.

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COMPUTATIONAL CHEMISTRY (PHD)
Job Code WHN#1089999

ANALYTICAL CHEMISTRY (BS/MS)
Job Code WHN#1093853

CHEMINFORMATICS, SR. INVESTIGATOR
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Ph.D./MS Analytical Chemist with 5-10 years experience in pharmaceutical analytical method development and validation. A working knowledge of cGMP is required. The successful candidate will be responsible for development, validation, implementation and technology transfer of analytical methods in support of preclinical through phase III. Other responsibilities will include coordinating efforts with CMOs and preparing reports for FDA regulatory documents.

Bioanalytical Chemist needed to join our Bioanalytical/Pharmacology group. Requires hands on experience with HPLC/MS in bioanalytical applications. Experience with ADME analytical applications is a plus, as is a working knowledge of GLP. Candidate should be well organized and have strong communication skills.

Send resumes to: **Human Resources, Paratek Pharmaceuticals, Inc., 75 Kneeland Street, Boston, MA 02111; fax: 617/275-0039; hr@paratekpharm.com**

CBER FDA

Hiring Initiative for Countering Bioterrorism

The Countering Bioterrorism Initiative is comprised of a number of essential elements for which the Center for Biologics Evaluation and Research plays an integral role. One such element is the expeditious development and licensing of products to diagnose, treat or prevent outbreaks from exposure to the pathogens that have been identified as bioterrorist agents. These products must be reviewed and approved prior to the large-scale production necessary to create and maintain a stockpile. Staff must guide the products through the regulatory process, including the manufacturing process, pre-clinical testing, clinical trials, and the licensing and approval process. Experts in these areas are needed to expedite the licensing and approval process for these products. This process is extremely complex and early involvement by staff is crucial to the success of the expedited review process.

Consequently, the Center for Biologics Evaluation and Research is actively soliciting applicants to fill a multitude of positions involved in the regulation and research of blood, vaccines and therapeutics including those against bioterrorism agents. For more information, log onto **www.fda.gov/cber/inside/vacancy.htm** and select Countering Bioterrorism.

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GLOBAL OPPORTUNITIES

NATIONAL UNIVERSITY OF SINGAPORE
DEPARTMENT OF MICROBIOLOGY
FACULTY APPOINTMENTS

A number of full time tenure-track positions are available at the Department of Microbiology, Faculty of Medicine, National University of Singapore for outstanding applicants with strong research and teaching experience, particularly in areas of microbial genetics, medical microbiology, molecular microbiology, immunology and environmental microbiology.

The successful candidates will be able to work in a highly interactive environment to complement and further strengthen the department's active research programmes in bacterial genetics, immunology, molecular virology, cancer genetics, antibiotic genes, molecular parasitology and fermentation technology.

The Department of Microbiology has a large graduate student enrolment as well as teaching commitments to medical, dental and science students. The successful candidates will have teaching responsibilities for undergraduate and graduate level courses. Research support core facilities including automated DNA sequencing, FACS analysis, in situ hybridization, confocal microscopy, etc are easily available. Collaboration is encouraged with nearby research centres such as Johns Hopkins Singapore, Genome Institute of Singapore, Institute of Molecular and Cell Biology, and Institute of Molecular Agrobiology.

Applicants must possess a PhD degree or an approved basic medical degree with a recognized higher academic/professional qualification as well as academic experience in teaching and research. Appointments are on a 3-year contract in the first instance and are renewable based on performance.

The Department of Microbiology offers highly competitive salary packages along with allowances for relocation, housing, travel support and children's education.

Interested applicants should send a full CV, together with names, contact or email addresses of 5 referees to the **Administrator, Department of Microbiology, Faculty of Medicine, National University of Singapore, 5 Science Drive 2, Singapore 117597 Fax: 65-7766872 E-mail: micsoc@nus.edu.sg.**

Visit our website at **http://www.nus.edu.sg/NUSinfo/Appoint/med-micro.html** for links to information on the Department and the University. An electronic copy of the application form and the terms and conditions of employment are also available on the website. Only short-listed candidates will be notified.

POSTDOCTORAL OPPORTUNITIES

POSTDOCTORAL FELLOWSHIPS IN MOLECULAR AND CELL BIOLOGY AT THE NIH

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

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

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

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

Molecular mechanisms of orphan nuclear transcription factors. Currently, investigations include transgenic and gene-targeted mouse models. Techniques employ proteomics and gene microarrays and using the Nurr1-null mice deficient in neurotransmitter dopamine and in vitro primary brain cultures. Background in neuroscience is preferable. [Current Genomics (2000) 1:135; Mol. Brain Res. (2000) 84:67; J. of Neuroscience Res. (2001) 64:322]. **(Vera Nikodem veran@intra.niddk.nih.gov)**

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

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

POSTDOCTORAL

POSTDOCTORAL RESEARCH FELLOW

Department of Biochemistry and Molecular Pathology

A Postdoctoral position (NIH-funded) is available to study nuclear receptor regulation of the genes involved in bile acid and cholesterol metabolisms. Applicants should have a Ph.D. in biochemistry or molecular biology with extensive experiences in gene cloning and expression, and techniques for tissue culture, transfection assays, and DNA-protein interactions.

Please submit cover letter indicating department and position along with a curriculum vitae and names of three references to:

Northeastern Ohio Universities College of Medicine
attn: John Y.L. Chiang, Ph.D.,
jchiang@neoucom.edu
Department of Biochemistry and Molecular Pathology
4209 St. Rt. 44, PO Box 95
Rootstown, Ohio 44272-0095.

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VIRGINIA BIOINFORMATICS INSTITUTE

PROTEOMIC/MASS-SPEC The ideal candidate will have a M.S. or Ph.D. in chemistry, biochemistry or related field with expertise in LC-MS, 1-4 yrs experience in the proteomics arena and good communication skills. Demonstrated abilities include microscale chemical manipulation of peptides and proteins, hands on experience in microcapillary LC-MS/MS and analysis of proteins from high resolution protein separations using either multidimensional chromatography or 1D/2D gel electrophoresis is required. Responsibilities include the operation and maintenance of analytical instrumentation (HPLC, autosampler, LC detectors, mass spectrometers), development of low flow methods for protein characterization, including the application of nano-flow/spray techniques and incorporation of currently available methodology to enrich / improve detection for low abundance proteins and their modifications and keeping good laboratory records. Ability to train users and interpretation of mass spectral data is essential. A working knowledge of 2D gels, enzymatic digestion, multi-dimensional separation techniques, MALDI-TOF and laboratory automation is a plus.

POSTDOCTORAL POSITION A position is available for the identification of genes influencing cancer growth and the study of mechanisms of disease progression. The project will involve using an innovative method of gene transfer into living cells, mammalian tissue culture, cytogenetics, flow cytometry and DNA microarray approaches. The awardee will have access to a new molecular genetics laboratory as well as state-of-the-art core facilities for high throughput sample preparation, genotyping, sequencing, microarray analysis, mass spectroscopy and bioinformatics. For this position, we are looking for a motivated individual with an M.D., Ph.D., or M.D./Ph.D. in genetics or molecular/cell biology who has experience working with cDNA libraries, microarrays, flow cytometry and tissue culture systems and who has an interest in mechanisms of cancer progression and host/pathogen interactions.

Website: http://www.vbi.vt.edu

Salary is based on relevant experience and education. Qualified candidates should send a copy of their curriculum vitae and contact details including telephone numbers and e-mail addresses of three references to: **Debi Darnell, Virginia Bioinformatics Institute, 1880 Pratt Drive, Building XV, Blacksburg, VA 24061. E-mail: ddarnell@vt.edu**

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SYN X PHARMA is a fully integrated proteomics research and development company dedicated to early detection, prevention, and management of diabetes, cardiovascular, and CNS diseases. We are currently seeking motivated, energetic scientists to fill various positions in our R&D department.

Antibody Engineering Scientist

Requirements: a PhD in immunology or a related field and at least 2 years' hands-on experience working with recombinant antibodies

Protein Discovery Scientist

Requirements: a PhD with at least 3 years' post-doctoral or industry experience developing techniques for the separation of proteins and peptides from multiple sources

Assay Development Scientist

Requirements: an MSc/PhD in immunology, biochemistry or a related field and at least 3 years' experience developing and optimizing ELISAs

Protein Discovery Team Leader

Requirements: a PhD in protein chemistry or biochemistry and at least 5 years' industry experience in protein identification using mass spectroscopy

Chemist

Requirements: a PhD in chemistry or biochemistry and at least 2 years' post-doctoral or industry experience using various bioconjugation techniques (proteins to solid phases)

Discovery Biologist

Requirements: a PhD, experience with cell culture and recombinant gene expression techniques, and a working knowledge of cell-fractionation and protein purification techniques

To be considered for the above positions, you must have an impressive track record of creative problem solving demonstrated through scientific publications/patents along with good communication skills and a desire to work in a fast-paced, team oriented environment. For more information and a complete job description, visit our website at ***www.synxpharma.com.***

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GPC Biotech is a transatlantic biotech company committed to finding pharmaceutical solutions using genomics and proteomics.

GPC Biotech completed a very successful IPO in May 2000 on the Neuer Markt in Germany and has research facilities in Munich and Cambridge. We are committed to using our genomics and proteomics' platforms to accelerate and optimize our drug discovery programs as well as those of our pharmaceutical partners.

Computational Biologist

Develop and apply computational approaches to functional genomics and proteomics research. Participate in various pharmaceutical research and technology development projects, for example, in-depth characterization of gene and protein groups, creation of novel approaches to integration of heterogenuous datasets, and modeling and visualization of complex biological processes, systems and networks.

Ph.D. (or equivalent) in computer science or molecular biology is strongly preferred, but equivalent work experience will be considered. Experience working with large datasets is essential, as is extensive knowledge of bioinformatics tools and public data resources. Required skills also include sound knowledge of at least one programming language (C or Java preferred) and script writing (preferably in Perl). Experience with graphical user interface design and development is a plus. Positions are available in both Munich (Germany) and Waltham (MA, USA), and require fluency in English. **Ref: CPBIO**

GPC Biotech Inc., offers competitive salaries, benefits and a chance to work in an exciting scientific environment. Please send your resume to: Human Resources, GPC Biotech Inc., 610 Lincoln St., Waltham, MA 02451; Fax: 781-890-9005; Email: hr.waltham@gpc-biotech.com

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visit our web site @ www.gpc-biotech.com

NIDA-02-0004, MRI Physicist: The Neuroimaging Research Branch under the new leadership of Dr. Elliot Stein, Intramural Research Program (IRP), National Institute on Drug Abuse (NIDA), NIH, invites applications for a Tenure/Tenure Track investigator position as Chief of the MRI Physics Unit. The successful candidate will develop an independent research program emphasizing basic mechanisms in fMRI, MR spectroscopy, and/or fundamental issues in MR physics hardware and pulse sequence development. The Unit Chief will also have responsibility for the maintenance and development of applications on two new MRI machines - a 3 Tesla human MRI and a 9.4 Tesla small bore animal magnet. The successful candidate must possess a Ph.D. in MRI physics or a related field with a proven record of significant scientific achievements as an independent investigator. This is an exciting opportunity to establish a new MRI Physics Unit in a vigorous, multidisciplinary research environment committed to the development and application of MRI technologies to address problems of drug abuse.

This opportunity is offered at a competitive salary level and includes a full Federal benefits package plus an operating budget in an exciting, multidisciplinary research environment. Relocation expenses may be paid. Interested applicants must submit a Curriculum Vitae with bibliography, a description of future research plans (no more than 5 pages), three letters of recommendation from non-collaborators, and a copy of the doctoral degree (if in a foreign language, include a certified English translation) to: **Morgan DuBrow, Chief, Human Resources Management Section, NIH/NIDA/IRP, 5500 Nathan Shock Drive, Building C, Room 247, Baltimore, MD 21224. Mr. DuBrow is available on 410-550-1638, FAX 410-550-2224, e-mail: MDUBROW@intra.nida.nih.gov**. You may apply via mail, in person, by fax, or by e-mail. Applications must be received by close of business on March 31, 2002; late applications will not be considered.

The NIH is an Equal Opportunity Employer, and applications from women and minorities are encouraged.

Alliance for Nanomedical Technologies

The Alliance for Nanomedical Technologies is a unique partnership that will unite academia and the private-sector of New York State to develop the next generation of medical devices. We seek a number of scientists including biologists, material scientists, engineers, physicists and chemists to join collaborative research teams. The Alliance is supported by the New York State Office of Science, Technology and Academic Research (NYSTAR). It builds upon the infrastructure of the Nanobiotechnology Center, a National Science Foundation supported Science and Technology Center, the Cornell Nanofabrication Facility, and the Center for Advance Technology in Biotechnology.

Faculty currently associated with the Alliance include: Cornell University-Carl Batt, Dieter Ast, Antje Baeumner, George Malliaras, Kevin Kornegay, Emmanuel P. Giannelis, David Hammer, Watt Webb, Frank Wise, Harold Craighead, Michael Spencer, Albert Sievers, Manfred Lindau, David Russell. University of Rochester-Robert Boyd; Wadsworth Center- James Turner; Weill Medical College of Cornell University-David Christini.

Research Associates: Positions are available both for the nanoBioFab facility and for the collaborative research teams. The Alliance is interested in Ph.D. level scientists and engineers with previous postdoctoral experience especially those with training in microfabrication, material sciences and optics.

Postdoctoral Associates: Positions are available for individuals interested in joining collaborative research teams. We seek Ph.D. level scientists and engineers in engineering, applied physics, chemistry, optics and the life sciences.

Research Support Specialist: The successful applicant will be part of an interdisciplinary team and help support efforts in the fabrication of microscale devices to explore biology. Microfabrication skills including CAD design, photolithography, etc. are required.

Application: Please submit current curriculum vitae and the names of at least three references to: **Carl A. Batt, Project Leader, Alliance for Nanomedical Technologies, 135 Biotechnology Building, Cornell University, Ithaca, NY 14853; FAX 607-255-8741; cab10@cornell.edu**

CORNELL

UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL

DEPARTMENT OF MOLECULAR GENETICS AND MICROBIOLOGY

Bacterial Pathogenesis - Senior Faculty Position

The Department of Molecular Genetics and Microbiology invites applications for a senior faculty member in the field of bacterial pathogenesis. An outstanding record of achievement in research and mentoring is expected, as is a commitment to excellence in teaching.

The University of Massachusetts Medical School (http://www.umassmed.edu/) is experiencing rapid growth in all academic programs and is in the midst of a five year expansion that will add more than 100 new research faculty. Superb resources, a generous start-up package and renovated space will be provided to the successful candidate. A joint clinical appointment in infectious diseases or related disciplines is possible for individuals with clinical training.

Applications should include a Curriculum Vitae, a brief statement of research accomplishments and interests, reprints of selected publications (not to exceed three), and the names, email address and telephone numbers of three individuals whom the applicant has asked to send letters of reference.

UMASS

Send application to: Chair, Bacterial Pathogenesis Search Committee, Department of Molecular Genetics and Microbiology, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, MA 01655-0122.

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Principal Research Scientist: Molecular Biology
(Req. Code: 02-0000273)

A position is available for a molecular biologist with a strong background in protein structure/function studies. This individual will assume responsibility for an ongoing effort to design and develop novel antibody-based molecules with potent biological activity and lead a search for similar molecules with other biological activities. The successful candidate will have experience with molecular modeling, creative problem-solving abilities, and a desire to drive products into clinical development. A Ph.D. with 6-12 years of post-doctoral experience is desired. Supervisory experience is required.

Senior Research Scientist: DNA Vaccines
(Req. Code: 02-0000275)

We are looking for a scientist to create and develop DNA vaccines for oncology, with special emphasis on vaccines for prostate cancer. Requirements include a Ph.D. with 4+ years of experience, or an MS with 10+ years of experience. The successful candidate will have expertise in cellular immunology and molecular biology techniques; experience with animal models a plus. Will lead a group of 2-3 scientists; supervisory experience desirable.

Associate Scientist: Phage Display
(Req. Code: 01-0004501)

We are seeking an Associate Scientist to join the Antibody Phage Display Group. The successful candidate will work in a team that provides antibodies for therapeutic and research programs throughout the company using phage display technologies. Applicants should have a BS/MS degree with 2-5 years of experience in protein biochemistry, bacterial expression, and molecular biology. Good communication skills and the ability to interact well in a team environment are essential. Familiarity with automation and a variety of data analysis software is also desirable.

Find more. Visit **www.jnj.com/careers** for more information or to forward your resume. Please reference company and requisition code with all specific applications.

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biotech

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Oversee all of Upstate's scientific research programs including production of biologics for drug discovery and coordinate all R&D and production efforts among labs in VA, NY, and the UK. Must have PhD in Biology or related life science field, and management experience over multiple labs. Requires minimum 5 years of academic or industrial lab experience in cell biology and cell signaling/ transduction, as well as a solid understanding of phosphorylation and disease relationships. Experience in cell biology reagents highly desirable. **Position located in Charlottesville, VA, home to University of Virginia and located adjacent to the scenic Blue Ridge Mountains and the Shenandoah Valley.**

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The Ottawa Health Research Institute (OHRI) is looking for scientists Endoproteolysis and Proteomics in relation to Diseases of Ageing Processes

The Ottawa Health Research Institute, affiliated with the University of Ottawa Medical School, is seeking applicants for academic research positions as **Senior scientists and Associate scientists**.

At the **Senior Scientist level**, candidates should have an impressive performance in basic research accomplishments (genetics, cellular and molecular biology) on the biosynthesis of proteins activated by endoproteolysis (prohormones, proneuropeptides, proviral envelope proteins, growth factors and some of their receptors, integrins and transcription factors). Relevance to disease processes like Alzheimer's and other neurodegenerative diseases, atherosclerosis, high blood pressure, obesity, diabetes, viral disorders is welcomed.

At the **Associate Scientist level**, candidates should demonstrate extremely good potential to become independent investigators and/or have recently reached this level. Background in clinical research will be an important additional asset.

In **Proteomics**, the OHRI is looking for a leader in this emerging field to initiate his/her research program in conjunction with the development of the Ottawa Proteomics Consortium. Candidates can be either at the senior or junior level.

In accordance with Canadian Employment and Immigration Guidelines, preference will be given to Canadian citizens and permanent residents of Canada.

The OHRI has other complementary programs in cancer, clinical epidemiology, hormones, growth and development, molecular medicine, neuroscience, stem cell biology and vision. For more information, we invite you to visit our website at **www.ohri.ca**.

Applicants should send their curriculum vitae to: **Dr. Michel Chrétien, O.C., O.Q., M.D., Director, Diseases of Ageing Unit and Regional Protein Chemistry Centre, 725 Parkdale Avenue, Ottawa, ON K1Y 4E9; or by e-mail: mchretien@ohri.ca**

UNIVERSITY OF Cincinnati

Head
Department of Biomedical Engineering
Colleges of Medicine and Engineering
University of Cincinnati

The University of Cincinnati (UC) invites nominations and applications for the position of Head of its rapidly growing Department of Biomedical Engineering (UCBME). UCBME was established on January 1, 2001, as a bridge department between two of the University's most prominent colleges, the College of Medicine and the College of Engineering, with support from the University and the Whitaker Foundation.

The Head is expected to have a strong commitment to research and education in biomedical engineering, to provide skillful leadership, to develop innovative programs in the Department and to establish collaboration throughout the University of Cincinnati, at Children's Hospital Medical Center and regionally with biomedical companies. The Head will be expected to foster and strengthen entrepreneurial and educational partnerships with local and regional biomedical industries.

Qualifications for the Head include an earned doctoral degree in one of the engineering, physical or medical sciences, demonstrated excellence in academic, inter- and multi-disciplinary scholarship; a proven record in research and education; established leadership skills; and an understanding of the complexities of biomedical engineering. The academic rank accompanying the position will be commensurate with education and experience.

The Department of Biomedical Engineering currently consists of 4 full-time faculty members, with plans for recruitment of 3 additional faculty by spring 2002, and is approved for a total of 16 full-time faculty by summer 2006. The Department occupies space in both the Colleges of Engineering and Medicine, with additional facilities at Children's Hospital Medical Center and a newly developing Genomic Research Institute with over 300,000 sq. ft. of research space. The University of Cincinnati is a Carnegie Foundation Research I University. The College of Medicine and College of Engineering have combined extramural grant holdings of $130,000,000. An ABET-approved undergraduate program offers a B.S. in Biomedical Engineering Mechanics, with a current enrollment of 30 students including 15 in the Honors program and 7 in combined admission in the College of Medicine. Final approval from the Ohio Board of Regents for M.S. and Ph.D. degrees (with specialties including Tissue Engineering and Biomechanics, Medical Imaging, and Bioinformatics) is expected in February 2002, with initial enrollment of graduate students in the fall of 2002.

For additional information, please see the web sites of the Colleges of Engineering and Medicine at **http:/www.eng.uc.edu/** and **http:/www.med.uc.edu/**. Curricula vitae and/or nominations should be sent electronically (preferably in pdf format) to **Ms. Mari Niehaus, Niehaumc@UCMail.UC.edu (phone: 513-558-0175)**. Review of applicants will begin upon receipt of letters of interest and applications will be accepted until the position is filled.

The University of Cincinnati is an Affirmative Action/ Equal Opportunity employer and encourages applications from women and minorities.

CIIT

CENTERS FOR HEALTH RESEARCH

DIVISION DIRECTOR POSITIONS

The CIIT Centers for Health Research (CIIT), an environmental health research Institute located in Research Triangle Park, NC, is seeking two individuals to provide scientific leadership in the positions of Director, Biological Sciences Division and Director, Biomathematics and Physical Sciences Division. The Division Directors will report to the Vice President for Research and will be members of CIIT's Research Leadership Group (RLG). The RLG is charged with developing an environmental health program using a systems biology approach, which integrates laboratory experiments and computational methods, by forming interdisciplinary teams of scientists to address important public health issues. The core program focuses research on the risk assessment paradigm as it impacts human health assessments and leverages a broader research program on environmental health and disease. CIIT research themes include the potential special susceptibility of children to disease mediated by environmental factors, the biological bases of inter-individual variation in disease susceptibility, and the extrapolations required to assess risk of human disease from exposure to xenobiotics based upon studies in laboratory animals. Taken as a whole, the CIIT research program helps to enhance human health by extending our knowledge of the biological basis of human disease.

The Division Directors: (1) provide senior scientific leadership for developing sound scientific knowledge and applying that knowledge to the resolution of important issues; (2) establish broad research goals and assist investigators in planning, organizing and prioritizing research activities, and focusing research proposals; (3) mentor more junior staff to encourage their professional and technical development and interactions with scientists in other disciplines; (4) maintain an active research program, and (5) lead staff in the development of significant externally funded research programs that leverage the core program.

Candidates must have a M.D., Ph.D., D.V.M., or equivalent degree in a health or physical science discipline with at least 10 years of progressive experience in scientific research and management. Demonstrated ability and research experience in multiple biological or physical science areas is requisite as well as a demonstrated record of obtaining competitively awarded research funds and managing multiple investigators and multi-year projects. The successful candidate will have well-developed skills for communicating with scientific peers and technical individuals trained in other fields. Salary is commensurate with experience and level of accomplishments.

Interested applicants should submit a letter of interest and a curriculum vitae (CV) by March 8, 2002. Applications and CV should be sent to the **Human Resources Director, 6 Davis Drive, P.O. Box 12137, RTP, NC 27709-2137**. CIIT offers excellent health insurance, retirement savings plans, paid vacation and holidays, and a highly stimulating academic work environment.

CIIT is an Equal Employment Opportunity Employer.

Population Genetic Programme in Neurological Disease (Singapore and London)

The National Neuroscience Institute (NNI) of Singapore with University College London has launched a major new interdisciplinary programme in the genetics and pharmacogenomics of epilepsy, Parkinson's Disease, and psychiatric disease. The programme will use association studies to screen a large number of candidate genes for mutations predisposing to neurological disease, and for mutations influencing how patients respond to treatment. The five year programme is a part of Singapore's Biomedical Research Initiative and will enroll thousands of patients from multiple ethnic groups. The programme is based at the National Neurology Institute in Singapore, though some positions will also include time in laboratories at University College London or the Genome Institute of Singapore. In the first wave of recruitment we seek the following research positions:

Three Postdoctoral Research Fellows

Candidates with backgrounds in population genetics, statistical genetics, pharmacogenomics, bioinformatics, or the genetics of complex disease are encouraged to apply. Job descriptions will depend on background and interest, but responsibilities include data analysis, selection of candidate genes, and design of experiments to characterize patterns of linkage disequilibrium in candidate gene regions.

Four Technicians

Candidates with experience in high throughput sequencing and genotyping are encouraged to apply.

Two Clinical Research Fellows

Candidates with experience in epilepsy, movement disorders, or psychiatric disease are encouraged to apply. Responsibilities will include the analysis of clinical data and development of an appropriate phenotyping scheme for the relevant condition, identification of appropriate candidate genes for the relevant condition, and patient enrollment. Clinical Fellows may choose to register in the PhD programme at University College London.

One Project Manager

Candidates with experience of research administration, or supervision of large laboratories are encouraged to apply.

Applications, including cvs and names and contact details for three referees should be sent to Professor Simon Shorvon (michelle_lian@ttsh.com.sg), Informal enquires concerning the research programme may be addressed to Professors Simon Shorvon, Nicholas Wood (**n.wood@exchange.ion.ucl.ac.uk**), David Goldstein (**d.Goldstein@ucl.ac.uk**), or Lai Poh San (**paelaips@nus.edu.sg**).

Protein Biochemist

CELLTECH

Celltech R&D (formerly known as Darwin Molecular Corp), is a bio-pharmaceutical company with research aimed at the discovery and development of innovative, antibody and small-molecule therapeutics, with a focus on autoimmune disease, inflammation and bone diseases.

Currently we are seeking an experienced protein biochemist to join our new protein expression group at our research facility near Seattle, WA. This person will be the senior protein biochemist and as such will have the major responsibility for the generation, purification and characterization of a wide variety of different protein targets. The ideal candidate will have a Ph.D. with a minimum of 2-3 years of postdoctoral experience, preferably in an industrial setting. An in-depth knowledge of protein purification using both affinity tags and more traditional approaches, coupled with an understanding of the requirements of protein characterization, is essential. This position requires mature interpersonal and communication skills with the ability to work both independently and as part of a team. Strong organizational skills, the ability to multi-task and computer literacy are vital.

For more information about our company please visit our website at **www.celltechgroup.com**. We offer our employees competitive salaries, excellent benefits, and an attractive stock option program. To apply please send your resume to **careers@sea.celltechgroup.com** or mail to: **Celltech, Attn: Human Resources, 1631 220th St. SE, Bothell, WA 98021**. Please include **job code MB02-1SCI.**

Celltech R&D is an Equal Opportunity Employer.

HARVARD SCHOOL OF DENTAL MEDICINE
Pathology Research Position

As part of a new research initiative, the Division of Oral Pathology of the Harvard School of Dental Medicine is establishing a search for an established investigator at the Associate Professor level. The Division is seeking an individual to integrate with, or expand, the scope of its currently funded programs in the molecular biology and genetics of oral cancer, the biological basis of mucosal injury, and the immunology of oral blistering diseases. The ideal candidate will have a D.M.D., D.D.S., M.D. and/or Ph.D. or equivalent, postdoctoral experience and 5 or more years of funded research at the Assistant Professor or Associate Professor level with a strong publication history. Specialty training in Oral Pathology is not required. The position will be available after April 1, 2002. Interested individuals should send a cover letter and Curriculum Vitae to:

Dr. Stephen Sonis (Search Committee Chair)
Brigham and Women's Hospital
75 Francis Street
Boston, MA 02115

Harvard University is an affirmative action/ equal opportunity employer. The University undertakes affirmative action to assure equal employment opportunities for underutilized minorities and women.

Ataxia-Telangiectasia and ATM

2002 International Symposium

May 29 to June 1, 2002

Hyatt Harborside at Logan International Airport in Boston, Massachusetts

TOPICS WILL INCLUDE

- Signal Transduction Pathways and ATM Interactions
- Oxidative Stress in A-T
- Animal Models of A-T
- A-T Neurobiology
- ATM Alterations in Malignancies
- Immune Dysfunction in A-T
- Current Directions for Treatments

TENTATIVE PROGRAM

Wednesday, May 29: 7:00 pm - Dinner
Thursday, May 30: 8:30 am - 5:00 pm - Dinner to follow
Friday, May 31: 8:30 am - 5:00 pm - Dinner to follow
Saturday, June 1: 8:30 am - noon

A-T CHILDREN'S® PROJECT

A-T Children's Project®
668 S. Military Trail
Deerfield Beach, Florida 33442 USA
Tel. 954-481-6611
Fax: 954-725-1153
E-mail: rosa@atcp.org

REGISTRATION FEES

$450 entire meeting or
$150 per day

Please note that payment is required in advance.

INCLUDED:

- Admission to all sessions
- All meals and refreshments
- Book of abstracts

REGISTER ON-LINE AT WWW.ATCP.ORG

Discount Accommodations:

The Hyatt Harborside Hotel has allocated a block of rooms which will be available at a special reduced rate. Reservations must be received by May 6, 2002. Be sure to mention the A-T Children's Project when contacting the hotel directly.

Presentations:

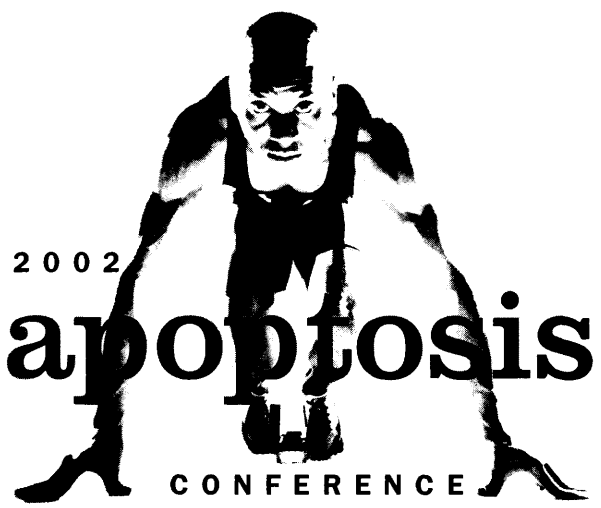
Researchers desiring to present during sessions must submit abstracts for consideration no later than April 30, 2002. Abstract guidelines are posted on-line at www.atcp.org

Poster Session:

Researchers with new results in areas relevant to ATM are encouraged to submit abstracts for poster presentations to ensure the broadest possible coverage and exchange of recent advances. The poster abstract submission deadline for inclusion in the abstract book is April 30, 2002. Additional posters will be accepted until May 15, 2002.

Exhibits and sponsorship:

A limited amount of space is available for exhibiting. If you are interested in exhibiting, advertising in the conference abstract book or sponsoring a lunch, coffee break or reception, please contact Jennifer Thornton, Executive Director of the A-T Children's Project at 954-481-6611or email Jennifer@atcp.org



Apoptosis: Commercial Opportunities

April 28 through May 1, 2002

Catamaran Resort Hotel

San Diego, California

Apoptosis: Commercial Opportunities will blend cutting edge knowledge of the molecular biology of the apoptosis pathway with its commercial applications in the pharmaceutical, diagnostic and agricultural fields.

Topics

Cancer
Cardiovascular Disease
CNS Disease
Infectious Disease
Inflammation
And Others

Speakers

H. Robert Horvitz, MIT (Keynote)
Robert Armstrong, Idun Pharmaceuticals
Avi Ashkenazi, Genentech
Kenneth Bauer, Chromavision Medical Systems
Martin Bennett, University of Cambridge
Kenneth Chien, UCSD
Martin Dickman, University of Nebraska Lincoln
Gerard Evan, UCSF
Stephen Fesik, Abbott Laboratories
Robert Friedlander, Harvard
Douglas Green, La Jolla Institute for Allergy and Immunology
Leo Hofstra, University of Maastricht
Richard Kitsis, Albert Einstein College of Medicine
Eric LaCasse, Aegera
Donald Nicholson, Merck Frosst
Guy Salvesen, The Burnham Institute
Gordon Shore, Gemin X
Andreas Strasser, WEHI
W. Joseph Thompson, Cell Pathways
Xiaodong Wang, University of Texas Southwestern Medical Center

Call for posters

Completed abstracts to present at Apoptosis: Commercial Opportunities must be submitted by March 8, 2002 on-line at www.idun.com. Authors will be notified by April 1 of abstract acceptance.

For more information
www.idun.com or call **858/623-1330**

Co-organizers: John Reed, The Burnham Institute • Kevin Tomaselli, Idun Pharmaceuticals, Inc.

International Aspirin® Award

Young Researchers' Aspirin® Award

The objective of the Young Researchers' Aspirin® Award is to encourage scientific research into the mechanism of action and clinical use of acetylsalicylic acid, the active ingredient of Aspirin®. Scientists who have contributed to the knowledge of Aspirin® through original independent scientific research in the field of theoretical (experimental) and/or clinical medicine are invited to compete for the Award. The results of their work should have a direct effect on the knowledge or use of Aspirin® and be based on a peer-reviewed publication, accepted and/or published. The publication should not be older than two years. The age limit of the Young Researchers' Aspirin® Award in the year of candidature is 40.

The Young Researchers' Aspirin® Award is valued at Euro 10,000.

Entries will be judged by an international scientific committee representing basic and clinical research.

Young researchers are invited to order either a hardcopy or a CD-ROM of the complete application documents from the following address:

International Aspirin® Award
c/o Bayer AG
Consumer Care Business Group
Medical Department
Dr. Gisela Latta
Building C 151
D-51368 Leverkusen/Germany
Fax: ++49-214-30-55184
E-mail: gisela.latta.gl@bayer-ag.de

The application documents are also available on the internet at http://www.award.aspirin.com

The deadline for submission is April 30th, 2002
(Date of receipt of documents by Bayer AG)

THE ORIGINAL ASPIRIN

Bayer

CONFERENCES

Inflammation Research Association

Inflammation Research Association's 11th National Conference

October 6-10, 2002
The Sagamore on Lake George,
Bolton Landing, New York

ABSTRACT DEADLINE
APRIL 15, 2002

Inflammatory Processes and Therapeutic Targets

Conference Symposia:

- Airway Remodeling in Chronic Pulmonary Diseases
- Osteoarthritis: Markers and Targets
- New Progress in the Medicinal Chemistry of Anti-inflammatory Drugs
- Molecular Signaling Pathways in Chronic Inflammatory Disease
- Defining the Mechanism of Action for GR Modulators with Improved Safety
- New Drugs: Targeting Inflammation in Disease

Keynote Speaker

Michael E. Weinblatt, M.D.
President, American College of Rheumatology
"Rheumatoid Arthritis: Have we won the war? A view from the front lines"

For registration, abstract submission and additional program information, visit the IRA website: **www.inflammationresearch.org**

GLOBAL OPPORTUNITIES

New South Wales Government, Australia
NSW Bio*First* Awards
Call for Applications

The New South Wales Government's Bio*First* Awards are a major initiative arising from the whole-of-Government biotechnology strategy "Bio*First* ", launched by the NSW Premier, The Hon Bob Carr MP in August 2001.

A NSW Bio*First* Award will top up a package being created by a NSW institution to attract a biotechnology research worker to NSW. An Award will be a one-line grant of $100,000 a year for three years. Up to five new Awards will be offered each year. Institutions will be permitted to use the BioFirst Award funding flexibly.

The NSW Government is looking to attract to New South Wales outstanding individuals with exceptional, internationally renowned research careers in disciplines relevant to biotechnology in areas such as health, agriculture, environment and bioinformatics.

Individual research workers who are interested in applying for a NSW Bio*First* Award should contact appropriate NSW institutions to discuss opportunities to work in NSW. One application completed by the research worker and the institution should be submitted to the Bio*First* Awards Committee.

Closing Date for applications : 7 March 2002.

Further information and the format of the application may be obtained from the following NSW Government department websites:
www.health.nsw.gov.au
www.biofirst.nsw.gov.au
www.agric.nsw.gov.au
www.business.nsw.gov.au

Enquires about the Bio*First* Awards may be addressed to—
Dr Bill Cowie
Research & Development Policy Branch
NSW Department of Health
73 Miller Street
North Sydney NSW 2059
Australia
Tel: +61 2 9391 9558
Fax: +61 2 9391 9556
Email: bcowi@doh.health.nsw.gov.au

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.

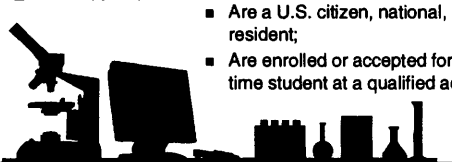
Scholarships of up to $20,000 per year support tuition, educational, and qualified living expenses (room, board, transportation) while students pursue an undergraduate degree.

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;
- Are from a disadvantaged background;
- Have a GPA of at least 3.5 or are in the top 5 percent of their class;
- Are a U.S. citizen, national, or permanent resident;
- Are enrolled or accepted for enrollment as a full-time student at a qualified accredited institution.



NIH is dedicated to building a diverse community in its training and employment programs.

http: ugsp.info.nih.gov • ugsp@nih.gov • 1-800-528-7689

Access the National Cancer Institute's (NCI) vast resources free of charge to facilitate discovery and preclinical development of novel anticancer therapeutic agents. The National Cancer Institute invites the submission of proposals to:

Rapid Access to NCI Discovery Resources
R•A•N•D

R•A•N•D is not a grant program. Successful applicants instead will receive products or information generated by NCI contractors to aid the applicant's efforts to translate basic research findings to the discovery of new drugs and biologics. The goal of R•A•N•D is to remove the most common barriers between basic research findings and their exploitation for discovery of new molecular entities. Examples of tasks that may be requested include: production/characterization of molecular target proteins; high-throughput screening (HTS) assay development; natural product isolation/characterization; synthesis of combinatorial libraries; early pharmacology and in vivo efficacy studies.

- The next deadline for receipt of applications is April1, 2002 (Letter of Intent required 30 days prior).
- Further information about this program can be found at: **http://dtp.nci.nih.gov**
- Inquiries can be made to the R•A•N•D Program Coordinator by telephone at 301-496-8720 or by e-mail at **RAND@dtpax2.ncifcrf.gov**.

R•A•N•D
Developmental Therapeutics Program
National Cancer Institute
6130 Executive Blvd., RM 8022
Rockville, MD 20852
Tel: 301-496-8720; Fax: 301-402-0831
RAND@dtpax2.ncifcrf.gov

THREE TENURE–TRACK POSITIONS
Molecular Toxicologist, Population Geneticist, Biochemist
University of Alaska Anchorage

The University of Alaska Anchorage invites applications for three tenure-track faculty positions in the Departments of Biological Sciences and Chemistry. All candidates are expected to establish a strong research program, seek external funding, and contribute to undergraduate and/or graduate education.

(1) Molecular toxicology/toxicogenomics, PCN Number 308536: The Department of Biological Sciences seeks a Molecular Biologist who works on the mechanisms of action of contaminant molecules, ideally at the level of genomics and/or proteomics. A focus on contaminants that might impact the safety of subsistence foods in Alaska is of particular interest. Candidates must have a Ph.D. in biology or relevant scientific field. Applicants at the **ASSISTANT PROFESSOR** level must have at least two years of postdoctoral experience and at least one first-author publication in a refereed journal. Applicants at the **ASSOCIATE** level must have an externally funded research program and a substantial publication record **(Search Chair: Dr. J.E. Krebs; e-mail: afjek@uaa.alaska.edu)**.

(2) Population Geneticist, PCN Number 300320: The Department of Biological Sciences seeks a Population Geneticist at the **ASSISTANT PROFESSOR** level. Candidates must have a Ph.D. in biology or relevant scientific field, postdoctoral experience, and at least one first-author publication in a refereed journal. Teaching expertise in population genetics and biometry or evolution preferred **(Search Chair: Dr. F. von Hippel; e-mail: affvh@uaa.alaska.edu).**

(3) Biochemist, PCN Number 731088: The Department of Chemistry seeks a Biochemist at the **ASSISTANT PROFESSOR** level. Candidates must have a Ph.D. in biochemistry or chemistry and postdoctoral experience. Candidates must have a strong commitment to teaching chemistry and biochemistry at the undergraduate level. Collaboration with the Department of Biological Sciences and Biomedical (WWAMI) program encouraged **(Search Chair: Dr. L. Heasley; e-mail: aflwh@uaa.alaska.edu).**

Candidates should submit (1) a cover letter referencing the PCN number and position name, (2) completed UAA application form, (3) curriculum vitae including publication list, (4) a statement of research experience and future interests, (5) a statement of teaching experience and philosophy, and (6) the names and contact information for three references. Send materials to: **University of Alaska Anchorage, Human Resource Services, 3211 Providence Drive, Anchorage, AK 99508-8136**.

Review of applications begins February 15, 2002, and will continue until positions are filled. Applicants may contact Search Chair with questions. Detailed position announcements and UAA application form can be found at **website: http://www.finsys.uaa.alaska.edu/uaahrs**. *UAA is an Affirmative Action/Equal Opportunity Employer and Education Institution. Women and minorities are especially encouraged to apply. Must be eligible for employment under the Immigration Reform and Control Act of 1986.*

DNA/RNA PRODUCTION MANAGER

Applications are invited from qualified individuals with a B.S. degree or higher in bioscience for the synthesis and purification of oligonucleotides. The applicant must have experience using AKTA oligopilot and AKTA purifier (Pharmacia) or similar devices. Experience in HPLC, FPLC capillary electrophoresis, or mass spectrometry is preferred. Position is located in the Los Angeles, California, area. We will provide relocation allowance if needed, competitive salary, and superior benefits. Please send your cover letter and résumé to: **Kiran Sidhu, Catalyst Capital LLC, 6012 Waverly Avenue, La Jolla, CA 92037. E-mail: ksidhu@catalystllc.net**.

POSITIONS OPEN

ASSOCIATE DEAN: The Brody School of Medicine at East Carolina University seeks an Associate Dean to provide leadership for the advancement of its research and graduate educational missions. The Associate Dean reports directly to the Dean of the BSOM and, working cooperatively with the ECU Vice Chancellors for Research and Academic Affairs and Graduate Studies, represents the school in matters relating to research and graduate studies to the University of North Carolina, government agencies, private foundations, industry, the local community, and the media. He/She will oversee the activities of the Assistant Dean for Clinical Research, the Assistant Dean for Graduate Ph.D. Education, and the Assistant Dean for Research and Graduate Studies. As a senior administrator, the successful candidate will be expected to develop a long-term vision and serve as an advocate for new avenues of research and faculty development, ongoing opportunities to develop research and scholarly activity, and strategies that will enhance research initiatives within the BSOM and across the University. The Associate Dean will represent the BSOM on the ECU Research Ethics Oversight Committee to ensure compliance with federal, state, and local regulations pertaining to the integrity of the research and graduate programs. The successful candidate will have substantial autonomy to work with Senior Administrators, Department Chairs, Directors of centers of excellence, and the faculty to enhance the research and graduate educational missions of the school. The Associate Dean will hold an appropriate academic appointment with the BSOM. Candidates must possess an M.D., Ph.D., or equivalent degree and significant research experience. Administrative experience would strengthen the applicant's candidacy. Additional information about East Carolina University and the BSOM and the specific requirements for this job can be found at **websites: http://www.ecu.edu** and **http://www.ecu.edu/med** respectively. Application/nomination screening will begin on or about March 1, 2002, and will continue until the position is filled. Send curriculum vitae, statement of research and administrative experience, and the names and e-mail addresses (if available) of three professional references to: **Dr. David A. Taylor, Professor and Chair, Department of Pharmacology, Brody School of Medicine, East Carolina University, Greenville, NC 27858-4354**. *Equal Opportunity Employer.*

DIVISION OF VECTOR-BORNE INFECTIOUS DISEASES
National Center for Infectious Diseases
Centers for Disease Control and Prevention

The Centers for Disease Control and Prevention is seeking outstanding candidates for a **RESEARCH BIOLOGIST** in the Arbovirus Diseases branch, Division of Vector-Borne Infectious Diseases, located in Fort Collins, Colorado. The incumbent will apply digital technology and analytic tools to the investigation of disease ecology and epidemiology of West Nile and other vector-borne viruses; evaluate ecological mechanisms as predictors of risk; develop arbovirus transmission and risk models using remote sensing technology, Geographic Information Systems, Global Positioning Systems, biotic and abiotic environmental correlates, demography, and sociological factors; evaluate and refine transmission and risk models; participate in field investigations and laboratory entomology projects concerning West Nile virus and vector-borne disease outbreaks; provide assistance to state and local health departments in outbreak investigations. Qualifications: Ph.D. or equivalent degree in relevant field with experience in modeling vector-borne disease systems preferable. Salary is equivalent to GS–12/13 ($54,275 to $83,902) commensurate with experience. Please refer to Announcement Number MP/DE2-02-200. A copy of the vacancy announcement with instructions for applying will be available in February 2002 at **websites: http://www.cdc.gov, http://www.usajobs.opm.gov**, or by calling the CDC Job Information Center at **Telephone: 770-488-1725**. *CDC is an Equal Opportunity Employer and provides a smoke-free environment.*

POSITIONS OPEN

Georgia Tech College of Sciences

CHAIR OF THE SCHOOL OF CHEMISTRY AND BIOCHEMISTRY
Georgia Institute of Technology

The Georgia Institute of Technology invites nominations and applications for Chair of the School of Chemistry and Biochemistry. Georgia Tech seeks an individual with an earned Doctorate in chemistry, biochemistry, or a related discipline. Candidates must have demonstrated outstanding leadership and scholarship and have strong commitments to interdisciplinary research, educational activities, and faculty/staff development. The School of Chemistry and Biochemistry at Georgia Tech is a young and dynamic department with diverse research activities. Georgia Tech has embarked on an Institutewide expansion in the natural sciences. In particular, the School of Chemistry and Biochemistry has entered a new growth phase that has created extraordinary opportunities in all areas of the chemistry program. The School currently has 34 full-time faculty members and offers a B.S. degree program in chemistry and M.S. and Ph.D. programs in the fields of biochemistry, analytical, inorganic, organic, physical, and polymer chemistry. For further information concerning faculty research interests, refer to the Georgia Tech **website: http://www.chemistry.gatech.edu/**.

Applications should include a letter of interest and a current résumé that describes research, teaching, and administrative experience; publications; and names/addresses/telephone numbers of at least five references. Applications and nominations should be sent to: **Chemistry and Biochemistry Chair Search Committee, Dean's Office, College of Sciences, Georgia Institute of Technology, Atlanta, GA 30332-0360 U.S.A. E-mail: kathy.muir@cos.gatech.edu**. Applications will be accepted until the position is filled. *Georgia Tech, a unit of the University System of Georgia, is an Equal Education and Employment Opportunity Institution.*

SCIENTISTS

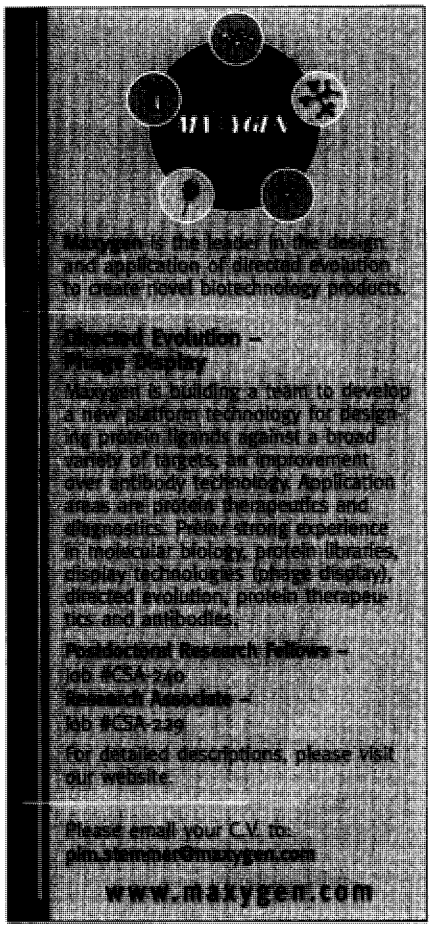
Applications are invited from qualified individuals with a Ph.D. in biological science to support research and development in functional genomics and proteomics.

Projects would range from identification and in-depth characterization of gene and protein groups to integrating heterogeneous data sets. Extensive knowledge of bioinfomatics tools and public proteomics as well as pathway and genomic data sources is necessary.

Other projects include screening of compounds for biological activity, formulation, and preclinical studies for drug development. Positions are located in the Los Angeles, California, area. We will provide relocation allowance if needed, competitive salary, and superior benefits.

Please send your cover letter and résumé to: **Kiran Sidhu, Catalyst Capital LLC, 6012 Waverly Avenue, La Jolla, CA 92037. E-mail: ksidhu@catalystllc.net**.

GENOMIC COLLABORATIONS SCIENTIST, Santa Clara, California. Initiate/manage collaborations with Affymetrix customers. Travel required. Requires a Ph.D. in molecular biology, bioinformatics, or related; two to five years of experience in research and development; product/software development or commercial collaborations; and two to four years of experience with microarray and/or other expression technologies. Excellent presentation skills and commercial experience in business development, marketing, or liaison between scientific staff and sales. Submit résumés to **website: http:// www.affymetrix.com/about/careers.** *Equal Opportunity Employer.*



mayo

MAYO CLINIC
DIRECTOR
BIOMEDICAL MASS SPECTROMETRY AND PROTEOMICS FACILITY

Mayo Clinic, Rochester, invites applications for the position of Director, Biomedical Mass Spectrometry and Proteomics Facility. The candidate must have completed a doctoral degree in a suitable discipline (biochemistry, molecular biology, pharmacology, chemistry, physics) and must have expertise in the area of mass spectrometry, particularly as it applies to the analysis of protein structure and protein quantitation. The Biomedical Mass Spectrometry and Proteomics Facility is a part of a larger proteomics effort at Mayo Clinic and Foundation, and the candidate is expected to work closely with other investigators with similar interests. The candidate will be expected to supervise an existing, superbly equipped, developmental mass spectrometry and cellular proteomics facility and to develop an independent research program. Substantial start-up funds and funds for new mass spectrometry equipment are available. The candidate would be eligible for a suitable academic appointment (assistant professor to full professor, depending on qualifications) in an appropriate department (e.g. Biochemistry and Molecular Biology, Molecular Pharmacology and Experimental Therapeutics, Immunology, Physiology and Molecular Biophysics).

The Mayo Clinic is located in Rochester, Minnesota, and is regarded as one of the premier biomedical, clinical, and research institutions in the United States. Applicants are encouraged to submit their curriculum vitae and bibliography, summary of past accomplishments, and names of three references no later than July 1, 2002 to:

R. Kumar, M. D., Chair
Biomedical Mass Spectrometry and Proteomics Research Search Committee
911A Guggenheim Building
Mayo Clinic
200 First Street SW
Rochester, MN 55905
E-mail: rkumar@mayo.edu
Phone: (507) 284-0020 Fax: (507) 266-4710

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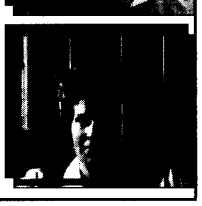
Innovative.
Technically superior.
Creative. Reliable.

These are the words researchers use to describe **Pierce Chemical Company**, a pioneer and leader in many research disciplines including protein chemistry, sample handling, immunology and chromatography. Life scientists and other researchers worldwide look to Pierce for innovative, high-quality products, and major diagnostic, pharmaceutical and biotechnology companies rely on Pierce for bulk chemicals, reagents and coated microplates.

As our product offerings, sales and clientele continue to grow, so does our interest in adding to our team of talented associates. If you are looking to grow with a successful, dynamic company...visit our website today and view our exciting career opportunities!

In return for your commitment, Pierce offers a competitive, industry-based compensation and benefit package that offers company-paid health and life insurance, a company-sponsored 401(k) and bonus plan, educational assistance, wellness benefits, disability coverage, and relocation assistance. With facilities in Rockford, IL, Milwaukee, WI, and Boston, MA, we're proud of the high quality of life that exists in our communities.

Visit Pierce on February 18th at the AAAS/Science Career Fair, 11:00am - 4:00pm. Hynes Convention Center - Exhibit Hall B.



www.piercenet.com

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mayo

Mayo Clinic
Mayo Graduate School
Associate Dean for Faculty Development

Mayo Graduate School seeks an innovative and creative professional educator to lead its effort to investigate and adapt new teaching modalities to the training of Ph.D. students in the biomedical sciences. This new position will be responsible for leading and working with faculty to study and implement technology-enhanced learning activities and to evaluate the efficacy of all curriculum components. This is a truly unique opportunity to study and advance the training of future biomedical scientists.

The successful candidate will have an education-related doctorate with demonstrated potential to apply education theory and methods to the unique environment of laboratory research training. Alternatively, candidates may have a biomedical research doctorate with advanced training in education theory and methods. Candidates must have demonstrated skill and experience working with faculty and the varied styles they bring to teaching.

This is a faculty-level appointment with an excellent compensation and benefits package. Interested candidates should forward a curriculum vitae and a letter of interest which captures the experiences and interests they would bring to the position to:

Richard McGee, Ph.D., Chair
Search Committee
Mayo Graduate School
200 First St SW
Rochester, MN 55905
507-284-0339
rmcgee@mayo.edu

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

POSITIONS OPEN

BIOINFORMATICS FACULTY POSITION
University of Utah Health Sciences Center
Department of Medical Informatics

The University of Utah seeks **ASSISTANT, ASSOCIATE,** or **FULL PROFESSOR** tenure-track faculty in bioinformatics. The faculty appointment will be in the Department of Medical Informatics with a possible joint appointment in other appropriate academic departments (human genetics, computer science, pharmacy, biology). The Medical Informatics Department is internationally known as a leader in the application of information technology in medicine and is leading efforts at the University of Utah to establish this same level of excellence in the field of bioinformatics. The candidate will be involved in bringing together a number of diverse academic departments to provide graduate-level training in bioinformatics.

Candidates should demonstrate the ability to conduct a vigorous research program as well as teach. If you are a faculty candidate with a research focus in bioinformatics, computational biology, genomics, functional genomics, or proteomics, please respond.

Send curriculum vitae, statement of research and career plans, and three letters of reference to:

Reed M. Gardner, Ph.D.
Medical Informatics
50 North Medical Drive, AB193 SOM
Salt Lake City, UT 84132
E-mail questions: reed.gardner@hsc.utah.edu

The University of Utah is an Equal Employment Opportunity/Affirmative Action Employer and encourages applications from women and minorities.

North Dakota State University is seeking a creative and energetic academic leader to serve as **DEAN OF THE COLLEGE OF SCIENCE AND MATHEMATICS**. The Dean is the chief academic and administrative leader for the college and reports to the Vice President for Academic Affairs.

The College of Science and Mathematics consists of Departments of Biochemistry and Molecular Biology, Biological Sciences, Chemistry, Computer Science/Operations Research, Geosciences, Mathematics, Physics, Polymers and Coatings, Psychology, and Statistics. For more information, contact **website: http://www.ndsu.edu/csme/smdeanad2002.htm**. Nominations and applications will be accepted until the position is filled. Review of the applications will begin March 11, 2002. Complete applications including a letter of application that addresses the qualifications and responsibilities stated above, curriculum vitae, a one-page summary of professional accomplishments, and the names and contact information for five potential references should be sent to: **Dr. Virginia Clark Johnson, P.O. Box 5057, North Dakota State University, Fargo, ND 58105-5057. Telephone: 701-231-8211; FAX: 701-231-7174; e-mail: virginia.clark@ndsu.nodak.edu**.

NDSU is an Equal Opportunity Institution.

POSTDOCTORAL/RESEARCH ASSOCIATE POSITION
Molecular Viral Oncogenesis and New Pathogen Discovery

Position available starting July 2002. Ongoing studies involve viral regulation of cMYC, pRB, apoptotic, and interferon signaling pathways by Kaposi's sarcoma-associated herpes virus (*Science* **266**:1865, 1994; *PNAS* **93**:1487, 1996) and use of molecular techniques to find unidentified pathogens. Experience in virology, transcriptional regulation, or genomics preferred. The laboratory is located in the University of Pittsburgh Hillman Cancer Center, a newly built, freestanding 350,000-square-foot cancer research and treatment facility. Send curriculum vitae and three references by FAX or mail to: **Patrick S. Moore, M.D., M.P.H.** and **Yuan Chang, M.D., Molecular Virology Program, c/o Ms. Lorraine Ombres, University of Pittsburgh Cancer Institute, 305 Iroquois, 3600 Forbes Avenue, Pittsburgh, PA 15213. Website: http://www.upci.upmc.edu/internet/molvirology/kshvlab.html**.

POSITIONS OPEN

DEAN OF SCIENCE AND HEALTH CAREERS

Oakton Community College, located in the near northern suburbs of Chicago, seeks a Dean who is an innovative academic leader and who will continue a strong tradition of excellence. Applicants should be current in their use of technologies and have a strong interest in nontraditional instructional delivery methodologies. The Dean provides supervision and leadership for 35 full-time faculty, approximately 60 part-time faculty, and more than a dozen full- and part-time staff. The division is engaged in multiple federal/state grant programs that involve both the science and health career faculty and staff. The Dean must have the academic credentials to qualify for a faculty appointment in the division (Master's required; Doctorate preferred). Please visit **website: http://www.oakton.edu** for more information about the position (including the programs within the division), the desired attributes of the successful candidate, and the application. *Oakton Community College is an Equal Opportunity Employer.*

RESEARCH ASSOCIATE/RESEARCH ASSISTANT PROFESSOR POSITIONS are available immediately to study molecular signaling pathways and gene regulation of human lipoprotein receptors and their role in cardiovascular diseases. Experience in basic molecular biology and cell culture techniques required. Send curriculum vitae and names of references to: **Dr. Kamal D. Mehta, Department of Molecular and Cellular Biochemistry, Ohio State University College of Medicine, 1645 Neil Avenue, Columbus, OH 43210. E-mail: mehta.80@osu.edu**.

LECTURER
Ornithology/Conservation Biology

Temporary, full-time, one-year position. Ph.D. required at time of appointment. Candidate must demonstrate interest and ability to teach undergraduates; dedication to superior teaching is a tradition at HSU. Responsibilities include 15 semester units of teaching. Applicants should demonstrate background and expertise in ornithology, conservation biology, and wildlife management. Successful candidate may teach ornithology, nonmajors ornithology, conservation biology, and wildlife ecology and management or other assigned courses. Submit curriculum vitae, three letters of reference, and transcripts (unofficial copies sufficient for initial review) to: **Dr. Mark A. Colwell, Chair, Department of Wildlife, Humboldt State University, Arcata, CA 95521. Telephone: 707-826-3723**. Applications accepted until 15 April 2002 or until position is filled. *Humboldt State University is an Equal Opportunity/Title IX Employer.*

Two **POSTDOCTORAL POSITIONS** at Yale University: The first position is to study the mechanistic basis for accurate DNA synthesis by DNA polymerase beta (see *J. Biol Chem.* **276**:10824–10831). Experience in biochemistry a plus. The second position is to understand the role of the GRIP1 protein in meiosis (see *Proc. Natl. Acad. Sci. USA* **94**:1327–1331 and *Chromosoma* **110**:402–410). Experience in microscopy and molecular biology a plus. Send curriculum vitae, reprints, and the names of three references to: **Dr. Joann B. Sweasy, Department of Therapeutic Radiology. Yale University School of Medicine, 333 Cedar Street, P.O. Box 208040, New Haven, CT 06520**.

POSTDOCTORAL POSITION is available to study the mechanism of protein folding or to design proteins using phage display. Candidates with a Ph.D. degree in biophysics, biochemistry, or molecular biology are encouraged to apply. Send curriculum vitae to: **Dr. Yawen Bai, National Cancer Institute, Laboratory of Biochemistry, Building 37, Room 6114E, Bethesda, MD 20892. E-mail: yawen@helix.nih.gov**. *NIH is an Equal Opportunity Employer.*

ANNOUNCEMENTS

WHO Announces Polio Research Agenda

The WHO Technical Consultative Group (TCG) for Polio Eradication affirmed at its meeting in May 2001 that the ultimate goals of polio eradication are to stop transmission of wild polioviruses and subsequently discontinue immunizations against polio. How, when and whether to stop polio immunizations requires the generation of new scientific data and analyses of the feasibility of implementing various options.

The two major research issues identified by the TCG as relating to the cessation of polio immunization are 1) how to protect populations while stopping oral polio vaccine, given the risk of cVDPV and 2) how to minimize the risk of poliovirus reintroduction from the population, the laboratory, or a chronic 'shedder' and plan for its control.

The WHO Department of Vaccines and Biologicals is establishing a Steering Committee to guide, monitor and evaluate the research agenda for stopping polio immunization. The short- and medium-term research agenda is divided into five broad areas:

1. **Surveillance for vaccine-derived polioviruses**
2. **Effectiveness of IPV in stopping transmission of polioviruses**
3. **Safety of discontining OPV if no alternative vaccine is used**
4. **Long-term poliovirus excretors**
5. **Vaccines for outbreak response in the post-immunization era**

Further information on the priority topics within each of these areas may be found at the website cited below.

Applications are invited from single or multiple principal investigators using the form VAD/01.01, following information and instructions given in document VAD/01/02. These may be found at **www.who.int/vaccines/vaccine** research and development. Those applying for the first time are advised before preparing a full application to consult the responsible officer, **Dr. David Wood**, by email (**woodd@who.ch**) telephone (+41 22 791 4050) or fax (+41 22 791 4971).

The current deadline for receipt of applications is 15 March 02.

MICROBIAL PHYSIOLOGIST
(Job Number CR02-0181)

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As an active member of our teams developing fermentation products with a strong emphasis on microbial engineering, you'll be working at our Navarre, Minnesota, research facility, located just 18 miles from downtown Minneapolis, in the scenic Lake Minnetonka area. Responsibilities include designing and conducting experimental plans to understand the physiological response of various host strains as well as collecting, interpreting, and reporting results. You'll also work with our project managers and clients to formulate project plans and schedules.

To qualify, we require a Ph.D. in microbial physiology, biochemical engineering, biochemistry, microbiology, or similar discipline plus expertise in microbial metabolism, metabolic flux, regulation, kinetics, and computer modeling. The ability to work effectively with multidisciplinary teams, often in a leadership role, is also essential to your success. Familiarity with molecular biology, statistical design, and analytical instrumentation is desired.

Please submit your résumé on our website résumé builder or send a scannable résumé specifying job number to: **Cargill Talent Recruiting Team, P. O. Box 5697, MS Number 10, Minneapolis, MN 55440-5697. Website: http://www.cargill.com.** *Equal Opportunity Employer.*

ASSOCIATE RESEARCH SCIENTIST
Columbia University

Associate Research Scientist position available to study anxietylike behaviors in transgenic mice. The project will involve the design, creation, and study of transgenic and knockout mice in an effort to understand the role of serotonin in the modulation of anxietylike behaviors in mice. Applicants must have the Ph.D. or M.D. degree; three to five years of postdoctoral training; and experience in both molecular biology techniques (including cloning, cell culture, protein biochemistry, and immunohistochemistry) and mouse behavioral analysis. Knowledge of statistical methods is highly recommended. Send curriculum vitae and three letters of reference to: **Dr. René Hen, Columbia University, Center for Neurobiology and Behavior, 1051 Riverside Drive, Box 87, New York, NY 10032. E-mail: rh95@columbia.edu.**

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Position: Executive Director, FWC Senior Management Service Position
Salary Range: $100,000 to $145,826 Annually
Job Location: Tallahassee, Florida
Deadline for Applying: February 28, 2002

Interested applicants should submit a résumé and State of Florida Employment Application to: **FWC Bureau of Personnel, 620 South Meridian Street, Tallahassee, FL 32399-1600.** Please e-mail or FAX questions to: **Ann Kennedy; e-mail: kenneda@gfc.state.fl.us; FAX: 850-488-6412.** Applications may also be obtained through the State of Florida's applicant **website: http://www.myflorida.com/dms/hrm/jobsdirect/app.pdf.**

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POSITIONS OPEN

COMPUTATIONAL GENOMICS CONSULTANT

The University of Minnesota Supercomputing Institute seeks to hire a **BIOINFORMATICS/COMPUTATIONAL GENOMICS SPECIALIST** to join a dynamic group that provides a high level of technical support for researchers at the Institute. Salary: $60,000 to $80,000 depending on qualifications. Please visit **website: http://www.msi.umn.edu/general/employment.html.** For position details, send an e-mail to: **Ann Johns; e-mail: johns@dtc.umn.edu; Telephone: 612-624-1556.** *The University of Minnesota is an Equal Opportunity Educator and Employer.*

MOLECULAR DEVELOPMENTAL NEUROBIOLOGIST
University of South Dakota

The University of South Dakota seeks a Molecular Biologist studying the development of nervous systems. Candidates with research involving comparative or evolutionary questions are encouraged to apply. This is a tenure-track appointment at the **ASSISTANT/ASSOCIATE PROFESSOR** level (salary commensurate with experience) starting fall 2002. A Ph.D. and postdoctoral experience are required. The candidate will be expected to develop a vigorous, externally funded research program and successfully mentor graduate students. Participation in the Neuroscience Group, which includes faculty from both the Department of Biology and the School of Medicine, is anticipated. Information about the Group can be found at **website: http://www.usd.edu/NeuroGroup/.** The appointment will be in the Department of Biology, the School of Medicine, or a joint appointment. Teaching expectations include molecular developmental biology and a course in the area of specialization. Please submit curriculum vitae, brief statement of research and teaching goals, and names of three references to: **Ms. Carleen McNeely, Neuroscience Search Committee, Division of Basic Biomedical Sciences, The University of South Dakota School of Medicine, Vermillion, SD 57069.** Review of applications will begin March 8, 2002, and continue until suitable candidate is hired. *Equal Employment Opportunity/Affirmative Action Employer.*

MOLECULAR GENETICS
Search Extended

Biological Sciences at Texas Tech University invites applications or nominations for a **SENIOR POSITION** in molecular genetics. The position will remain open until an acceptable candidate is chosen. Requirements include a Doctoral degree and a commitment to excellence in research and teaching. The successful applicant will be an enthusiastic, interactive Scientist with a research program that is nationally recognized, extramurally funded, and aimed at understanding some aspect of gene function using molecular genetic approaches. The area of research is open. Teaching responsibilities could include introductory genetics and an advanced specialty course. Construction is beginning on a new experimental life sciences building, and state-of-the-art laboratories and facilities for biotechnology, animal containment, image analysis, bioinformatics/genomics, and plant growth will complement present facilities. Academic rank and salary will depend on the successful candidate's qualifications and experience. Applicants must submit a description of research goals, teaching interests and philosophy, curriculum vitae, three representative reprints, and arrange to have three letters of reference sent to: **Dr. Carleton J. Phillips, Chairperson, Department of Biological Sciences, Texas Tech University, P.O. Box 43131, Lubbock, TX 79409-3131.** For further information, call **Dr. Phillips; Telephone: 806-742-2715; website: http://www.biol.ttu.edu.** *Women and members of underrepresented groups are encouraged to apply.*

POSITIONS OPEN

The Institutes for Pharmaceutical Discovery (IPD) has a dual research focus. The first area is dedicated to discovering and developing new innovative medicines for the treatment of diabetes, its complications, and related disorders. If you are interested in contributing to this research effort, consider the following positions:

RESEARCH SCIENTISTS with a Ph.D. or the equivalent in chemistry, organic chemistry, or related field and experience in the field to be involved in the design and synthesis of biologically active target molecules.

RESEARCH ASSOCIATES in our Molecular Biology Department with M.S. or the equivalent in microbiology, cellular biology, pharmacology, organic chemistry, biochemistry, or a related scientific discipline plus experience in the field. These positions will work on research projects dealing with the development of therapeutic DNA constructs for gene therapy in the treatment of diabetes.

RESEARCH ASSOCIATES in our Pharmacokinetics Department with M.S. or the equivalent in pharmaceutical-related sciences with experience in the field. These positions will conduct small animal survival surgery and conduct *in vivo* pharmacokinetic/ADME studies.

The second area of our research effort is customized assay development and analytical services for the bioscience industry. If you want to contribute to our work in identifying and developing assays for relevant biomarkers to diagnose diseases, in monitoring the efficacy of treatments, and accelerating the discovery of new drugs using the molecular targets emerging from genomics, we are currently seeking qualified candidates for the following position:

RESEARCH SCIENTISTS in our Assay Development Department with Ph.D. or the equivalent in biology, chemistry, immunology, or related discipline with experience in the field. These positions will lead a team of Scientists in the research and development of assays.

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MICROBIAL ECOLOGIST

The University of Maryland Center for Environmental Science, Horn Point Laboratory, invites applications for a tenure-track **ASSISTANT PROFESSOR** faculty position in microbial ecology. We seek a colleague who has experience in marine and/or estuarine bacterial processes who would complement our programs in planktonic foodweb interactions, nutrient cycling, biogeochemical fluxes, finfish and shellfish aquaculture, and estuarine ecology. The successful candidate is expected to maintain an externally funded research program and to participate in the Universitywide graduate education program. A Ph.D. in oceanography, ecology, or microbiology is required with postdoctoral experience. A comprehensive fringe benefit package is available. Applicants should send a cover letter; a statement of research interests; curriculum vitae; reprints of three research articles; and the names and addresses of four references by May 1, 2002, to: **Diane Stoecker, Chair, Microbial Ecologist Search, Horn Point Laboratory, P.O. Box 775, Cambridge, MD 21613-0775. Telephone: 410-228-8200; website: http://www.hpl.umces.edu.** *UMCES welcomes and specifically encourages applications from minority and women colleagues. Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

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STEM CELL SCIENTIST
Revolutionary Cytotherapeutic Technology for the Heart

Anterogen Co., Ltd., is a biotechnology company dedicated to becoming a world leader in the development and commercialization of human cardiac cell/tissue transplantation therapies using ethically acceptable adult multipotent stem cells.

The company is soliciting applications for the position at the Scientist level to direct its bone marrow mesenchymal stem cell culture project. A successful candidate is expected to implement an efficient and clinically relevant system for the high-yield isolation and maintenance of bone marrow-derived multipotent stem cells. Candidate should have a Ph.D. degree with a record of sustained scientific accomplishments plus excellent communication and interpersonal skills. The position is available immediately. Please submit your curriculum vitae or résumé to: **Human Resources, Anterogen, 20 Hampden Street, Boston, MA 02119. E-mail: hr2@anterogen.com.**

Required: **SENIOR RESEARCH ASSOCIATE** (genetics pathways). Conduct research to isolate genes required for male and female fertility utilizing a combination of genetic, molecular, biochemical, and bioinformatic tools. Characterize genes and their products to elucidate gene function in the context of maize reproductive biology. Utilize molecular biology software tools in order to analyze molecular and genetic background of maize with a view toward understanding plant reproductive biology of maize. Interact and confer with Molecular Biologists, Geneticists, Whole Plant Physiologists, and plant breeders in order to design strategies for the purpose of characterizing genes and their products with a view toward interpreting gene functions in their context of maize reproductive biology. Conduct experiments and investigations in field crop problems specific to maize sexual reproduction. Bachelor of Science in Agriculture degree and five years of research experience in genetic isolation, transposon tagging, and plant reproductive biology. Full-time; forty hours per week. Send résumé to: **C. Bruntz, 400 Locust Street, Suite 700, Des Moines, IA 50309.** *Must have proof of legal authority to work in the United States.*

Brooklyn College invites applications for a tenure-track position in the Department of Biology beginning September 2002. This position is part of a major City University of New York initiative in the biosciences. We seek an individual with a strong research program that focuses on the structure and dynamics of cytoskeletal/motor proteins. Successful candidates are expected to establish and/or sustain active, independent programs of extramurally funded research. Candidates must also demonstrate a commitment to teaching at both the undergraduate and graduate levels. Candidates at the **ASSISTANT, ASSOCIATE,** and **FULL PROFESSOR** levels are invited to apply. A complete application consists of a cover letter that specifically designates the position at Brooklyn College, curriculum vitae, reprints of representative publications, a research proposal, and three letters of recommendation (to be sent directly from three references). Applications should be received by March 15, 2002. Apply to: **Dr. Joan Rome, Office of Personnel Services, Brooklyn College, 2900 Bedford Avenue, Brooklyn, NY 11210.** *An Affirmative Action/Equal Employment Opportunity/Immigration Reform and Control Act/Americans With Disabilities Act Employer.*

POSITIONS OPEN

FACULTY POSITION

The Department of Virology and Immunology at the Southwest Foundation for Biomedical Research invites applications for faculty-level positions at the **ASSISTANT, ASSOCIATE,** or **SCIENTIST** level. The Department has nine faculty with research programs focusing on hepatitis viruses, human and simian immunodeficiency viruses, and herpes viruses. Major strengths of the Foundation are the extensive nonhuman primate resources, which include baboons, chimpanzees, and macaques. There is a strong postdoctoral training program and a close association with the University of Texas Health Science Center at San Antonio including a role in graduate education. All candidates must have as a minimum a Doctoral degree in the biological sciences or an M.D. degree and have completed at least two years of relevant postdoctoral research. Three or more years of relevant postdoctoral research are preferred. Candidates for Assistant Scientist must have the potential for building and directing an independent research program in animal virology. Candidates for Associate and Scientist must have demonstrated ability to direct an independent research program in animal virology and have been shown to be competitive for extramural support. All areas of virology will be considered but preferences will be given to emerging viral agents that require maximum containment. Please mail curriculum vitae, a description of research interest, and the contact details for three references to: **Director of Human Resources (01-021S), Southwest Foundation for Biomedical Research, P.O.B. 760549, San Antonio, TX 78245-0549.** *Equal Opportunity Employer.*

ANNOUNCEMENTS

THE TRINITY SEMINAR
2002–2003

The Trinity College Center for Collaborative Teaching and Research announces the continuations of the Trinity Seminars. We invite nominations, including self-nominations, of recent (past five years) advanced-degree recipients in any discipline to deliver a paper or appropriate performance presentation and spend two days in discussions with colleagues and students on campus in Hartford, Connecticut, during the academic year. We seek nominees doing especially exciting, innovative work; interested in engaging an interdisciplinary audience; and able to convey to us an informed access to recent issues in their disciplines. Travel expenses and honorarium will be provided. Submit nominee's curriculum vitae, brief description of current research, and one-page abstract of proposed presentation to: **Michael Niemann, Director, Trinity College Center for Collaborative Teaching and Research, Trinity College, Hartford, CT 06106. E-mail: michael.niemann@trincoli.edu.** Selections commence April 15, 2002.

COURSES

Short course on time-resolved fluorescence spectroscopy. The Center for Fluorescence Spectroscopy at the University of Maryland School of Medicine is offering a short course on "Principles and Applications of Time-Resolved Fluorescence Spectroscopy" in Baltimore, March 25–29, 2002. The course will cover basic and advanced topics in fluorometry including time- and frequency-domain measurements and Forster energy transfer. Advanced topics include chemical sensing, imaging, fiber optics, infrared fluorometry, two-photon excitation, instrumentation, confocal and multiphoton microscopy, protein fluorescence, DNA technology, high-throughput screening, metal-ligand probes, correlation spectroscopy, lanthanides, and immunoassays. Textbook, course materials, lunches, and refreshments will be provided. For further information, a schedule, and fees, please contact: **Ms. Mary Rosenfeld** or **Professor J. R. Lakowicz, CFS, Department of Biochemical and Molecular Biology, 725 West Lombard Street, Baltimore, MD 21201. Telephone: 410-706-8409; FAX: 410-706-8408; e-mail: cfs@cfs.umbi.umd.edu; website: http://cfs.umbi.umd.edu.**

GRANTS

ESRI

ENVIRONMENTAL SENSITIVITIES RESEARCH INSTITUTE, a nonprofit research and educational foundation, is soliciting proposals for **RESEARCH GRANTS** for the purpose of furthering understanding of the mechanism(s) of environmental intolerances/MCS. For details and deadlines, please visit **website: http://www.esri.org.**

GLOBAL OPPORTUNITIES

UNIVERSIDAD DE LOS ANDES

We seek to fill a position in animal physiology and ethology with ecological and evolutionary emphasis. Ph.D. is preferred. The successful applicant must lead research on neotropical fauna, supervise undergraduate and graduate students, and carry out teaching. Excellent knowledge of Spanish is required. Send curriculum vitae; copies of recent publications; one-page description of research program; and two letters of recommendation to: **Departamento de Ciencias Biológicas, Universidad de los Andes, Cra. 1 n° 18A- 70, Bogotá, Colombia** before February 28, 2002.

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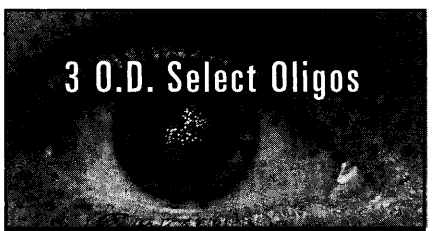

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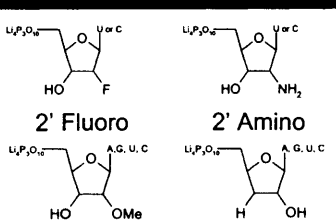

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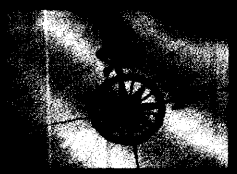

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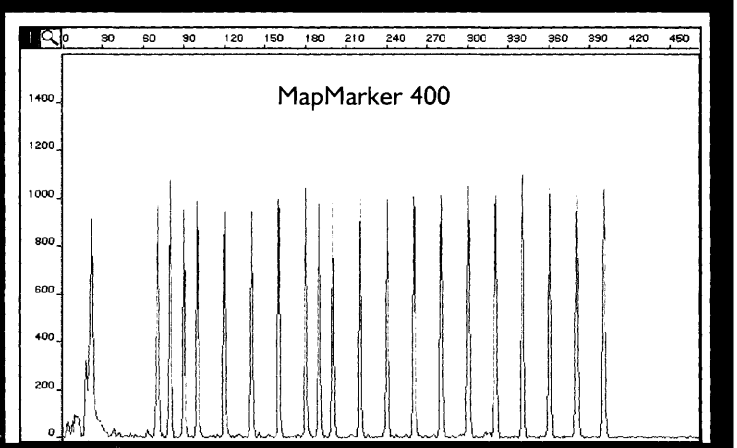

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