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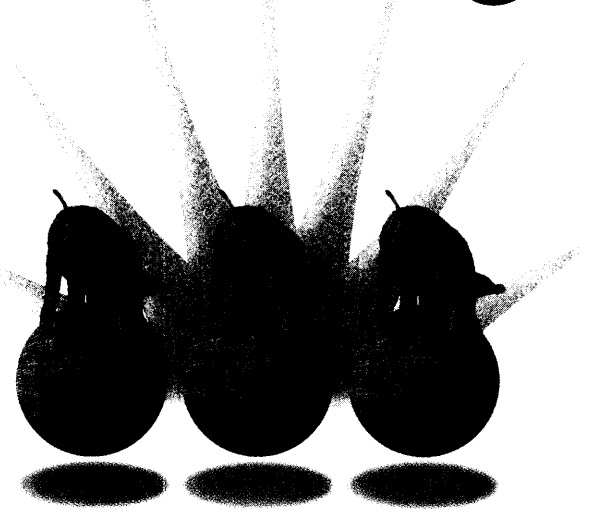

The following organizations have placed ads in the **PCR & Cloning** Ad Supplement.

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Science and Technology in the New Administration

26th Annual AAAS Colloquium on Science and Technology Policy

May 3–4, 2001 ▪ Omni Shoreham Hotel ▪ Washington, DC

The AAAS Science & Technology Policy Colloquium provides a forum in which federal and industrial policymakers and members of the scientific, engineering, and academic communities can participate in an open discussion of issues relating to science and technology policy.

The Colloquium occurs after the release of the President's budget but before final congressional action, thus allowing for the timely exchange of information about the budget and the consequences of various policy issues involving science and technology.

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REGISTER NOW by completing and returning the enclosed form. For further information, contact: Directorate for Science and Policy Programs, AAAS, 1200 New York Ave, NW, Washington, DC 20005 ▪ *Fax:* 202-289-4950 ▪ *E-mail:* snelson@aaas.org or slita@aaas.org ▪ *Phone:* 202-326-6600 (for information). A more detailed version of the Colloquium program can be found on the AAAS homepage on the World Wide Web: **www.aaas.org/spp/r&d**. Online registration is also available at that site.

PROGRAM OVERVIEW

THURSDAY, MAY 3

(Registration opens 8:00AM; program starts at 9:00AM.)

KEYNOTE
Assistant to the President for Science and Technology; and Director, Office of Science and Technology Policy (to be invited pending nomination and confirmation)

BUDGETARY AND POLICY CONTEXT FOR R&D IN FY 2002 (Plenary Symposium)
- The New Congress and Implications for Science and Technology Issues
- AAAS Overview of Federal Budget Proposals for R&D in FY 2002
- Outlook for the National and International Economies
- A University Perspective on the Nation's Key Science and Technology Issues

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(Speaker to be announced)

CONCURRENT SYMPOSIA
- The Regulatory Environment for Science
- The Growth of Industrial R&D and the Federal Policy Environment
- The New Challenges of Defense R&D

POLICY ROUNDTABLES WITH AGENCY OFFICIALS (Concurrent Sessions)
- Department of Defense
- National Institutes of Health
- National Science Foundation
- Department of Energy

THE WILLIAM D. CAREY LECTURE (public invited)
Neal Lane, Rice University

RECEPTION

FRIDAY, MAY 4

BREAKFAST AND ADDRESS
Sherwood L. Boehlert, Chair, House Science Committee (invited)

21st CENTURY SCIENCE: WHAT DOES IT MEAN FOR POLICY? (Plenary Session)
Revolutionary new areas; New styles of research; Information technology's roles; Who is doing science; The changing domestic and international environments for S&T

LUNCHEON AND ADDRESS
Harold T. Shapiro, President, Princeton University (invited)

FUNDING ACADEMIC SCIENCE IN AN AGE OF EARMARKS (Plenary Session)

(Adjournment at 3:30 PM)

Details and updated program information may be obtained by visiting the Colloquium Website, www.aaas.org/spp/r&d

26th Annual AAAS Colloquium on Science and Technology Policy

May 3–4, 2001 ▪ Omni Shoreham Hotel ▪ Washington, DC

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Cancellations must be made by April 11, 2001.

Please Note

- Refund requests for registration fees and meal tickets must be submitted in writing (to the address or fax number above) by April 11, 2001, and will be processed after the Colloquium. No refunds will be made for cancellations received after April 11, 2001.
- After April 11, register in person at the Omni Shoreham Hotel (Connecticut Ave. and Calvert St., NW) beginning at 8:00AM, May 3. On-site registration fees are $15 higher than advance registration fees.
- Publications: All registrants receive *AAAS Report XXVI: Research and Development, FY 2002*; the *2002 AAAS Science and Technology Policy Yearbook*, after the meeting; and *Congressional Action on R&D in the FY 2002 Budget* in the fall. Please fill in your full mailing address above to ensure delivery of these publications to you.

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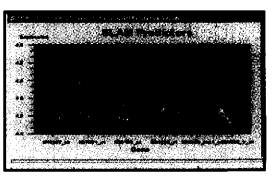

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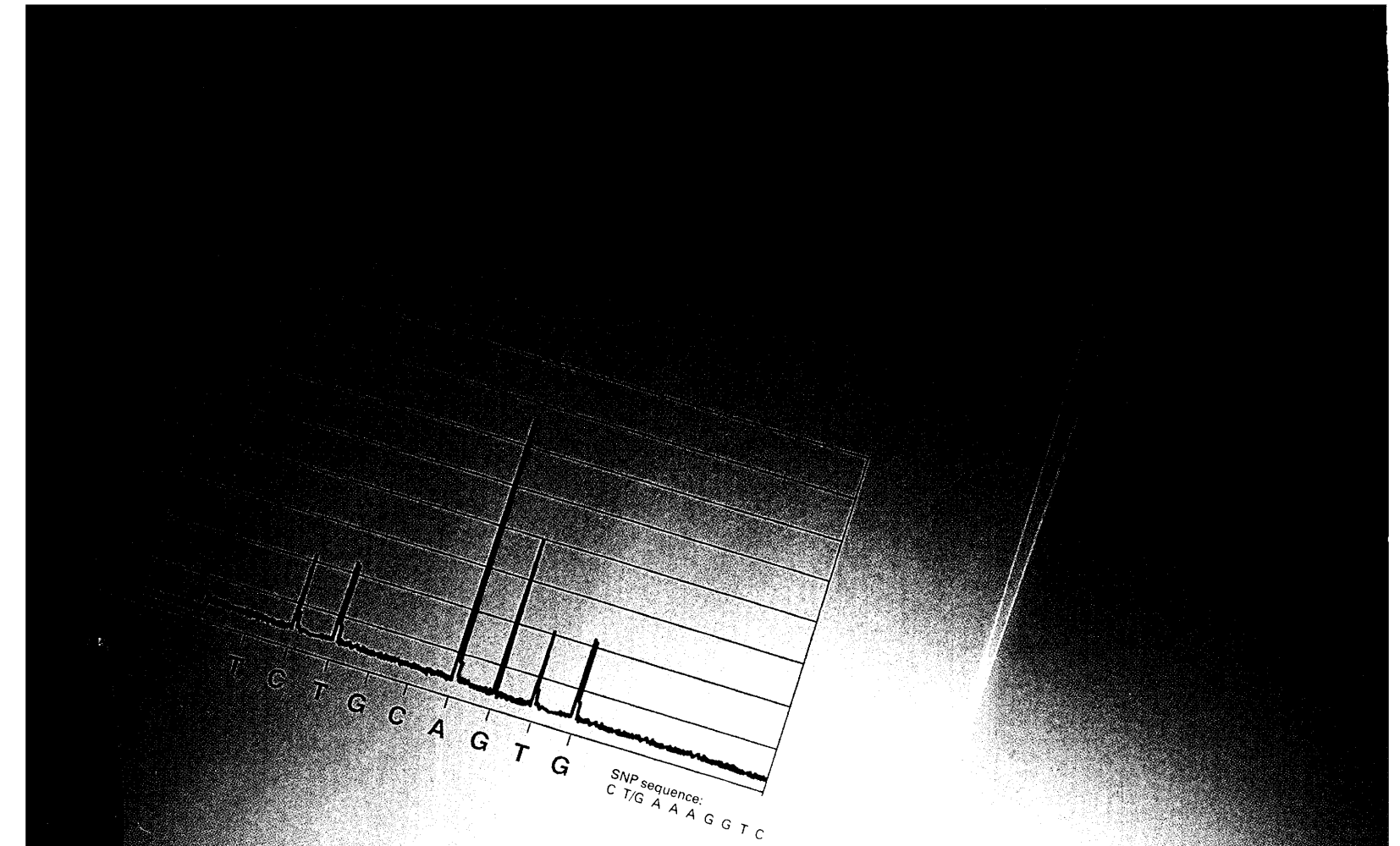

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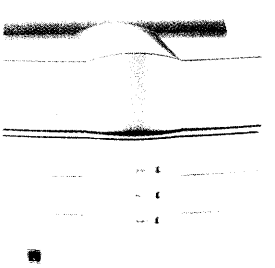

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HORTICOPIA

CD-ROMs are an excellent way to store and provide access to vast bodies of information. For large data sets to be useful, it is essential that they be organized logically, easy to access, and designed with an intuitive interface. Horticopia is a Windows-based CD-ROM that contains an extensive horticulture database of text, pictures (over 9000), and sounds. The disk is almost filled to capacity (over 640 MB), and there are no obvious gaps in its coverage of plant information. Specific coverage includes foliage descriptions, growth requirements, preferred soils, habitats, fragrance, growth rate, and many miscellaneous points. A bit more discussion of diseases and their prevention would be welcome, however.

The designers of Horticopia have aimed to provide multiple ways to access the contents, and their efforts are successful, to a large extent. The simplest way to use the program is with the Find function. When the user enters a search term, the program performs a search of the database and retrieves relevant information rapidly. If more than one plant matches the entered term, the results are presented in an alphabetical list on the right side of the screen.

The primary metaphor of the program is that of a so-called Workbench, which provides numerous tools for sorting and screening the over 4000 plants in the database. Users start with a full list of plants and click on icons to specify sorting criteria. For example clicking on the raindrop icons, which represent different moisture conditions, selects plants according to their moisture tolerance. Clicking on a raindrop corresponding to wet conditions culls plants from the list on the right that do not tolerate wet conditions. As additional conditions are specified, the list of plants shrinks to include only those that meet the additional criteria. This function is very useful for identifying a plant that might work well in a very specific situation. For example, by specifying herbaceous plants that attract butterflies, are drought tolerant, are native to North America, and make nice dried seeds or pods, the complete list of plants shrinks to eight. A double click on one of these, *Rudbeckia maxima*, brings up a window with pictures of the plant and its preferred growth conditions, range, bloom color and season, soil preferences, and common diseases (mildews and rusts). Miscellaneous notes provide tidbits, such as whether parts of the plant are poisonous.

There is a lot to like about Horticopia, but the CD-ROM also has a few areas that need improvement. The Help function is rather terse and does little to teach how to navigate through the data. The Sound function consists of a rather annoying voice that simply states plant names. Worse, the program generates windows excessively and the user is sometimes left wondering how to return to the starting point. Most functions of the program can be activated by icons, but, with the exception of the icons for printing and sound, it is often not apparent what clicking on a particular icon might do. Fortunately, the program provides a text box explaining an icon's function after the cursor is left above the icon for a few seconds.

Still, the positive features of Horticopia— its excellent photographs, extensive sorting functions, and a very thorough database—overshadow the program's shortcomings, and its reasonable price make it a worthwhile purchase for anyone wanting horticultural information.

—Kevin Ahern

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

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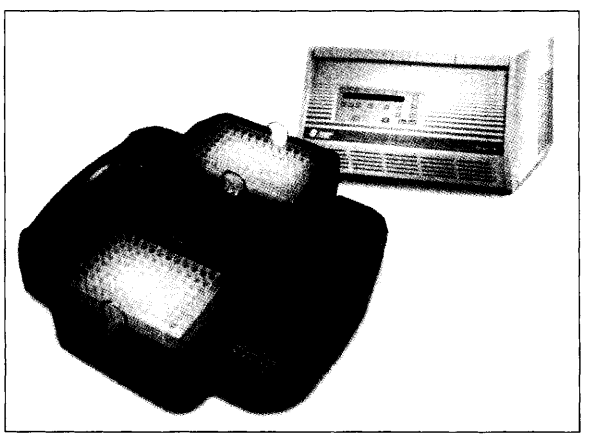

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CONTINUED ON PAGE 1070

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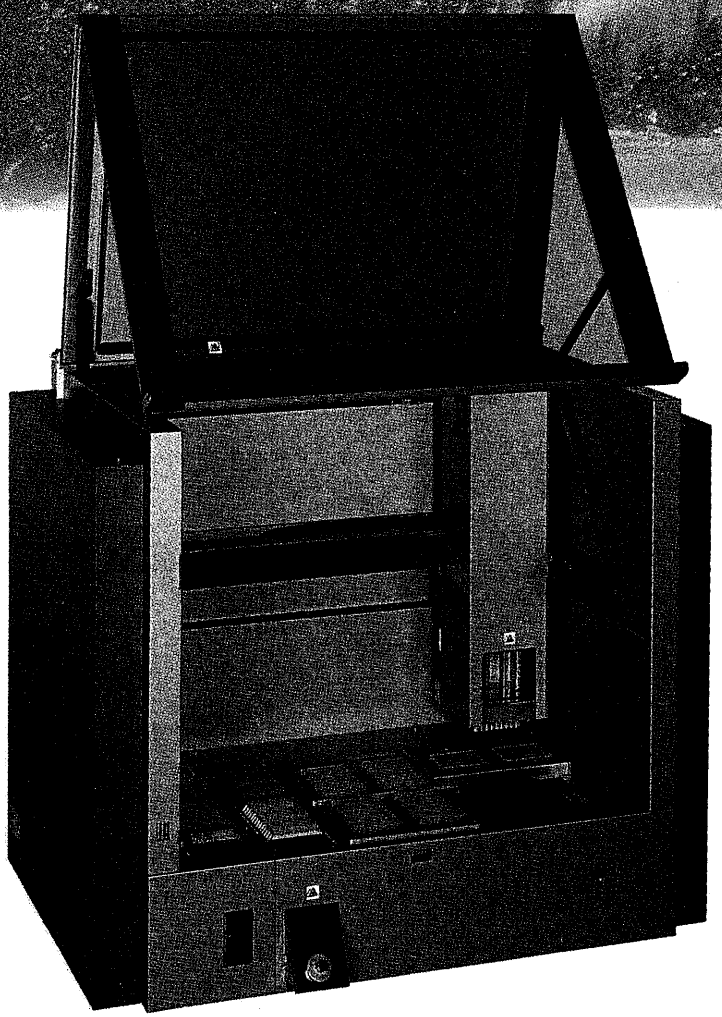

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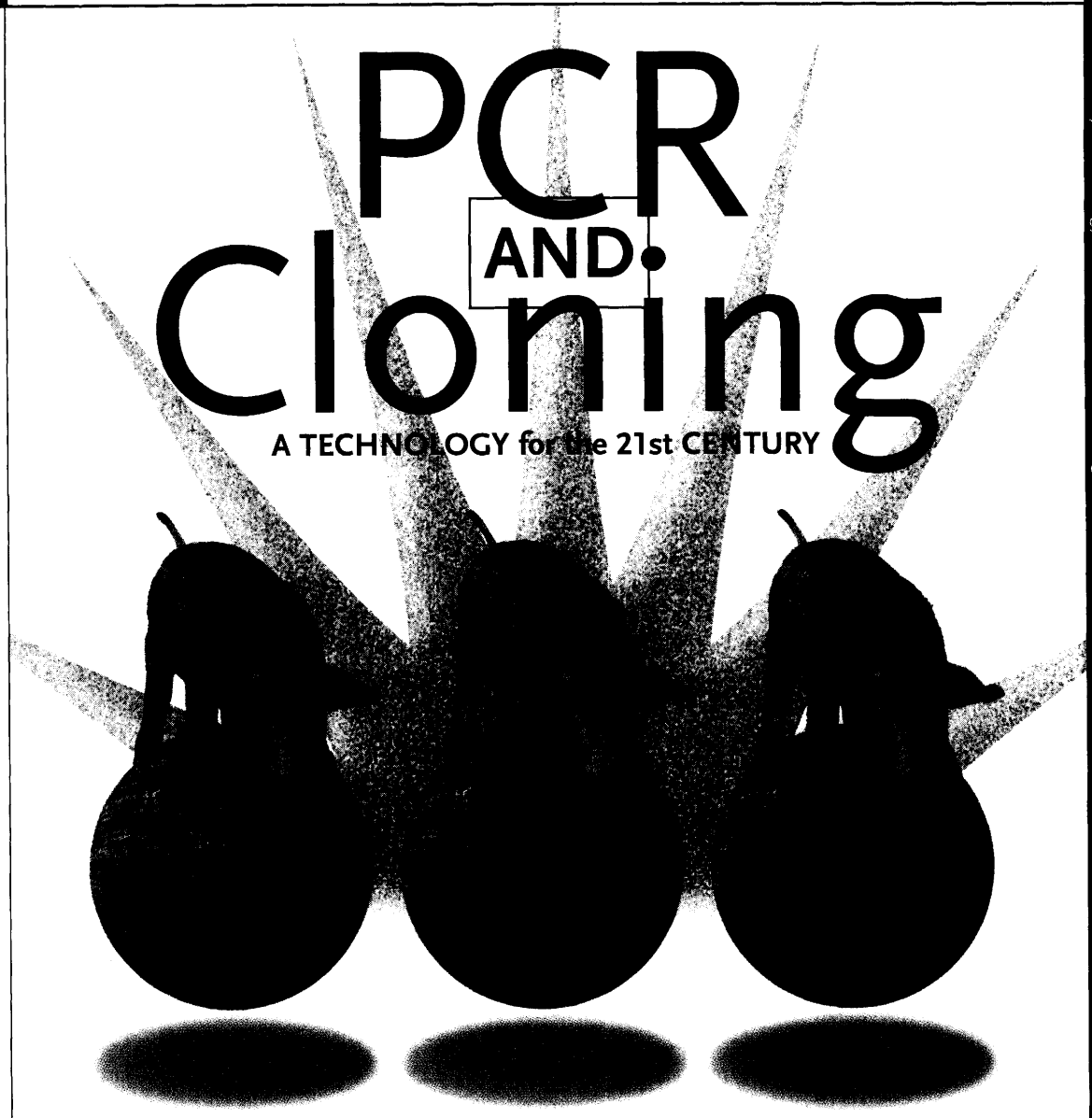
PCR AND Cloning

A TECHNOLOGY for the 21st CENTURY



Since its discovery in 1983 the polymerase chain reaction has revolutionized molecular biology. Today, new forms of PCR and the related techniques of cloning are finding new applications at the cutting edge of biomedicine.

BY PETER GWYNNE AND GARY HEEBNER

SECTIONS :

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The event has become a familiar story of scientific serendipity. Kary Mullis, a molecular biologist working for Cetus Corporation, first conceived of the polymerase chain reaction (PCR) one evening in the spring of 1983 while driving his car down a California highway from San Francisco to Mendocino. Rather than the product of many years of painstaking laboratory research, PCR was an intuitive discovery. Indeed, Mullis recalls, "I was thinking of a more complicated reaction when the idea arrived."

That flash of inspiration earned Mullis the 1993 Nobel Prize in Chemistry. For Mullis that was sufficient reward. "I'm easily bored," he explains. "I decided not to spend the rest of my life working on PCR. But I follow the field and see with joy when someone invents a new form of it."

Several scientists have spent many hours working on such joy-making advances and generally developing PCR since the original find. It is truly hard to imagine where molecular biology would be today if Mullis had not dreamed up the concept. As a breakthrough technology that has allowed life scientists to advance their understanding of genetics and cellular function significantly, PCR is probably as fundamental to molecular biology as the structure of DNA.

The technology has already had a major impact on life science by speeding up the sequencing of genomes from humans and other organisms. It has also become a well-recognized tool in forensic sciences, to identify the origins of blood and other fluids. At the same time PCR and its close scientific relative, cloning, play a major role in efforts to understand the disease process.

continued ➢

PCR IS BASICALLY A METHOD FOR GENERATING LARGE NUMBERS OF DNA COPIES FROM ANY SINGLE FRAGMENT. [IT] DOES WHAT EVERY BACTERIAL CELL DOES EVERY SINGLE DAY....

ADVANCES AND APPLICATIONS

To maintain a steady stream of appropriate reagents and other supplies for those efforts, several vendors are undertaking their own development of the technology. That work, combined with the efforts of basic researchers, has expanded both the breadth and the applications of PCR. "We're in a constantly changing world," says Keld Sorensen, director of R&D at Sigma-Aldrich Corporation. "It seems that new ideas and ways of doing things are coming up all the time."

The new forms of PCR respond to scientific and technical needs. Thus RT (for reverse transcriptase) PCR permits scientists to amplify RNA in the same way that they copy DNA. Specialized enzymes allow research teams to amplify strands of DNA several thousand bases in length. Others enable copying with very high fidelity. A form of the technology that works in real time extends scientists' ability to undertake truly quantitative measurements. Technical advances include "hot start" systems and automatic cycling systems that make for more precise copying of DNA. And as in other aspects of life science, vendors have started to miniaturize PCR assays. "We are downsizing to make PCR on the microscale," says Bill Lindsay, principal scientist at Hybaid UK, Ltd.

These adaptations have served to introduce PCR to increasing numbers of scientists. "We believe that PCR is a tool now used by most life scientists," asserts Mark Ebdon, Hybaid's business development director. "Several of the fields are expanding in terms of the number of users," adds Karl Hess, product manager for PCR at CLONTECH Laboratories, Inc.

Recognizing that many of those users are not specialists in the technology, vendors work hard to make their PCR products user-friendly. "We don't want scientists spending a lot of time designing and optimizing assays," says Mike Lucero, vice president of PCR at Applied Biosystems. "We'd rather have them make measurements."

Significantly, several of the recent adaptations designed to optimize cutting-edge PCR technology have originated beyond the academic world. "It used to be that a lot of the basic work came from the academic research labs and filtered through," says Eric Lader, a senior scientist at Ambion, Inc. "Now the early adopters are not the academic researchers but the traditional later adopters in the clinical labs and pharmaceutical research labs."

Several vendors have noticed, and reacted to, the growing use of PCR by industrial laboratories. "In the past four years PCR has made its way into the pharmaceutical pipeline for everything from toxicology measurements to quality control," says Lucero. "Our core business is still the academic market, but we are selling into industry now," adds Jean Michel Lelias of Stratagene, Inc. "We are now introducing items for the industrial market that the academic market never sees."

In this report we will outline the fresh developments of PCR. We will also focus on applications that the technology has found in both academe and industry and the promise that it holds for the advancement of genomics and related fields.

WHAT IS PCR?

It is the test-tube equivalent of a process that has occurred since the first living organisms inhabited our planet several billion years ago. PCR does what every bacterial cell does every single day: It produces billions of copies of its DNA.

Ironically, life scientists had the basic information about DNA replication several decades ago. DNA polymerase, the enzyme that replicates DNA, was first discovered in the mid-1950s. But nobody was able to put together the details until Mullis took his famous drive.

In addition to DNA polymerase, PCR requires a template and two primers. The template is the DNA to be replicated; in theory a single molecule will suffice. The primers are short chains of nucleotides that correspond to the nucleotide sequences on either side of the DNA strand of interest. These flanking sequences can be constructed in the laboratory or simply purchased from traditional suppliers of reagents for molecular biology.

The PCR process involves several basic steps. First, scientists denature the target DNA by heating the mixture (to about 90°C). This unwinds the DNA double helix into separate single strands of DNA. Once the strands are separated, the primers bind to their complementary bases on the target DNA. Beginning at the primer, DNA polymerase reads the nucleic acid sequence and produces a complementary strand of DNA. The result: two newly assembled strands of complementary DNA. The entire process is repeated every few minutes, doubling the amount of DNA each time. As the cycles continue, the DNA increases exponentially until the process has created millions of copies of the original DNA strand.

The procedure that Mullis devised had one problem. Because heating destroyed the DNA polymerase, scientists had to add fresh enzyme after each cycle. That made the process both time-consuming and expensive. A way around the difficulty soon appeared, in the form of a unique enzyme from thermophilic microbes. These curious bacteria, which live in hot springs, possess DNA polymerase that can survive high temperatures for extended periods of time. The classical Taq polymerase was first isolated from the *Thermus aquaticus*, a bacterium found in geysers in Yellowstone National Park. The microbiologists who originally studied the bac-

continued ➢

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WHILE PCR PRODUCES LARGE NUMBERS OF COPIES OF DNA FROM VERY SMALL AMOUNTS OF STARTING MATERIAL, IT DOES NOT DIRECTLY AMPLIFY RNA. THE REASON: RNA CAN'T SERVE AS A TEMPLATE FOR DNA POLYMERASE.

teria failed to realize the significance of their findings. But once their value for PCR became evident, scientists used genetically engineered bacteria to prepare commercial versions of Taq.

GOING TO GREAT LENGTHS

Life scientists have developed other systems with DNA polymerase. These have proven useful for specific applications of the technology, such as those that demand great accuracy in copying or the ability to amplify long sequences of DNA.

Wayne Barnes, an assistant professor of biochemistry and molecular biology at Washington University, St. Louis, pioneered long distance PCR. "My big breakthrough was to add an editing enzyme to fix the mistakes, such as bases sticking out at the wrong angles," he recalls. As the major enzyme for the process he used a polymerase he called KlenTaq (in honor of Danish scientist Hans Klenow). "I made it only for sequencing," he says. "I was lucky that it worked slightly better at PCR. By itself it outperforms Taq in my view." To pursue this line of PCR development Barnes has recently formed a company, DNA Polymerase Technology. "I don't know who will want 200,000 base pairs," he says. "But I'm going to try it."

When amplifying long sequences of DNA from complex genomic or viral templates up to roughly 10,000 bases in length, researchers can use products and kits based on mixtures of Taq and proofreading polymerases that allow for production of "high-fidelity" copies of DNA. These systems are especially useful for such applications as mutagenesis and cloning that require higher integrity in the copies than conventional PCR delivers. "When my lab started to work with PCR we estimated that 20 percent of all products would contain at least one mutation. When you amplify something a couple of thousand base pairs in length you automatically produce multiple errors in each product," explains William Thilly, director of M.I.T.'s Center for Environmental Health Sciences.

To overcome that problem, Thilly used thermolabile polymers already known to have lower error rates to create high-fidelity PCR. When a high-fidelity thermostable polymerase, Pfu, became available, his lab adapted it to measurement of mutations at levels as low as one in a million copies. This mixes the value of Pfu, which has the best fidelity of any thermostable polymerase, with its use in combination with Taq in creating long copies, the approach initially performed by Barnes.

"Over the past three years we have enhanced the performance of Pfu," says Holly Hogrefe of Stratagene. "With Pfu turbo we're able to amplify targets with a higher yield than before." Adds Thilly: "High-fidelity enzymes allow you to look at the low-frequency events that are often important such as studies in human tissue"

An equally important factor in detecting rare events is the ability to read extremely long strands of DNA using PCR. "Theoretically it should be possible to go up to about five million base pairs, the size of a prokaryotic genome or a eukarytoic replicon cluster," says Thilly. In practice, nobody has definitively gone beyond 50,000 base pairs.

TWO TYPES OF RT

While PCR produces large numbers of copies of DNA from very small amounts of starting material, it does not directly amplify RNA. The reason: RNA can't serve as a template for DNA polymerase. Instead it must first be converted to DNA by an enzyme commonly found in a family of RNA retroviruses that includes Moloney murine leukemia virus, avian myeloblastosis virus, and several others. These RNA viruses enter a host cell. Once inside they use a specialized enzyme called reverse transcriptase (RT) to change their genetic material from RNA to DNA. The DNA can then be integrated into the host's genome. Complementary DNA, as this converted form of RNA is known, can be used in the traditional PCR reaction to create bulk quantities of genetic material for further analysis or manipulation.

RT-PCR has found uses in gene expression studies, RNA sequence analysis, and diagnosis of infectious disease and genetic disorders. Ambion, Inc., a company that focuses primarily on RNA and its applications, offers kits for RT-PCR. "Our Cells-to-cDNA kit lets you go from cells to PCR-ready material without having to isolate RNA," says Lader. "This helps to standardize the sample collection and preparation." Other suppliers for these products include CLONTECH Laboratories, Invitrogen Corporation, PanVera Corporation, and Sigma-Aldrich.

When used in functional genomics, cDNA fragments created from mRNA can be very large. That makes amplification difficult using Taq polymerase alone. Again, several polymerases can be combined in specific ratios to allow the accurate ampli-

Genetics for the People

For William Thilly, director of M.I.T.'s Center for Environmental Health Sciences, PCR is more than an academic matter. Late last year, in collaboration with Northeastern University colleague Barry Karger, director of the Barnett Institute of Chemical and Biological Analysis, he co-founded Peoples Genetics, a company that aims to discover the rarest inherited mutations in human populations.

Using approaches based on PCR, Thilly will seek mutations that occur in proportions down to 0.005 percent of the population. "We estimate that about two dozen different mutations per gene occur at fractions at or below 0.1 percent, accounting for most disease-causing mutations," he explains. "Our technology should pick up all the sensitive mutations on a first trial."

The company ultimately expects to earn revenues by identifying mutations in large populations, making it possible for individuals to follow up by obtaining diagnostic tests. It will also provide a significant public service. As Thilly explains, "We think we've got a chance of finding out things we really should know about human genetics."

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ONE COMMON DIFFICULTY IS CONTAMINATION OF THE SAMPLE WITH UNWANTED GENETIC MATERIAL THAT COULD ALSO BE REPLICATED, PRODUCING A SIGNIFICANT AMOUNT OF THE WRONG DNA.

fication of DNA fragments up to 30,000 bases. Amersham Pharmacia Biotech, Bio-Rad Laboratories, Epicentre Technologies, and Stratagene, among others, provide these systems.

Not to be confused with RT-PCR is a similarly initialed variety of the polymerase chain reaction: real-time PCR. This has the purpose of making PCR a truly quantitative procedure. In theory the number of templates should double with each PCR cycle. So if you know the number of templates in the starting or ending reaction you should be able to calculate the result. In practice amplification can plateau, which changes the rate of increase. To quantify their reactions, therefore, scientists must take aliquots from samples at given intervals or use multiple samples and detect the amplification products using time-consuming gel electrophoresis or Southern blotting. Real-time PCR systems obviate these manual procedures.

Applied Biosystems introduced the first instrument for real-time PCR: the ABI Prism 7700 sequence detector based on TaqMan assays. It capitalizes on the ability of some DNA polymerases to cleave a base-paired probe of DNA. Roche Molecular Biochemicals released its LightCycler at about the same time. "People are buying real-time PCR systems increasingly for gene expression measurements," says Lucero of Applied Biosystems. "Whenever an exciting result is found, it's verified using real-time quantitative PCR." Jie Kang, business unit manager for the research market at Qiagen GmbH, a German subsidiary of QIAGEN N.V., agrees. "Real-time PCR is one of the fastest growing segments of the market," she says.

PUTTING UP THE HEAT

A routine laboratory setup for early PCR experiments might have included a benchful of individual heating block devices or baths, each set at a different temperature to control the activity of the thermostable Taq polymerase. Researchers would have to be present at just the right times to move the samples from one unit to the next.

To reduce that tedium manufacturers soon developed microprocessor-controlled heating blocks. These thermal cyclers allow researchers to preset the temperatures and time periods for each temperature in advance and then let the process run unattended. By decreasing the variability between experiments in a lab, such units make it easy for labs to compare their results using the same parameters with standardized instruments. "It's a very dynamic market niche now," says Hybaid's Ebdon. "I notice thermal cyclers in every laboratory now," adds Sigma-Aldrich's Sorensen. Other suppliers of thermal cyclers include Applied Biosystems, Eppendorf Scientific, Ericomp, Roche Molecular Biochemicals, Stratagene, and Techne UK Ltd.

Another recent advance in PCR relates to reaction temperature. The "hot start" system minimizes any chemical activity by DNA polymerase until the reaction mixture reaches the high temperature that initiates the reaction. It does so by binding an antibody or other molecule to the polymerase to render it inactive at lower temperatures. Release of the inhibitor at higher temperatures allows the polymerase to do its work. "We started selling hot start products about two years ago and have been adding steadily to them," says Tom Bittick, product manager, PCR at Sigma-Aldrich. Applied Biosystems, CLONTECH, Invitrogen, Qiagen, and other vendors offer similar systems.

Another key advance in the technology is the adaptation of PCR technology to work with smaller and smaller sample volumes. Sequencing technology has advanced from test tubes to 96-well and 384-well plates, and recently to 1,536-well plates for ultra high throughput work. The most recent development in this area of assay miniaturization is the chip or microarray. This is basically a glass slide with hundreds of thousands of samples spotted in regular arrays at precise positions. While still being perfected, microarrays are reaching the market at astonishing rates.

THE TECHNICAL CHALLENGES

Despite these advances, life scientists who use PCR continue to face technical challenges. One common difficulty is contamination of the sample with unwanted genetic material that could also be replicated, producing a significant amount of the wrong DNA. Imagine the problems that would arise if just a few copies of DNA from a patient who tested positive for a serious disease were combined with another patient's sample. The results would change dramatically, producing a false positive indication for the disease in the healthy patient.

That scenario makes sample preparation critical for both PCR and RT-PCR. So manufacturers have developed several products and kits to keep this step unsullied. "We have various products to isolate DNA, including specialized products for animal tissue, plant material, blood, or plasma," says Qiagen's Kang. "Our focus and the strength and breadth of our technologies have made us by far the leading supplier of such solutions. Our strategy is to develop special products to meet customers' particular needs." Ambion, Amersham Pharmacia Biotech, Applied Biosystems, BIO 101, CLONTECH, Roche Molecular Biochemicals, and Sigma-Aldrich, among others, also produce kits for simplifying extraction and cleanup of DNA and RNA prior to PCR. These products offer particular help to researchers who may have limited experience in isolating nucleic acids, because those long strands of genetic material are easily degraded by nucleases.

Initial results from PCR experiments confirmed that buffers, magnesium, and other components in reaction mixtures could have profound effects on the success of PCR amplification. As researchers wrestled with different buffer systems for various protocols, companies decided to develop proven systems for PCR that included all the needed reagents to perform this technique. Many firms, among them Promega, Roche Molecular Biochemicals, and Sigma-Aldrich, have developed pretested kits for PCR work. These consist of concentrated master-mixes that scientists can dilute to the appropriate working concentrations. "We offer about five different ready mixes, most of them for hot start procedures," says Bittick.

THE CLONING CONNECTION

PCR had an immediate impact on cloning technology. It could produce large quantities of DNA that could be readily cloned and subsequently used to study the functions and behavior of genes in living systems.

DNA cloning involves four basic steps. Scientists first isolate the source and vector DNA and free them from contaminants. They then use restriction enzymes to cut these two DNAs, creating ends that can connect the source DNA with the vector. Next they bond the source's DNA to the vector's with a DNA ligase enzyme that repairs the cuts and cre-

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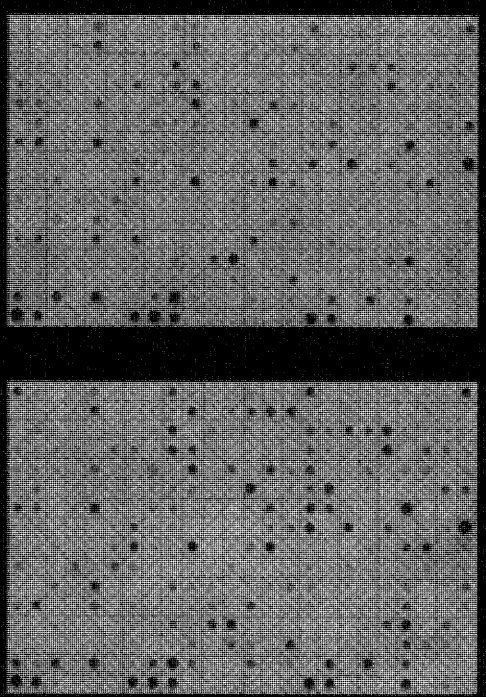

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WHAT CLONING METHOD SHOULD A RESEARCH TEAM USE? THAT DEPENDS ON SEVERAL FACTORS, INCLUDING THE TYPE OF DNA POLYMERASE, THE LENGTH OF THE PCR PRODUCT, AND THE PURPOSE OF THE CLONING EXPERIMENT.

ates a single length of DNA. Finally the DNA is transformed into a host cell – a bacterium or another organism.

PCR-mediated cloning is a family of methods rather than a single technique. TA cloning, for example, uses Taq polymerase, an enzyme known as Tth DNA polymerase, or one of a group of other polymerases that preferentially add the base adenine (A) to particular ends of PCR products. Such products can be cloned into a vector containing complementary overhangs of the base thymidine (T). Blunt-end cloning uses DNA polymerases that possess proofreading activity, such as Pwo DNA polymerase. These actively remove mispaired nucleotides from the ends of double-stranded DNA and generate blunt-end PCR products. Researchers have also been able to amplify long lengths of DNA using mixtures of several different DNA polymerases. When the DNA fragments become longer than 10,000 bases, the conventional vectors do not work well as carriers of the target DNA. Instead scientists use hybrid vectors that contain drug resistance marker genes to allow for positive selection of the DNA fragment of interest. They are especially well suited for cloning large mammalian genes or multigene fragments.

What cloning method should a research team use? That depends on several factors, including the type of DNA polymerase, the length of the PCR product, and the purpose of the cloning experiment. Whatever approach they choose, researchers must test the bacterial host cells for the presence of the source DNA in their cytoplasm once they have the chance to divide. If the procedure has successfully transformed the vector into the host cell, the cell will test positive for the vector via a selectable marker.

In the early days of cloning, very few scientists had the skill and understanding to perform these fairly sophisticated techniques. Recently, however, the invention of pretested kits has given most life scientists simple access to this technique. CLONTECH Laboratories, Epicentre Technologies, Promega, Stratagene, and several other firms offer cloning kits and tools, along with effective technical support.

New cloning methods continue to emerge. "There will be a push to get away from traditional cloning methods toward other types of enzymes to do the cloning," says Carsten Carstens of Stratagene. "A major development will be the use of site-specific recombinant technology. We're about to release technology for using linear vectors in bacterial cells. That will be a lot more efficient in making libraries." Adds Henry Ji, Stratagene's director of new product development: "Responding to market need we have put together a program to clone antigens into expression vectors." Eppendorf Scientific has just introduced a method of cloning through electrofusion. "The general applications include monoclonal antibodies, different tumor cells, and ornamental plants," says Sharon Durbin, the company's product manager for electrofusion products.

A VARIETY OF APPLICATIONS

The Human Genome Project and the commercial sequencing effort led by Celera Genomics have made significant progress in determining the DNA sequences of humans. The teams completed working drafts last year. Several labs have started to proof those drafts and to determine some of the missing sequence data. DNA sequencing uncovers important variations in the nucleotide bases, or polymorphisms, that make up our genes. These single nucleotide polymorphisms (SNPs) are associated with an increased risk of developing diseases such as cancer and heart disease. Without PCR and cloning to generate enough DNA and permit examination of the functions of the genes that contain it, life science teams would not have made this kind of progress.

PCR technology promises advances in human genetics. For example, Thilly and colleagues have founded a company, Peoples Genetics, that aims to discover the inherited mutations that occur in minuscule proportions in the population (see accompanying story, "Genetics for the People"). They believe that this is essential to discovering disease-causing mutations in human populations.

Fields of science beyond traditional molecular biology laboratories have benefited from PCR. It has

Science in a "Dirty, Grungy World"

Forensic investigators don't work in the sterile surroundings that characterize modern molecular biology laboratories. Nor can they use as much material as they wish. "We live in a dirty, grungy world. We don't get pristine samples and we never have enough sample to work with," complains Jennifer Smith, unit chief for DNA analysis at the Federal Bureau of Investigation.

When the courts first accepted the validity of DNA evidence, those conditions greatly limited its application. But when PCR arrived, manufacturers immediately developed PCR kits for forensics. By multiplying small amounts of sample and perfecting samples that are less than optimal because of age or contamination, the process simplifies and expands the work of forensic investigators. "PCR opened the door to a new world of evidence," says Smith. "We have expanded our ability to look at more and more DNA using PCR." That increased discrimination has helped to exclude suspects as well as to prove guilt.

Unlike their peers in research laboratories, forensic scientists can't stay at the cutting edge of PCR technology. They must prove new methods to the satisfaction of often suspicious courts. And sophisticated labs such as the FBI's must adapt the technology for use by small crime labs that make up the majority of the country's forensic organizations. "Any new technology," says Smith, "has to be very robust."

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CLONING TECHNOLOGY HAS ALSO ENABLED THE ROUTINE STUDY OF GENE FUNCTION. IT IS NOW A RELATIVELY SIMPLE PROCESS TO ISOLATE LARGE DNA FRAGMENTS THAT CONTAIN GENES.

become a well-recognized tool in forensic science. Police labs routinely use it to identify blood and other forms of evidence (see accompanying story, "Science in a 'Dirty, Grungy World'"). In Manchester, UK, the Forensic Science Service uses Extract-N-Amp, a kit from Sigma-Aldrich, to differentiate between marijuana and other plants.

PCR has also become a useful tool in some unexpected scientific disciplines. For example, archaeologists have found it effective to determine relationships between ancient civilizations and to study the evolutionary biology of different animal species. PCR can amplify very small samples of DNA from virtually any tissue, including examples thousands of years old. These molecular readings have become very important in validating (and sometimes disproving) scientific conclusions based on circumstantial evidence.

Cloning technology has also enabled the routine study of gene function. It is now a relatively simple process to isolate large DNA fragments that contain genes and then to express the genes in transgenic hosts. In addition, the RT-PCR technique permits scientists to determine the genes responsible for producing very low levels of messenger RNA that may play an important role in cellular metabolism and the disease process. Researchers have only scratched the surface of understanding the many processes of the living cell.

Ultimately, the tools of PCR and cloning are geared toward understanding, treating, and preventing the diseases that affect the quality of human life each day. Take rheumatoid arthritis, a disease that affects both young and old individuals. Researchers know that a cytokine called tumor necrosis factor (TNF) plays a major role in this disease. By causing immune cells to attack the body's own cells, it causes very painful inflammation. TNF binds to a specific membrane-bound receptor on the immune cells. Scientists have used recombinant DNA technology to clone an altered form of the receptor gene that codes for a soluble form of the receptor containing the TNF binding site. Injected into an arthritis patient, this modified protein binds to TNF and inhibits it from binding to the receptors on immune cells. That prevents the immune cells from initiating the signal cascade that causes inflammation.

Research teams are investigating many other disease processes in the hope of finding the key element or elements in the cell's signal transduction pathways that can present a point of attack on a disease. Several pharmaceutical companies are studying signal transduction pathways to develop drugs which can affect these key elements and prevent or treat disease.

Fewer than 20 years have passed since Kary Mullis took the celebrated drive that led to his discovery of PCR. Mullis may have left the field, but manufacturers have taken it up, making a series of refinements in the reagents and instruments used for PCR and cloning. Using these products, curious researchers will continue to identify fresh applications as they ponder what seems to be the unlimited potential of PCR and DNA cloning. ■

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

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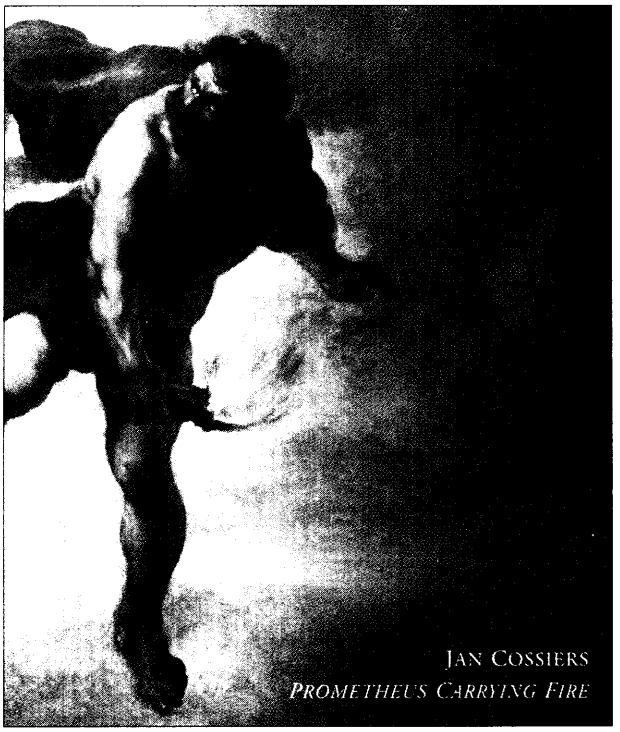

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The Department of Psychiatry at the University of Minnesota Medical School announces the search for the Arneson Endowed Chair in Psychiatry. The Arneson Chair has been created to further excellence in psychiatry research, and the search process will focus on candidates with demonstrated strengths in the application of brain imaging research to psychiatric conditions. The University of Minnesota has developed an internationally recognized group of brain imaging faculty spanning several techniques and utilizing world-class equipment. The Center for Magnetic Resonance Research, headed by **Dr. Kamil Ugurbil**, is an outstanding resource housing four research scanners.

The Department of Psychiatry seeks candidates with a proven track record in brain imaging techniques, peer-reviewed research support, and an M.D. or Ph.D. degree for an appointment at the **ASSOCIATE PROFESSOR** or **PROFESSOR** level in the tenure track or tenured depending on qualifications.

The Department of Psychiatry is in the process of organizing specialty programs addressing major mental illnesses and thus will be able to provide clinical collaborations for the successful candidate in addressing etiology, pathophysiology, and treatment response characteristics in schizophrenia, bipolar illness, and major depression. Collaboration with clinical programs at the Minneapolis VA is encouraged for the successful applicant. The Minneapolis VA is the site of the Brain Science Center, headed by **Dr. Apostolos Georgopoulos**. The Brain Science Center is currently in the process of installing a MEEG scanner, enabling the research group to address serious psychiatric illness in creative new ways.

Interested applicants for the Endowed Chair position are invited to submit their curriculum vitae and a cover letter to:

Thomas Mackenzie, M.D.
Arneson Chair Search Committee
Department of Psychiatry
University of Minnesota
F282/2A West
2450 Riverside Avenue
Minneapolis, MN 55454

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PROFESSOR AND HEAD
DEPARTMENT OF PHYSIOLOGY
Louisiana State University
Health Sciences Center
New Orleans

The LSUHSC, School of Medicine in New Orleans, invites applications and nominations for Professor and Head of the Department of Physiology. The successful candidate should have an internationally recognized research program, significant extramural funding, and an appreciation for teaching excellence. The Department has a strong reputation in the study of alcohol and drug abuse and shock and trauma with teaching responsibilities in the Schools of Allied Health, Dentistry, Graduate Studies, Medicine, and Nursing. The Department's **website** can be visited at: **http://www.medschool.lsumc.edu/phys.** The School of Medicine has a tradition of research excellence in basic science and clinical departments and in established Centers of Excellence. Candidates should provide curriculum vitae including a full list of publications; past and current research support; and a brief statement of research, educational, and administrative interests. The candidates should have these materials and three letters of evaluation forwarded to:

Dr. R. Ranney Mize
Chair, Physiology Search Committee
LSU Health Sciences Center
1901 Perdido Street, Box P6-2
New Orleans, LA 70112

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FOCUS ON CAREERS Faculty Positions

finding flexible faculty

Opportunities for faculty positions in life science have started to increase. But applicants must show evidence that they are comfortable working across traditional disciplinary boundaries. BY PETER GWYNNE

The recent surge of activity in genomics, proteomics, and other "omic" disciplines has had a beneficial effect on employment of life scientists. New academic research institutes are hiring faculty experienced in the most modern methods of life science.

Potential candidates should be warned, though, that the institutes apply high standards to candidates. They expect applicants to possess solid backgrounds in research, shown by strong records of publication and effective plans for future investigations. Search committees also look for obvious ability to work in interdisciplinary situations: the nature of present-day life science is such that the traditional boundaries between fields have become extremely fuzzy. Several centers also expect junior faculty to demonstrate at least the potential for teaching undergraduates and graduate students effectively.

Not surprisingly, candidates for the fresh faculty positions that are becoming available face stringent competition. It's not uncommon for more than 100 life scientists to apply for a single position. Often enough, a quarter of the applicants have extremely strong qualifications.

Here we talk with representatives of three universities that plan to hire life scientists. They outline both the qualifications they seek and the intellectual flexibility that they expect of incoming faculty members.

- University of Arkansas
- University of Michigan
- Washington University, St. Louis

University of Arkansas

Backed by a grant of $9.6 million from the National Institutes of Health and substantial funds from the state of Arkansas, the University of Arkansas's Center for Protein Structure and Function officially opened for business in October 2000. "The center is multidisciplinary, involving scientists from the departments of chemistry and biochemistry and biological sciences at the University of Arkansas in Fayetteville and the department of biochemistry and molecular biology at the University of Arkansas for Medical Sciences in Little Rock," says Francis Millett, professor of chemistry and biochemistry at the university. "Its mission is to enhance our research primarily in the biomedical applications of protein structure and function. To that end we are going to be hiring five new faculty. We're looking for top-notch people and the competition will be very tough."

Millett expects all applicants to show scientific versatility. "We are currently searching for a protein NMR spectroscopist for the center who combines technical expertise in all the modern three-dimensional techniques with interest and experience in biochemistry and applications to biomedicine," he says. "We're looking for somebody who can interface with the more biologically oriented people on our campus. We also plan to fill a position in combinatorial chemistry that combines novel synthetic methods with structure-based drug discovery."

Successful candidates will have to fulfill difficult criteria to prove their skill. "We're looking for people who have established very strong records," says Millett. "We take careful note of their publications, particularly significant papers for which they are first authors. We look very carefully at recommendation letters from candidates' mentors, whom we will call. Our main interest is in people who can compete successfully for funding from the National Institutes of Health, the National Science Foundation, and similar organizations. We require a 5- to 10-page statement of research proposals for the future. We value people who we think will establish a successful, high-impact program."

Francis Millett

Millett does not neglect teaching ability. "We look closely at potential for teaching graduates and undergraduates," he says. "We also ask for a statement of teaching interests. That has a big effect on who makes the short list."

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

CONTINUED ➢

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

University of California, Davis

Inquiries are invited from qualified applicants for faculty positions currently available:

Positions are nine-month tenure track appointments (unless otherwise indicated). Eleven-month term employment will be offered and continued based upon academic personnel review.

Assistant Professor/Physiological Weed Genetics. Teach and conduct research into the genetics associated with weed systematics and ecological distribution, herbicide resistance, and the potential for gene flow between transgenic crops and weeds. Apply to: **J. M. DiTomaso, Chair, Search Committee, e-mail ditomaso@vegmail.ucdavis.edu**. Position open until filled. To ensure consideration, applications should be received by 5/1/01.

Assistant Professor / Biotechnical Engineer. Teach and conduct research in integration of engineering concepts with the biological sciences for solution of problems in the biotechnology industries. Apply to **Dr. R. Paul Singh, Search Committee Chair, Department of Biological and Agricultural Engineering, e-mail: rpsingh@ucdavis.edu**. Position open until filled. To ensure consideration, applications should be received by 4/30/01.

Assistant Professor / Environmental Chemist. Teach and conduct research in fundamental and applied aspects of environmental chemistry. This position will be under recruitment in late summer/early fall. For additional information contact **Ron Tjeerdema, Search Committee Chair, Department of Environmental Toxicology, e-mail rstjeerdema@ucdavis.edu**.

Assistant Professor / Regional-Scale Meteorologist. Teach and conduct research concerning the computational modeling of fundamental physical and chemical atmospheric processes on the regional scale. Information and application found under recruitment on: **http://lawr.ucdavis.edu/** or send questions to **Bryan C. Weare, Search Committee Chair, Department of Land, Air and Water Resources, e-mail bcweare@ucdavis.edu**. Position open until filled. To ensure consideration, applications should be received by 5/15/01.

Assistant Professor / Nutritional Toxicology. Teach and conduct research in the fundamental and applied aspects of nutritional toxicology. Recruitment will begin early summer 2001. This is a joint position in the Departments of Nutrition and Environmental Toxicology. For information please contact **Carl L Keen, Chair, Department of Nutrition (e-mail clkeen@ucdavis.edu) or Marion Miller, Chair, Department of Environmental Toxicology (e-mail mgmillersears@ucdavis.edu)**.

Assistant Professor / Physiological Genomics (Lactation Physiology). Teach lactation and conduct research in the physiological genomics of lactation. For information, contact **Anita Oberbauer, Search Committee Chair, Department of Animal Science, e-mail: amoberbauer@ucdavis.edu.**

Assistant Professor / Physiological Genomics (Animal Stress). Teach and conduct research in the physiological genomics of animal stress and welfare. For information contact **Anita Oberbauer, Search Committee Chair, Department of Animal Science, e-mail: amoberbauer@ucdavis.edu**.

Assistant Professor - Water/Watershed Chemist. Teach and conduct research in the fundamental and applied aspects of water chemistry at the molecular and watershed scales. For information please contact **Thomas Harter, Search Committee Chair, Hydrology Program, Department of Land, Air and Water Resources, e-mail thharter@ucdavis.edu**.

Assistant Environmental Specialist in Cooperative Extension (11 mos). Conduct applied research and outreach on environmental issues, especially air quality, related to agricultural animal production. Information is available at **http://animalscience.ucdavis.edu/Intranet/Recruiting/CEEnvironmentalSpecialist.htm**. Apply to: **James Oltjen, Search Committee Chair, Department of Animal Science, e-mail: jwoltjen@ucdavis.edu**. To ensure consideration, applications should be received by 3/1/01.

Assistant Animal Genomics Specialist in Cooperative Extension (11 mos). Conduct applied research and outreach on genomics and biotechnology applied to animal agriculture. For information, contact **Mary Delany, Search Committee Chair, Department of Animal Science, e-mail: medelany@ucdavis.edu**.

Assistant Landscape Horticulture Specialist in Cooperative Extension (11 mos). Conduct a statewide program of extension and applied research in landscape horticulture. Apply to: **David Burger, Chair, Department of Environmental Horticulture. e-mail dwburger@ucdavis.edu**. Position open until filled. To ensure consideration, applications should be received by 4/30/01.

Assistant Specialist in Cooperative Extension (11 mos). Develop a statewide extension and applied research program in land use interpretation, soil management, and soil restoration. Information and application found under recruitment on: **http://lawr.ucdavis.edu/** or send application to **Dr. M.J. Singer, Search Committee Chair, Department of Land, Air and Water Resources, e-mail mjsinger@ucdavis.edu**. Position open until filled. To ensure consideration, applications should be received by 2/15/01.

Assistant Viticulture Specialist in Cooperative Extension (11 mos). A career-track position that includes CE research, outreach, and education responsibility, with emphasis in the raisin industry and the central and southern California winegrape industry. Appointee will be located at the Kearney Agricultural Center, and will be an integral part of the UC Department of Viticulture and Enology. Apply to **Dr. Nick Dokoozlian, Department of Viticulture and Enology, e-mail: nkd@uckac.edu**. Position open until filled. To ensure consideration, apply by 02/01/01.

Professorial positions have responsibilities for teaching, undergraduate and graduate student advising, university, public and professional service, outreach, and research. Research must contribute to the mission of the Agricultural Experiment Station. Cooperative Extension positions have responsibilities for extension education and outreach, and applied research. Candidates must have a Ph.D. in an appropriate field. Applicants should submit resume, transcripts (if within five years of graduation), statement of research and teaching experience, list and reprints of publications, and the names and addresses of at least three persons familiar with the applicant's qualifications, to individual and department as noted for position (department name), University of California, Davis, CA 95616. Please indicate the position(s) in which you are interested.

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ANN ARBOR, Michigan: Two years ago, in response to a request from University of Michigan President Lee Bollinger, a group of life science faculty pinpointed opportunities for the university in interdisciplinary issues related to genomics and biocomplexity. The result: a new Life Sciences Institute that will have an interdisciplinary focus. "The opportunity to put an engineer next to a person doing genetics or a person doing structural biology will give us the chance to do interesting things," declares Jack Dixon, chair of biological chemistry at the university and co-director of the new institute.

The new facility offers opportunities for life scientists seeking academic positions. "We have as an objective recruiting 30 new faculty, with about 12 at a senior level and roughly 18 at a junior level," says Dixon.

Nancy Cantor

Other departments on the campus want to recruit biologists. "A lot of different parts of the university are hiring life scientists," says Provost Nancy Cantor. "You'll see the College of Engineering hiring them for a new biomedical engineering department. We have a program in bioinformatics. Life scientists are also teaching courses in the Law School and the Business School."

Recruiters expect the new faculty to feel comfortable in a multidisciplinary environment. "It used to be that people could work in a narrowly defined field," says Dixon. "Today it is not uncommon for problems to require interdisciplinary approaches. For example, crystallographers used to be largely involved in solving the structures of proteins. Now they need a strong chemistry background and must know a lot about how those proteins work."

Significantly, the new institute is geographically interdisciplinary, located almost exactly between the campuses of the university and its Medical School. Thus, Dixon continues, candidates for the new faculty positions "are almost required to be interdisciplinary. It's rare that the best candidates don't have this type of breadth. The best modern scientists — almost by their nature — do research with an interdisciplinary tone."

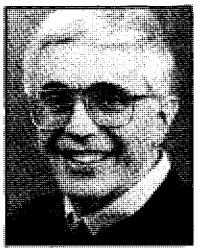
Michigan expects to hire the best and the brightest, whether they come from academe or industry. "We look for signs of really good research training, good publications, and a very solid performance at the postdoctoral level, and perhaps some experience in biotechnology," says Cantor. "We're not trying to create a pharma or a biotechnology operation, but we recognize the importance of drawing on talent from all sources," adds Dixon. "It's not uncommon to see life scientists go back and forth between industry and academics."

Jack Dixon

Search committees also look for teaching ability. After all, says Dixon, "We've put special emphasis on involving the undergraduates in new curricula." As a result, adds Cantor, "We look very carefully at interesting teaching experience, such as working with undergraduates on research projects or developing ways to bring the laboratory to the classroom."

How should life scientists prepare for an application to Michigan? "You have to work hard, do something interesting, publish in good places, work on your presentation skills, and be widely read," advises Dixon. "And be passionate about what you're doing."

ST. LOUIS, Missouri: "In the past two years I've hired five assistant professors," says Ralph Quatrano, chairman of the department of biology at Washington University, St. Louis. "We're now searching for an ecologist. And over the next five years it's pretty clear that we'll be averaging one or two hires per year."



Ralph Quatrano

Quatrano has a more difficult hiring task than most of his peers. Roughly 35 faculty members in his department must cover the whole of life science for a liberal arts campus. "We all teach undergraduates," says Quatrano. "We face a situation in which we must maintain a broad base of biology to meet our mission of educating undergraduates. But we're also a major research university."

The teaching mandate requires individual faculty members to have a spectrum of scientific understanding. "We have groups within the department that have common interests who feed off each other," Quatrano explains. "So every new faculty member we hire has to be pretty broad-minded, with interest or experience and background in subjects that touch on the work of other department members."

Fortunately, Quatrano finds that many applicants already possess ingrained interdisciplinary attitudes. "I think that the faculty coming in realize that you really need to reach out not only to other colleagues in biology but also to chemists, physicists, and mathematicians," he says.

Thus the key test for many applicants becomes teaching potential. The search committee asks individuals on the short list to give two seminars: a detailed "chalk talk" about their research, and a more general discussion of their field for the entire membership of the biology department. While most scientists sail through the first, several experience difficulties talking to a broad audience. "It tests their ability to get across why their field is exciting and important," says Quatrano. "Someone who communicates enthusiasm and excitement about the science has the prime ingredient for a good teacher."

Once on board, young faculty members can obtain help to hone their teaching skills. "We encourage them to work with communication people on campus to improve the mechanics of their lectures," Quatrano points out. "Also we are beginning to pair up these young people with senior faculty who are successful teachers and who can act as mentors." ■

Faculty Positions in Cancer Research
LSU Health Sciences Center

The Stanley S. Scott Cancer Center at LSU Health Sciences Center in New Orleans invites applications for positions at the Assistant, Associate, or Professor level. Candidates should possess a Ph.D. or M.D. degree and have demonstrated excellence in their research as indicated by publications and a track record of externally funded research grants. The successful applicants will be expected to pursue an independent, yet collaborative approach, addressing broad issues that relate to oncologic science. Research interests in prostate cancer and/or tumor immunology are encouraged but not required.

The search will give full consideration to applications that include a curriculum vitae (including funding grant history), four representative publications, and the names of three individuals that may be contacted for letters of reference.

A joint appointment in the Cancer Center and an appropriate Department of Basic or Clinical Science at the LSU Health Sciences Center is anticipated. The individual Department will be dependent on the successful applicant's expertise and interest. Laboratory space will be provided in a new facility in the heart of the Health Sciences Center complex.

Interested candidates should submit their curriculum vitae to **Dr. Oliver Sartor, Director, Stanley S. Scott Cancer Center, Suite 4E1, 533 Bolivar Street, New Orleans, Louisiana 70112.**

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FACULTY POSITION
RADIATION BIOLOGY

Tenure-track position at the Assistant or Associate Professor level in the Department of Radiation Oncology. Applicants must have an M.D. and/or Ph.D. and postdoctoral training. Candidates with research interests in the area of molecular radiation biology are especially encouraged to apply. The successful candidate will be expected to develop a strong research program as well as teach and mentor graduate students and radiation oncology residents. Competitive start-up packages and space are available.

The Department of Radiation Oncology currently consists of eight clinical faculty, three physicists and one radiation biology faculty. Current research interests of the faculty are oncogene amplification and DNA repair. The department maintains a soon to be renovated core research facility within the basic science research departments of the Upstate Medical University College of Medicine, adjacent to Syracuse University.

Applicants should submit *curriculum vitae,* a brief summary of research and teaching interests, and names and addresses of at least three references to:

Chung T. Chung, MD, FACR
Chair, Department of Radiation Oncology
SUNY Upstate Medical University
750 East Adams Street
Syracuse, NY 13210

State University of New York
Upstate Medical University
Formerly known as SUNY Health Science Center

SUNY Upstate Medical University is an EOE/AA/ADA employer, committed to excellence through diversity.

FLORIDA ATLANTIC UNIVERSITY
Schmidt Senior Faculty Fellow
Department of Biomedical Science

Florida Atlantic University is pleased to request nominations and applications for the position Schmidt Senior Faculty Fellow in Biomedical Science. The Schmidt Senior Faculty Fellows will provide the core senior faculty in the recently created Department of Biomedical Science in the Charles E. Schmidt College of Science at FAU. We are seeking senior level scientists at the full professor level with excellent records of research and extramural funding for this position. The area of research of the Schmidt Senior Faculty Fellow remains open. The current areas of strength in biomedical research in the Charles E. Schmidt College of Science include Neuroscience, complex systems and the brain sciences, molecular and cellular biology of cancer, hormonal regulation of gene expression, developmental biology, extracellular matrix, bioactive peptides, therapeutic potential of natural products and medical imaging. The research program of the Schmidt Fellow can complement these areas but may also represent a new area of research within biomedical science. The position comes with excellent start-up funds and salary.

This initiative has been underwritten by an extraordinary gift of $15 million from the Schmidt Family Foundation and matched by an equal amount from the State of Florida. A 90,000 sq. ft. facility, the Schmidt Biomedical Science Center, is being constructed to house the Department of Biomedical Science and its programs, and an endowment established to ensure ongoing support for research and teaching of distinction.

The academic responsibilities of the Schmidt Senior Faculty Fellow will be to provide scientific leadership in the Department of Biomedical Science and teach graduate students and medical students in conjunction with the University of Miami School of Medicine.

The Charles E. Schmidt College of Science is centered on the Boca Raton campus of Florida Atlantic University in Palm Beach County, approximately 50 miles north of Miami. Applicants should send a curriculum vitae along with a cover letter outlining the applicant's research and teaching interests and a list of three references to **Dr. Dwight Warren, Associate Dean and Chair, Department of Biomedical Science, Charles E. Schmidt College of Science, Florida Atlantic University, PO Box 3091, Boca Raton, FL 33431** by March 15, 2001.

FLORIDA ATLANTIC UNIVERSITY
Assistant Professor
Department of Biomedical Science

Florida Atlantic University is seeking to appoint 4 faculty members at the rank of assistant professor in the Department of Biomedical Science. The faculty hired as part of this department will have demonstrated the capability to perform outstanding biomedical research. Excellent start up funds and salaries are available.

The faculty member will be expected to maintain an active research program and obtain external funding to support the research program. The faculty member will be expected to contribute to the teaching programs of the Department of Biomedical Science and participate in teaching of medical students in conjunction with the University of Miami School of Medicine. Applicants should send a curriculum vitae, along with a cover letter outlining the applicant's teaching and research interests, and a list of three references, to **Dr. Dwight W. Warren, Associate Dean and Chair, Department of Biomedical Science, Charles E. Schmidt College of Science, Florida Atlantic University, PO Box 3091, Boca Raton, FL 33431** by March 15, 2001.

Florida Atlantic University is an Equal Opportunity/Access/ Affirmative Action Institution

Cornell University College of Engineering
Bioengineering • Biomedical • Biophysical Engineering

The College of Engineering at Cornell University announces three positions in the area of bioengineering/ biomedical/biophysical engineering. The College invites applications for tenure-track assistant and associate professors.

The College is seeking creative and resourceful individuals with a molecular or cellular orientation in their research programs, who thrive on interdisciplinary research and teaching. Areas of interest include nanobiotechnology, biomaterials, tissue engineering, drug delivery systems, biosensors, biomimicry, imaging, computational biology, bioinformatics, and bioenvironmental processes and remediation. Candidates must have demonstrated research expertise in areas that are at the interface of engineering and the life sciences. They must also have the ability and desire to develop and teach courses within their home department as well as related biology-based courses that will form the core of an integrated, cross-college program in biomedical/bioengineering for undergraduate and graduate students.

New faculty will have the opportunity to collaborate with faculty involved in biological and biomedical engineering, and will be expected to foster interdepartmental and inter-College growth. Cornell University is committed to building programs that link the physical sciences and engineering to the life sciences. Successful candidates will be appointed in one of the following departments: Applied and Engineering Physics; Chemical Engineering; Civil and Environmental Engineering & Agriculture and Biological Engineering; Mechanical and Aerospace Engineering; and Materials Science and Engineering.

Cornell University offers the advantages of an engineering college with outstanding faculty and resources, such as the NSF-funded Cornell Nanofabrication Facility; the Nanobiotechnology STC funded by NSF; the NSF/NIH Resource in Biological Opto Electronic Imaging; Cornell's High Energy Synchrotron Source; the NSF funded Cornell Center for Materials Research; the Cornell Theory Center (for advanced computation); mammalian genomics facilities; the Cornell Core Transgenesis Facility; the Cornell Hospital for Animals; Center for Advanced Technology in Biotechnology; and, to be completed by 2003, Duffield Hall, a state of the art facility for research in nanometer science and technology. The College of Engineering also has the advantages of Cornell's broad strength in the life sciences ranging from molecular/genomic to behavioral and ecosystems research in several colleges--Arts and Sciences, Human Ecology, Agriculture and Life Sciences, Veterinary Medicine, and, in New York City, the Weill Medical College as well as the Hospital for Special Surgery.

Applicants should submit a detailed C.V., including research and teaching interests, copies of selected publications, and at least three professional references to: **Professor Ronald Hoy, Chair, Bioengineering Search Committee, c/o Ms. Bonnie Sisco, Bioengineering Program, 270 Olin Hall, Cornell College of Engineering, Ithaca, New York 14853**

Inquiries by e-mail may be addressed to Bioeng_search@cornell.edu, but formal applications must be submitted by regular mail. Screening of candidates will begin March 1, 2001 and continue until the positions are filled.

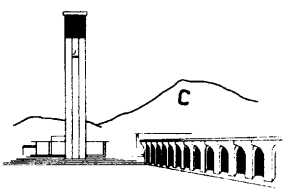
CORNELL
UNIVERSITY

The College of Engineering is an equal opportunity, affirmative action employer & educator and welcomes nominations of, and applications from, women and underrepresented minorities.

http://www.cornell.edu
http://chronicle.com/jobs/profiles/002711.htm

UNIVERSITY OF CALIFORNIA, RIVERSIDE

FACULTY POSITIONS
STRUCTURAL BIOLOGY
(X-RAY CRYSTALLOGRAPHY)



Applications are invited for our continuing search for 2-3 tenure-track faculty positions in the College of Natural and Agricultural Sciences, University of California, Riverside. Applicants should have strong credentials in the broad area if structural biology using, as their principal approach, protein X-ray crystallography. We anticipate that an internationally recognized scholar at the full professor level will fill one position; the rank of the other two positions will likely be at the Assistant/Associate Professor level. Successful applicants will hold the doctoral degree or equivalent, and will be expected to develop and maintain a productive independent research program as well as participate in undergraduate-, graduate-, and postdoctoral-level training activities. Mid-career and senior scientist applicants must have well-funded research programs. A competitive start-up package will be provided to the successful candidates. The departmental affiliation for the positions will likely be in Biochemistry, but alternatively could be in the Departments of Cell Biology/ Neuroscience or Chemistry. The positions are available July 1, 2001. Applicants should forward a complete curriculum vitae, a list of three names and addresses from whom letters of reference might be obtained, and a summary of their future research directions to: Structural Biology Search Committee (Attn: A.W. Norman), Dept. of Biochemistry, University of California, Riverside, CA 92521. Review of applications will begin upon their receipt, and will continue until the position is filled. Check the web site at http:// www.biochemistry.ucr.edu/.

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THE UNIVERSITY OF HONG KONG

香 港 大 學

The University of Hong Kong is one of the leading international comprehensive research universities in the Asia-Pacific region, with more than 100 departments and sub-divisions of studies and learning. There is currently an enrolment of more than 15,000 students (6,000 at postgraduate level). Research students come from more than 40 countries. The medium of instruction is English. The University is committed to its vision of globalisation, together with excellence in scholarship and research.

Assistant Professor in the Department of Ecology and Biodiversity

Applications are invited for appointment as Assistant Professor in the Department of Ecology and Biodiversity (Ref: RF-2000/2001-234), tenable from 1 September 2001 or as soon as possible thereafter. The appointment will initially be made on a three-year fixed-term basis.

Applicants should possess a PhD degree and be able to contribute to teaching in marine biology, environmental impact assessment and/or the application of molecular techniques in ecology and systematics. Preference will be given to those who can demonstrate an ability to contribute to the Department's aims and ongoing activities. Applicants should visit the Department's homepage (http://www.hku.hk/ecology) for further information on mission, teaching and research.

Annual salary [attracting 15% (taxable) terminal gratuity] for an Assistant Professor (in the grade of Lecturer) is on an 11-point scale, with starting salary depending on qualifications and experience: HK$554,280 - HK$925,980* (approx. US$71,069 - US$118,726; US dollar equivalents as at 19 January 2001). *An appointee with an annual salary at HK$740,640 (approx. US$94,960) or above may be considered for the award of the title of Associate Professor on the basis of academic merits and achievements.

At current rates, salaries tax will not exceed 15% of gross income. The appointment carries leave, medical and dental benefits, an allowance for children's education in Hong Kong, and, where appropriate, a financial subsidy under the Home Financing Scheme for reimbursing either the actual rental payment or the mortgage repayment up to the relevant maximum entitlement may be provided.

Further particulars and applications forms can be obtained at http://www.hku.hk/apptunit; or from the Appointments Unit (Senior), Registry, The University of Hong Kong, Hong Kong (Fax (852) 2540 6735 or 2559 2058; E-mail: apptunit@reg.hku.hk). **Closes 28 February 2001.**

The University is an equal opportunity employer and enjoys a smoke-free environment

COLLEGE of MEDICINE at URBANA-CHAMPAIGN
PEDIATRIC ENDOCRINOLOGIST

The University of Illinois College of Medicine at Urbana-Champaign invites applications for a full-time tenure-track faculty Pediatric Endocrinologist with primary focus on basic science research related to diabetes. Rank will be commensurate with the successful candidate's qualifications. This position carries a commitment for 80% of time protected for research responsibilities. Clinical work will be within the Department of Pediatrics at Carle Clinic/Carle Foundation, a primary clinical affiliate of the College of Medicine at Urbana-Champaign. Clinical responsibility will be focused on endocrinology or diabetology. The home basic science department affiliation at the College will depend upon the scientific research expertise of the successful applicant and will be supported by institutional funds. An M.D. degree, eligibility for medical licensure in the State of Illinois, and evidence of an outstanding research potential are required for appointment to this position. Appointees will be expected to develop a vigorous independently funded research program. Preference will be given to candidates who are board certified in Endocrinology with diabetes research experience.

The University offers a highly interactive, interdisciplinary research environment, outstanding engineering, computational and physical science programs, and state-of-the-art research support facilities. The Champaign-Urbana community offers the residential advantages of a medium-sized university town, excellent cultural opportunities, and easy access to Chicago, St. Louis, and Indianapolis. Excellent laboratory facilities, a substantial start-up package and a competitive salary with benefits will be provided. The starting date for the position is May 2001. For fullest consideration, applicants should submit a curriculum vitae with a complete list of publications, a summary of research interests and future plans along with the names, addresses and telephone numbers of at least three professional references by March 31, 2001 to:

University of Illinois College of Medicine - UC
Pediatric Endocrinologist
Attn: Jane Smith
0036 Carle Forum Bldg
611 W. Park St.
Urbana, IL 61801

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Faculty Position
in Structural Biology
Cellular Biochemistry & Biophysics Program
Sloan-Kettering Institute

We seek candidates for a tenure track faculty position at the Assistant Member level in the Cellular Biochemistry & Biophysics Program. Applications are invited from candidates with an outstanding record of research achievements in structural biology. The applicant's research program may involve any area of structural biology, including x-ray crystallography, NMR spectroscopy, EM and optical imaging, as well as the interface of structural, chemical and computational biology. The Program faculty includes cell biologists, biochemists and structural biologists with interests in diverse areas of biology such as intracellular protein transport, cell adhesion, signaling pathways in cell growth and differentiation and nucleic acid structure and function. Applicants should submit, by March 31, 2001, a curriculum vitae, a summary of research interests, and should arrange to have three letters of recommendation sent to: **Nikola Pavletich, c/o Ms. Fran Berman, Cellular Biochemistry & Biophysics Program, Box 135, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021.** EOE/AA

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

Stanford University
School of Engineering Faculty Search
Tissue Engineering

The School of Engineering at Stanford University is developing an exciting new initiative in Bioengineering, taken in the broadest sense, in collaboration with the School of Medicine. This initiative will build on the excellent foundation formed by the Biomechanical Engineering Division of the Department of Mechanical Engineering (http://www.stanford.edu/group/biomech/) and the Biotechnology program of the Department of Chemical Engineering (http://chemeng.stanford.edu/), and will strategically leverage the activities in the newly formed Clark Center for Bioengineering, Biomedicine, and Biosciences (http://cmgm.stanford.edu/biochem/biox/). We will invest in this initiative in a number of ways including the development of new teaching and research facilities, the hiring of a number of new faculty, and providing funds for student fellowships.

Consistent with this objective, the School is seeking at this time candidates for faculty positions in the field of Tissue Engineering. Examples of problem areas of interest include, but are not limited to: (1) Identification and isolation of novel sources of cells, tissues, and/or organs for biomedical applications; (2) In vivo and ex vivo genetic and environmental manipulation and scaffolding of cells, tissues, and/or organs to improve their therapeutic utility; (3) Development of new methods to characterize physical, chemical, and/or biological properties of primary as well as engineered cells, tissues and/or organs for therapeutic use; and (4) Delivery of engineered DNA, cells, tissues, organs, and/or therapeutics into intact animals.

The complexity of these and related problems in tissue engineering is expected to be reflected in the multidisciplinary nature of the candidate's research program, which may draw from technologies associated with molecular and cell biology, animal physiology and anatomy, materials science, micro- and macroscale device engineering, spectroscopy and imaging, molecular- and systems-level modeling, and/or surgery.

The successful applicant(s) will play a central role in this initiative, and will be expected to set up an innovative research program within one or more relevant departments in the School of Engineering. It is likely that these research programs will be housed in the Clark Center currently under construction on campus. Depending on the nature of the candidates' research programs, the possibility of a joint appointment in the School of Medicine will also be considered. A strong commitment to both graduate and undergraduate teaching is essential.

The search is open at all levels, from tenure-track Assistant Professor to tenured Full Professor, and the appointment will be at a rank commensurate with the applicant's experience. Applicants should send a letter containing a brief statement of interest and of how they might play a role in the bioengineering effort. Senior applicants should also describe their vision for the planned bioengineering initiative. Enclosures to the letter should include a resume (including research accomplishments, teaching experience, publications), transcript(s) of (doctoral) graduate study, and the names and postal and e-mail addresses of at least five references. The letter and enclosures should be sent to Professor Chaitan Khosla, Search Committee Chair, Department of Chemical Engineering, Stanford University, Stanford CA 94305-5025. Applicants are encouraged to submit their materials by April 1, 2001.

Stanford University is an equal opportunity employer and welcomes nominations of women and minority group members and applications from them.

Rice University
Department of Biochemistry & Cell Biology
Faculty Position in Molecular Biophysics and Structural Biology

Applications are invited for a tenure-track faculty position in molecular biophysics. All biophysics research areas will be considered but special consideration will be given to applicants whose research is in the areas of structural biology and X-ray crystallography. The position can be at the assistant, associate or full professor level but senior candidates are particularly encouraged to apply. The X-ray Diffraction Center is located in the newly renovated Keck Hall with state-of-the-art facilities that include a recently installed Rigaku generator and an MSC Jupiter140 CCD detector. The Center also has an interactive graphics facility with an SGI-based virtual reality environment. An endowment from the Kresge Foundation provides an operational budget for the Center and for future equipment upgrade/replacement. Rice is also the lead institution in the Gulf Coast Protein Crystallography Consortium, which is constructing a beamline at Louisiana State University's Center for Advanced Micro Devices (CAMD) synchrotron facility.

Candidates must have completed a doctoral degree, have postdoctoral training, exhibit outstanding communication and leadership skills, and have a record indicating exceptional potential or demonstrated excellence in research and teaching. The successful candidate will be expected to develop and maintain a vigorous research program supported by extramural funding and participate in graduate and undergraduate teaching. Review of submitted applications will commence immediately and continue until the position is filled. Please send a letter of application, curriculum vitae, summary of past research and statement of future research plans, and arrange for four letters of reference to be sent to:

Molecular Biophysics Faculty Search Committee
Department of Biochemistry & Cell Biology
Rice University, MS-140
P.O. Box 1892
Houston, TX 77251-1892

Rice University is an Equal Opportunity/Affirmative Action Employer; women and minority candidates are especially encouraged to apply.

WAYNE STATE UNIVERSITY
School of Medicine

The Department of Pharmacology at Wayne State University School of Medicine is seeking to fill a senior faculty position to complement existing strengths in the areas of vesicular transport, exocytosis and endocytosis. Individuals with research focusing on neurosecretion, hormone or enzyme secretion, and membrane fusion are encouraged to apply. Candidates should have an established national or international program in the field. The Medical School has excellent research facilities with state-of-the-art technologies for addressing biomedical problems. Faculty have access to an imaging core facility within the department. Excellent salary and start-up packages are available, commensurate with experience.

Websites for School of Medicine and the Department of Pharmacology are **www.med.wayne.edu** and **www.med.wayne.edu/pharm/home.htm**, respectively.

Applicants should send a cover letter explaining their interest in this position, and a CV that includes publications, current grant support, a brief research plan, and names and addresses of three references to:

David Kessel, Ph.D.
Chair, Faculty Search Committee
Department of Pharmacology
WSU School of Medicine
540 East Canfield Ave
Detroit, MI 48201

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. *WSU is an equal opportunity/affirmative action employer.*

Medical College of Ohio

Faculty Position
Department of Biochemistry and Molecular Biology
Medical College of Ohio

Applications are invited for a tenure-track faculty position at the Assistant or Associate Professor level. This appointment is part of a continuing expansion of the department. Candidates working in all areas of biochemistry, genetics, molecular biology or cell biology will be considered. Applications are particularly encouraged from individuals using genetic and molecular approaches to study cell growth or differentiation, mechanisms of signal transduction, regulation of gene expression, protein structure/function, control of the cell cycle and apoptosis. Excellent research facilities and start-up funds are available. Requirements include a Ph.D. or M.D. with postdoctoral experience and demonstrated research accomplishments. The successful candidate will be expected to establish a vigorous externally funded research program and participate in the teaching of medical and graduate students. Candidates at the Associate Professor level should have current grant support. Applicants should submit a curriculum vitae, description of research plans, selected publications, and names and addresses of three references to:

William A. Maltese, Ph.D.
Chairman, Department of Biochemistry and Molecular Biology
Medical College of Ohio
3035 Arlington Ave.
Toledo, OH 43614-5804

EO/AA employer, M/F/D/V

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

Assistant/Associate Professor
(Tenure Track)

The Department of Gynecologic Oncology is inviting applications for a Ph.D. tenure track Assistant or Associate Professor Faculty position. The successful candidate will have research expertise in Molecular Biology to conduct studies related to the biology and genetics of gynecology cancers. The selected candidate will be responsible for establishing their own laboratory and will be expected to obtain independent peer-reviewed grant funding. Applicants must be eligible to apply for federal grants. Prefer 3-5 years' research experience in an academic environment.

Interested candidates should send a CV to:

David M. Gershenson, M. D.
Chairman
Department of Gynecologic Oncology
The University of Texas
M. D. Anderson Cancer Center
1515 Holcombe Blvd., Box 440
Houston, TX 77030

The University of Texas M.D. Anderson Cancer Center values diversity in its broadest sense. Diversity works at M.D. Anderson. EEO/AA Smoke-free environment.

UCI
Pharmacology Chair

The University of California, Irvine is seeking applicants and nominations for the Chair of the Department of Pharmacology. We are searching for an outstanding individual with an internationally recognized research program and the leadership and personal skills to direct a department with important research and teaching responsibilities. The College of Medicine will support the new chair in expanding the department's resources to promote its education and research goals. Nominations and applications with curriculum vitae should be sent to:

Eric J. Stanbridge, Ph.D.
Chair, Pharmacology Search Committee
Department of Microbiology
& Molecular Genetics
University of California, Irvine
B235 Med Sci
Irvine, CA 92697-4025
ejstanbr@uci.edu

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

Assistant Professor
PLANT PHYSIOLOGY
in the
Department of Biological Sciences
Simon Fraser University

The Department of Biological Sciences is seeking a tenure track faculty member in the area of **PLANT PHYSIOLOGY**. The appointment will be made at the Assistant Professor level with a start date on or after September 1, 2001. Any area of modern Plant Physiology is of interest. Candidates who use cellular approaches to study fundamental processes in the area of plant physiology are especially encouraged to apply. The successful candidate will pursue a vigorous, externally funded research program that includes the training of graduate students. She or he also will be expected to teach undergraduate courses in plant physiology, and to contribute to the teaching of an introductory cell biology/ biochemistry course. A Ph.D. degree is required, and appropriate post-doctoral experience is preferred. Applicants should send, no later than March 15, 2001, a Curriculum Vitae, representative reprints, a one-page summary of their research objectives, and three letters of reference to:

Dr. Norbert H. Haunerland, Chair
Department of Biological Sciences
Simon Fraser University
8888 University Blvd.
Burnaby, B.C. V5A 1S6
Canada
FAX 604 291 4312

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. This position is subject to final budgetary approval.

Simon Fraser University is committed to employment equity, welcomes diversity in the workplace, and encourages applications from all qualified individuals including women, members of visible minorities, aboriginal persons, and persons with disabilities.

Further information about the Department can be found on the World Wide Web at **http://www.sfu.ca/biology/**.

HARVARD MEDICAL SCHOOL

MICROSCOPY CORE DIRECTOR

The Department of Cell Biology at Harvard Medical School will soon host a core facility for light microscopy. The planned facility will house six state-of-the-art instruments with fluorescence and digital image capture capabilities, including multiple confocal systems. We are searching for a core manager for this facility with a Ph.D. (or equivalent) and several years of pre- or post-doctoral research experience with advanced level microscopy applications. This staff member will be responsible for (1) the establishment and maintenance of the imaging workstations in the facility, (2) technical consulting and participation in cutting edge research in basic cell biology, and (3) several levels of training for the research community. The core manager will be expected to work in close cooperation with Harvard faculty and representatives of Nikon and other equipment manufacturers. **Requisition #8733**

For more information on careers or to apply on-line, visit www.hr.harvard.edu/employment or send/fax your resume and cover letter to: Harvard University, Resume Processing Center, 11 Holyoke Street, Cambridge, MA 02138. Fax: (617) 495-4748. Please indicate requisition number.

At Harvard University, diversity is an essential source of vitality and strength.

UTMB
The University of Texas Medical Branch at Galveston

Two Tenure Track Positions
Tropical and Emerging Diseases
The University of Texas Medical Branch

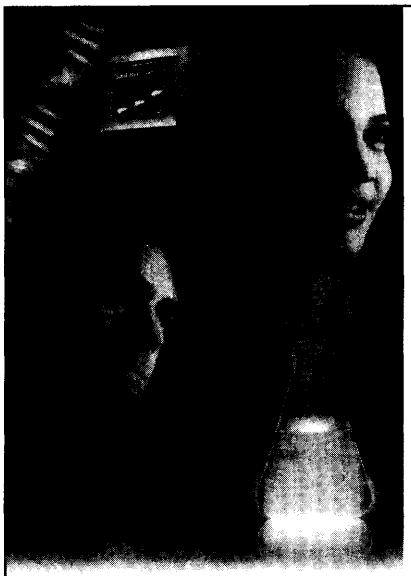
The Center for Tropical Diseases and the Department of Pathology at The University of Texas Medical Branch invite applications for two tenure track faculty positions at the Assistant, Associate, or Full Professor level. Successful applicants will hold the Ph.D., M.D., or equivalent degree. The positions are envisioned to be filled by research scientists who can bridge between the scientific study of an etiologic agent of a tropical or emerging infectious disease (virology, parasitology, bacteriology or mycology) and other areas of research interest within the University (bioinformatics, genomics, structural biology, immunology, vaccine development, endothelial biology, or vector biology of transmission/disease enhancement). Outstanding opportunities exist for research utilizing a biosafety level-4 containment laboratory that will be completed during 2002, University Centers for Structural Biology and for Vaccine Development and a genomics core facility utilizing Affymetrix and in-house gene array technology coupled with bioinformatics support. Scientists with established research funding are preferred for the Associate and Full Professor positions. UTMB offers an excellent environment that is rich in opportunities for productive interactions with other scientists who study the basic biology and pathogenesis of infectious diseases. The successful candidates will be expected to develop independent research programs and to participate in the education of graduate and medical students and post-doctoral research fellows in the biomedical sciences.

Interested applicants should send a curriculum vitae, a statement of personal and academic goals, and names of three references to: **David H. Walker, M.D., Chairman, Department of Pathology, University of Texas Medical Branch, 301 University Blvd., Galveston, Texas 77555-0609.** *UTMB is an equal opportunity employer M/F/D/V. UTMB is a smoke free/drug free work place. UTMB hires only individuals authorized to work in the U.S.*

Two Tenure Track Positions
Center for Vaccine Development
The University of Texas Medical Branch

The recently established Center for Vaccine Development and the Departments of Pediatrics and Internal Medicine at The University of Texas Medical Branch invite applications for two tenure track faculty positions at the Assistant, Associate, or Full Professor level. One position is for a clinical investigator experienced in coordinating and conducting clinical trials; experience in vaccine evaluation is desirable. The successful candidate will hold M.D. and/or M.D./Ph.D. degrees and be board certified or board eligible in Pediatrics, Internal Medicine, or related specialty. The second position is for a laboratory scientist with experience in human immunology, preferably vaccine-related immunology. The successful candidate will hold the Ph.D. and/or M.D. degree. We are particularly seeking candidates with a record of funded research or promising young scientists who wish to avail themselves of the collaborative opportunities available across the UTMB campus. UTMB faculty are actively engaged in studies of the molecular biology, pathogenesis, and immunobiology of herpesviruses, hepatitis C virus, arboviruses, respiratory viruses, HIV, human papillomavirus, treponemes, Salmonella, Helicobacter, Rickettsia, Ehrlichiae, Schistosomiasis, and others. UTMB has established numerous cores and centers that support the basic and applied research efforts of the faculty. These include a biosafety level-4 containment laboratory that will be completed during 2002, a genomics core facility, a human immunoassay unit, and University Centers for Structural Biology, Tropical Diseases, Molecular Science, and Aging. The successful candidates will be expected to develop independent research programs and to participate in the education of graduate and medical students and postdoctoral research fellows in the biomedical sciences.

Interested applicants should send a curriculum vitae, a statement of personal and academic goals, and names of three references to: **Lawrence R. Stanberry, M.D., Ph.D. Chairman, Department of Pediatrics, University of Texas Medical Branch, 301 University Blvd., Galveston, Texas 77555-0351.** *UTMB is an equal opportunity employer M/F/D/V. UTMB is a smoke free/drug free work place. UTMB hires only individuals authorized to work in the U.S.*



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careers that matter

At Pfizer, we just made the best even better! Pfizer Global Research and Development draws on the expertise of Pfizer and Warner-Lambert to create a vast R&D enterprise with an annual budget of more than $4.7 billion. If you're intrigued by working with exceptional people on exceptional challenges, maybe yours could be the new Face of Pfizer. Picture yourself in one of the following opportunities at our facilities in Groton, Connecticut, and Ann Arbor, Michigan.

BS/MS Laboratory Scientists – Drug Metabolism (Groton)

Working in both the preclinical and development phases of novel drug discovery, you will conduct *in vivo* and *in vitro* metabolism and pharmacokinetic studies, including absorption studies, and develop/utilize bioanalytical methods for monitoring drugs and metabolites. BS/MS Scientist positions are available in the following areas:

Disposition: Requires a BS/MS in Biochemistry, Chemistry or Pharmaceutical Science. Experience with HPLC, LC/MS and/or *in vitro* metabolism techniques is preferred. Req. #30Nov0001020

Technology: Requires a BS/MS in Biochemistry, Molecular Biology or Pharmaceutical Science. Experience with *in vitro* metabolism/induction assays, cloning, and expression of novel transporter and metabolic enzymes is preferred. Req. # 30Nov0001020

Senior Scientist/Research Associate (Ann Arbor)

Working in cancer research, you will design, conduct and interpret *in vivo* chemotherapy experiments and perform biomarker/pharmacodynamic end point identification. You must have a PhD, 2-4 years related experience and strong management and leadership skills. Experience with discovery project leadership is preferred. Req. # 00-0001077

Recently ranked among *Fortune's* 100 Best Companies to Work For, Pfizer offers an exceptional work environment complete with 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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HEAD

DEPARTMENT OF ANATOMY AND CELL BIOLOGY

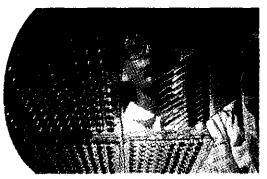
University of Illinois at Chicago College of Medicine

The University of Illinois at Chicago (UIC) College of Medicine invites applications and nominations for the position of Head of the Department of Anatomy and Cell Biology. The UIC College of Medicine is the largest medical school in the nation and is part of Chicago's Westside Medical Complex, well-known for its public and private health care institutions and research facilities, including state-of-the-art microscopy and imaging facilities. The Department, one of six basic science departments within the College, has twelve full time faculty and well-funded research programs. Educational responsibilities include a graduate degree program which emphasizes cellular and systems neuroscience and teaching medical students in the Anatomical Sciences. Within the Department, there is a strong focus in the Neurosciences which spans molecular, organismic and behavioral approaches. Interests range from molecular biology of ion channels to cellular, molecular and sensory physiology, tumor neurobiology, aging, and hormone effects on behavior.

Candidates should have a Ph.D. and/or M.D. degree, a well-funded research program, a national reputation, and a distinguished record of scholarly research and academic activities. The candidate will be expected to maintain an outstanding research program bridging molecular, anatomical and behavioral neuroscience and to administer a comprehensive agenda of Department research and teaching activities. For fullest consideration, interested individuals should submit a *curriculum vitae* by March 31, 2001 to:

Bellur Prabhakar, PhD, Chair
Anatomy and Cell Biology Department
Head Search Committee
Professor and Head, Department of Microbiology and Immunology,
University of Illinois at Chicago College of Medicine
835 S. Wolcott (M/C 790)
Chicago, IL 60612-7344

The University of Illinois at Chicago is an Affirmative Action/Equal Opportunity Employer. Women and Minorities are encouraged to apply.



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.

Our **Enabling Science and Technology Center** is part of this innovative, leading-edge venue, providing powerful capabilities in state-of-the-art, high throughput technologies and novel scientific approaches in Combinatorial and Parallel Chemical Synthesis; Cheminformatics and Bioinformatics; Mathematical Modeling of Human Physiology and Disease; and Drug Target Identification and Validation.

Our **Infection Discovery** area has the mission to discover novel agents for unmet medical needs in bacterial and fungal infection. Employing a genomic, target-directed strategy, state-of-the-art technologies, including protein crystallography and NMR, HTS, and combinatorial chemistry are applied by interdisciplinary project teams to identify and optimize lead compounds for drug development.

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

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ENABLING SCIENCE & TECHNOLOGY

- **Bioinformatics Scientists**
- **Bioinformatics Associate**
- **Statistical Scientist**
- **Technology Strategy Analyst**

EST BIOLOGY

- **Research Associate - Analytical Protein Chemistry**
- **Research Associate - Electrophysiology**
- **Research Associate - FACS Operations**

INFECTION

- **Principal Scientist - Biochemistry**
- **Scientist - Clinical Microbiology**
- **Scientist - Bioinformatics**
- **Scientist - Cheminformatics**
- **Scientist - Drug Metabolism & Pharmacokinetics**
- **Scientist - Bioanalytical**
- **Scientist - Fermentation**
- **Research Associate - DMPK**
- **Research Associate - Genomics**
- **Research Associate - Biochemistry**
- **Research Associate - Protein Science**
- **Research Associate - Bioanalytical**
- **Research Associate - Microbiology**

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 Science,** to: **AstraZeneca R&D Boston, 35 Gatehouse Drive, Waltham, MA 02451; E-mail: hr@astrazeneca.com; Fax: 781.839.4500.** Diversity is the essence of our science, our careers and our lives. We are an equal opportunity employer.

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Join the Ambion Team!

We are seeking to fill key positions in business development, R&D and manufacturing to build a strong team to address our rapidly growing business needs.

Senior Research Scientists (Job #273 & 274)
We are seeking talented individuals with experience related to any aspect of technologies related to RNA. You should have a Ph.D. in molecular biology, biochemistry, or related field with at least two years of postdoctoral experience, a strong publication record and excellent verbal and written skills. Most importantly, we are searching for entrepreneurial scientists who are stimulated by practicing science in a unique research environment that rewards creative thinking and making things happen.

Business Development Professionals (Job #272)
The Ambion RNA Diagnostics Division seeks creative, high-energy product scientists to advance Ambion's solid RNA technology platforms and create opportunities in the molecular diagnostics industry. You will be responsible for establishing and maintaining dynamic collaborative relationships, creating a solid business reputation, and identifying RNA-product opportunities in the clinical laboratory. A Ph.D. in molecular biology or related field coupled with a diverse background in molecular diagnostics is highly desirable.

Production Associates (Jobs #275 & 276)
Ambion seeks talented scientists to lead the production of products in the areas of RNA-stabilization and isolation, and RNA" controls and standards. A BS in molecular biology or related field, MS or Ph.D. preferred and strong experience in RNA related techniques are required. The individual must have strong interpersonal skills, and solid experience manufacturing products in a regulated environment (cGMP).

Visit www.ambion.com/jobs for position descriptions.

Ambion is a rapidly growing biotechnology company that focuses on applications related to RNA. It is located in Austin, the state capital, on the edge of the "Texas Hill Country", which provides rivers, lakes, scenic rolling hills and a comfortable climate. Austin is home to the main campus of the University of Texas and offers an exciting array of restaurants, music and cultural events. Austin is widely recognized as one of America's most livable cities.

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Ph: (512)651-0200 Fax: (512)651-0201 Email: resumes@ambion.com
www.ambion.com

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mayo

MAYO CLINIC TRANSPLANTATION BIOLOGY RESEARCH PROGRAM

The Transplantation Biology program at the Mayo Clinic is seeking faculty for "tenure-track" positions in the program. The ideal applicant will be excited about developing an independent, cutting-edge basic science research effort, and at the same time participating in a highly interactive, multidisciplinary program. The program will consist of scientists working in the areas of cellular, molecular, and structural biology, biochemistry and immunology as they apply to fundamental issues in transplantation biology. Members of the program will also have appointments in the Mayo Medical School and Mayo Graduate School.

For more information, visit the Mayo Clinic Research website: **http://www.mayo.edu/research/research.html** To inquire, please send a cover letter describing your research interests, a curriculum vitae and the names and addresses of three references to:

Jeffrey L. Platt, MD
Transplantation Biology Research Program
Mayo Clinic
Medical Sciences Building 2-66
Rochester, MN 55905

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THE J. DAVID GLADSTONE INSTITUTES

POSTDOCTORAL FELLOW OPPORTUNITIES

The Gladstone Institutes is a biomedical research organization affiliated with the University of California, San Francisco. Currently, more than 100 research scientists and postdoctoral fellows are performing basic studies in cardiovascular disease, HIV/AIDS, and neurodegenerative disorders.

We offer an exceptional trianing program for postdoctoral fellows, including rigorous scientific training, personalized attention and mentoring, and a rich research environment to allow our fellows to develop to the fullest of their abilities. In addition we offer excellent benefits, including three weeks vacation, employer-paid medical programs, tuition reimbursement, and various retirement programs.

To find out more about Gladstone's Postdoctoral Training Program or to view current opportunities, visit our web site at http://gladstone.ucsf.edu

Candidates should possess Ph.D., M.D., or both. Please send cover letter, curriculum vitae, and 3 references to:

The J. David Gladstone Institutes
Postdoctoral Opportunities
P.O. Box 419100
San Francisco, California 94141-9100
Email: postdoc@gladstone.ucsf.edu

AA/EOE M/F/D/V

POSTDOCTORAL RESEARCH

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.

Molecular genetics of transcription regulation in Drosophila. Our main interest is to understand the molecular mechanisms of how chromatin insulator and anti-insulator elements function to regulate long-range enhancer-promoter interactions (Cell 99: 567-575, 1999). 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.**

HIV-1 Immunopathogenesis. Postdoctoral position available to investigate viral and immunopathology studies centered on HIV-1 infected patient-derived material, treatment interruption strategies, and in vitro models of macrophage and T-cell infection by HIV-1 (See J. Infect. Dis. 182: 766, 2000). Experience in HIV-1 research, cellular immunology, and cytokine networks preferred. **Reply to Dr. L. J. Montaner.**

Antigen Presentation & Inflammation. Postdoctoral position available to study antigen presentation, IL-12, microarray gene expression and inflammation in human and murine models systems (See J. Immunol. 164:1722, 2000). Experience in cellular immunity, infectious disease murine models and dendritic cells preferred. **Reply to Dr. L. J. Montaner.**

Chromatin modification and cancer. Our focus is the recruitment of histone acetyltransferase complexes by the oncogenic transcription factors c-MYC and E2F1. Specific goals include understanding how these complexes facilitate regulation of downstream target genes. Studies involve the use of biochemical, molecular and genetic approaches. Experience in transcriptional regulation and chromatin modification is preferred. **Reply to Dr. Steve McMahon.**

T cells against cancer. Postdoctoral fellow (T cell immunologist). Immunologist with strong T cell background to join our cancer vaccine program. Must have published experience in T cell cloning and a Ph.D., M.D./Ph.D. or other post-graduate degree. **Reply to Dr. Dorothee Herlyn.**

Structural Biology. Postdoctoral positions available for biochemical and crystallographic studies of macromolecular assemblies associated with various aspects of gene regulation (histone modification and protein-DNA recognition) and cell cycle control (tumor suppressors and viral oncoproteins). The laboratory uses a combination of molecular, biochemical, biophysical and structural techniques. Prior experience in X-ray crystallography and/or biochemistry is preferred. Interested applicants are encouraged to review the lab Web site at www.wistar.upenn.edu/Marmorstein. **Reply to Dr. Ronen Marmorstein.**

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 (See Science 290: 1765-1768, 2000). Previous experience in molecular techniques and/or with genetic manipulation of mice is essential. Degree received within last three years preferred. **Reply to Dr. Kazuko Nishikura**

Structure-function of cancer antigens and cancer proteomics: One position involves structure-function studies of Ep-CAM, a major cell-cell adhesion molecule involved in colon carcinoma using mutagenesis, biochemistry, and cell transfection analyses. The second position involves comparative protein profile comparisons of human cancer cells using 2D PAGE, MS, and novel protein-based profiling methods. The major focus is identification of proteins involved in developing metastatic potential. **Reply to Dr. David Speicher.**

Viral Oncology and Gene Regulation. Postdoctoral positions in Molecular Virology are immediately available for outstanding individuals with interests in the establishment, maintenance, and reactivation of Epstein-Barr Virus (EBV) Latency. EBV latent infection is a potent cofactor for several human malignancies. Three different aspects of this problem are currently being investigated: (1) Role of EBNA1 in the cell cycle-dependent replication and plasmid maintenance of EBV; (2) Role of Zta in the disruption of chromatin repression associated with latency; and (3) B-cell signaling responsible for reactivation from latency. Highly motivated individuals with a background in molecular biology, gene-regulation, signal transduction, cancer biology and virology are encouraged to apply. **Reply to Dr. Paul Lieberman.**

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.**

Successful candidates will have a Ph.D. and/or M.D./Ph.D. in the biological sciences. Please send a C.V. and three letters of reference to the **Human Resources Dept., Attn: (appropriate faculty member), The Wistar Institute, 3601 Spruce Street, Philadelphia, PA 19104**. For more information about The Wistar Institute, visit our Web site at www.wistar.upenn.edu. AN EQUAL OPPORTUNITY/ AFFIRMATIVE ACTION EMPLOYER, M/F/D/V.

THE WISTAR INSTITUTE 1892

PENN
UNIVERSITY of PENNSYLVANIA

Leonard & Madlyn ABRAMSON family CANCER RESEARCH INSTITUTE at the University of Pennsylvania Cancer Center

Post Doctoral Positions in Cancer Biology

Postdoctoral positions are available to study the following exciting areas of cancer research: cancer cell biology (**Craig B. Thompson** and **M. Celeste Simon**), signal transduction (**Gary Koretzky, Steven Reiner, Xianxin Hua,** and **Yongwon Choi**), translational research and the study of the malignant phenotype (**Carl June** and **Mark Greene**), and GI cancers/cancer genomics (**Barbara Weber** and **Anil Rustgi**).

The Abramson Family Cancer Research Institute has a highly interactive research environment and state-of-the-art facilities including core laboratories for transgenic/knock-out technology, microarray analysis of gene expression, nucleic acid and protein sequencing, confocal microscopy and imaging, and flow cytometry. Excellent stipends and benefits packages including funds for professional travel are available.

Interested candidates should send a curriculum vitae and names and addresses of three references to:

M. Celeste Simon, Ph. D.,
Associate Investigator, AFCRI and
Howard Hughes Medical Institute
University of Pennsylvania
School of Medicine
456 BRB II/III, 421 Curie Boulevard
Philadelphia, PA 19104-6160

The University of Pennsylvania is an equal opportunity/affirmative action employer and educator.

The Genomics Institute of the Novartis Research Foundation (GNF) is located in the Torrey Pines area of San Diego, CA. We are developing and applying novel technologies for genomewide functional characterization. A multi-disciplinary research institute fully funded by the Novartis Foundation, we are dedicated to the development and application of new methods and techniques to define novel gene function, as well as develop innovative Discovery research programs in biomedicine. GNF currently has the following opportunity for a Ph.D. level scientist:

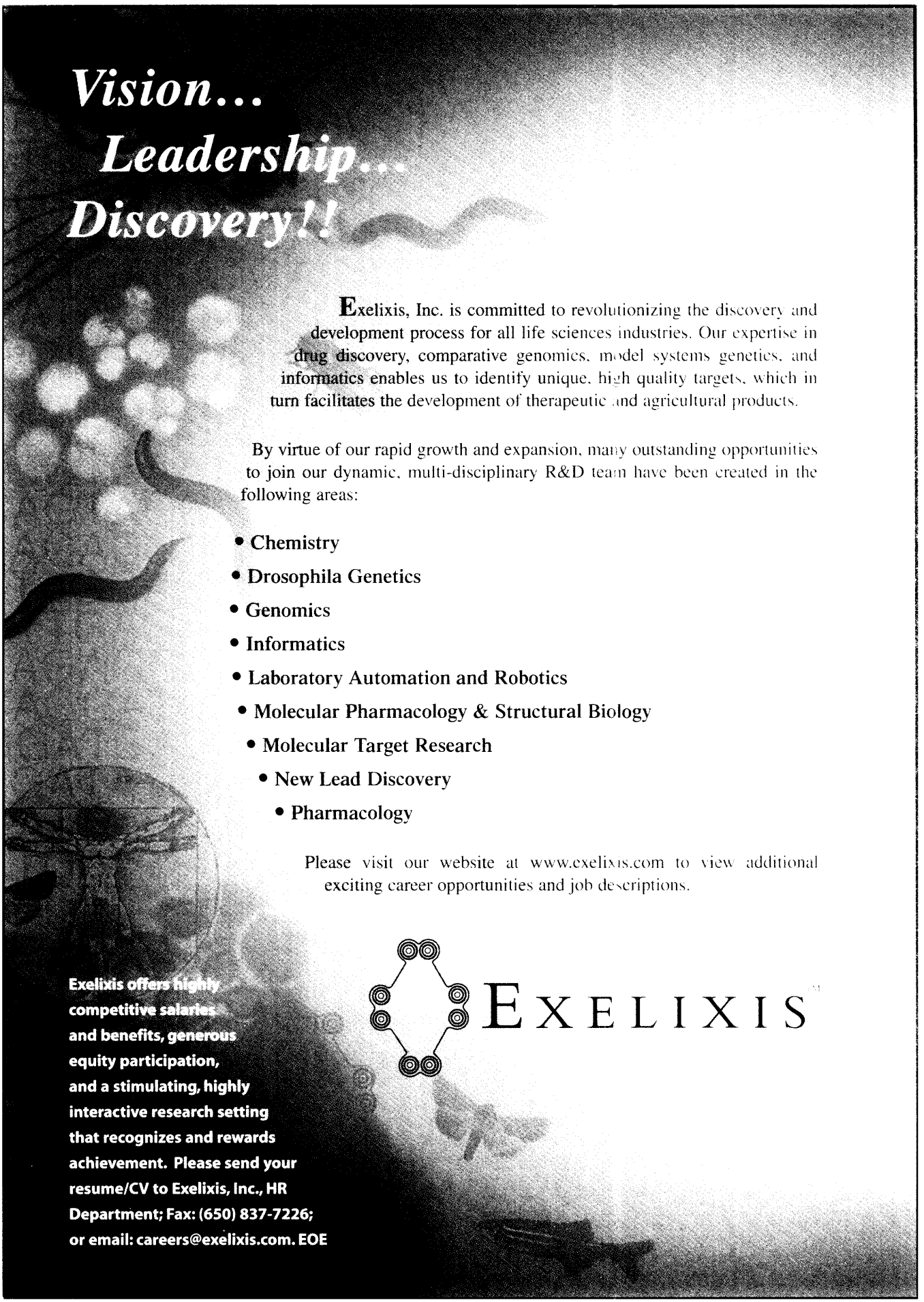
Staff Scientist - Cancer Cell Biology

We are seeking a Staff Scientist position, equivalent to an Assistant Professor, who will lead a group in Cancer Cell Biology for our Discovery program. We are particularly interested in candidates who have taken cutting edge approaches to understanding the signal transduction pathways involved in the control of cell growth and proliferation, responses to DNA damage, cell-cell interactions underlying tumor metastasis, control of angiogenesis or RNA/protein profiling of human cancer tissues. We require a strong publication record in these fields along with a desire to apply functional genomic approaches to the study of cancer cells and proliferative processes. Requires 3+ years of post-doctoral experience.

GNF provides a unique environment for developing a world-class Discovery research program with access to research tools not commonly available. Please submit resume, a brief statement of research interests and contact information for at least three references to: **Genomics Institute of the Novartis Research Foundation (GNF), Attn: Human Resources, Job Code - MPC, 3115 Merryfield Row, San Diego, CA 92121; Fax: 858-812-1584.** EOE.

GNF

www.gnf.org


Vision...
Leadership...
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Exelixis, Inc. is committed to revolutionizing the discovery and development process for all life sciences industries. Our expertise in drug discovery, comparative genomics, model systems genetics, and informatics enables us to identify unique, high quality targets, which in turn facilitates the development of therapeutic and agricultural products.
By virtue of our rapid growth and expansion, many outstanding opportunities to join our dynamic, multi-disciplinary R&D team have been created in the following areas:
• Chemistry
• Drosophila Genetics
• Genomics
• Informatics
• Laboratory Automation and Robotics
• Molecular Pharmacology & Structural Biology
• Molecular Target Research
• New Lead Discovery
• Pharmacology
Please visit our website at www.exelixis.com to view additional exciting career opportunities and job descriptions.
EXELIXIS
Exelixis offers highly competitive salaries and benefits, generous equity participation, and a stimulating, highly interactive research setting that recognizes and rewards achievement. Please send your resume/CV to Exelixis, Inc., HR Department; Fax: (650) 837-7226; or email: careers@exelixis.com. EOE

IT'S ALL ABOUT OUR PEOPLE.

At Advanced Medicine, we've brought together some of the finest people in science. First, a world-renowned management team whose vision steers our proprietary drug discovery technology as we pursue several promising new drug candidates. And second, a world-class staff of intelligent scientists and researchers who bring advanced thinking to the table to help further the medicines of tomorrow. When all is said and done, it's our people who get things done. That's what we're all about at Advanced Medicine.

SR. SCIENTIST/ RESEARCH SCIENTIST
PK/METABOLISM

As part of our expanded R&D efforts at our new campus in South San Francisco, you will develop/perform *in vitro* metabolism studies and permeation/transport assays. You must possess a PhD in Pharmaceutical Chemistry, Biochemistry, Pharmacology or Analytical Chemistry with at least 1 year of relevant experience (biotech industry preferred). This should include familiarity with HPLC and LC/MS, plus demonstrated experience conducting *in vitro* metabolism studies using purified enzymes, microsomes, hepatocytes and plasma. A strong publishing record is required. A solid understanding of membrane transporters is desirable. Job Code: 01-181

SR. RESEARCH ASSOCIATE/ ASSOCIATE SCIENTIST
BIOCHEMISTRY

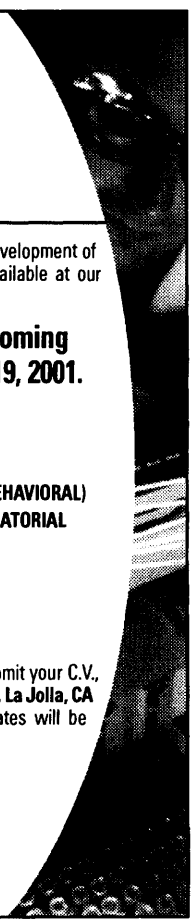
For this key role in our Biochemistry Department, you will lead a group developing medium throughput binding and functional assays for small molecule therapeutics. As a self-starter and motivator, you will manage 2 research associates. You should be a flexible professional with strong knowledge and comfort working in multiple therapeutic areas. You must have a BA/BS or MS in Cell Biology, Biochemistry or related discipline and 10 years of laboratory experience with some managerial experience. Job Code: 01-180R

As one of today's most exciting emerging pharmaceutical companies, Advanced Medicine offers a comprehensive benefits package designed to take care of our people and their families. To learn more about these opportunities, please visit our website at **www.advmedicine.com**. Or, if you prefer, you may send your resume, indicating appropriate Job Code, to: Advanced Medicine, Human Resources, 901 Gateway Blvd., So. San Francisco, CA 94080, or via fax to 650-827-8690. We are proud to be an equal opportunity employer.

Advanced Medicine

ADVANCE YOURSELF.

It's what we do.
It's who we are.



Employment opportunities in San Diego, CA

Merck Research Laboratories, a division of Merck & Co., Inc., and a world leader in the development of pharmaceutical and biological products, currently has excellent career opportunities available at our **San Diego** location.

Merck Research Laboratories will be present at the upcoming AAAS/Science Career Fair in San Francisco, CA on Feb. 19, 2001.

Our modern research facilities currently offer opportunities in the following disciplines:

- **NEUROIMMUNOLOGY**
- **NEUROPHARMACOLOGY**
- **PHARMACOLOGY (IN VIVO, SAFETY AND BEHAVIORAL)**
- **HIGH-THROUGHPUT SCREENING**
- **CELLULAR AND MOLECULAR BIOLOGY**
- **MEMBRANE BIOPHYSICS & BIOCHEMISTRY**
- **BIOCHEMISTRY/ENZYMOLOGY**
- **DRUG METABOLISM AND PHARMACOKINETICS**
- **PHARMACOLOGY (SAFETY AND BEHAVIORAL)**
- **CHEMISTRY (MEDICINAL, COMBINATORIAL & ANALYTICAL)**
- **BIOINFORMATICS**
- **INFORMATION TECHNOLOGY**
- **SCIENTIFIC DATA SUPPORT**

Merck offers a comprehensive salary and benefits package. To be considered, please submit your C.V., indicating salary requirements to: **Merck Research Laboratories, 505 Coast Blvd South #300, La Jolla, CA 92037. Email to mrlsd_recruitment@merck.com or fax (858) 452-9279.** Qualified candidates will be contacted. No phone calls please. We are an Equal Opportunity Employer, M/F/D/V.

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mayo

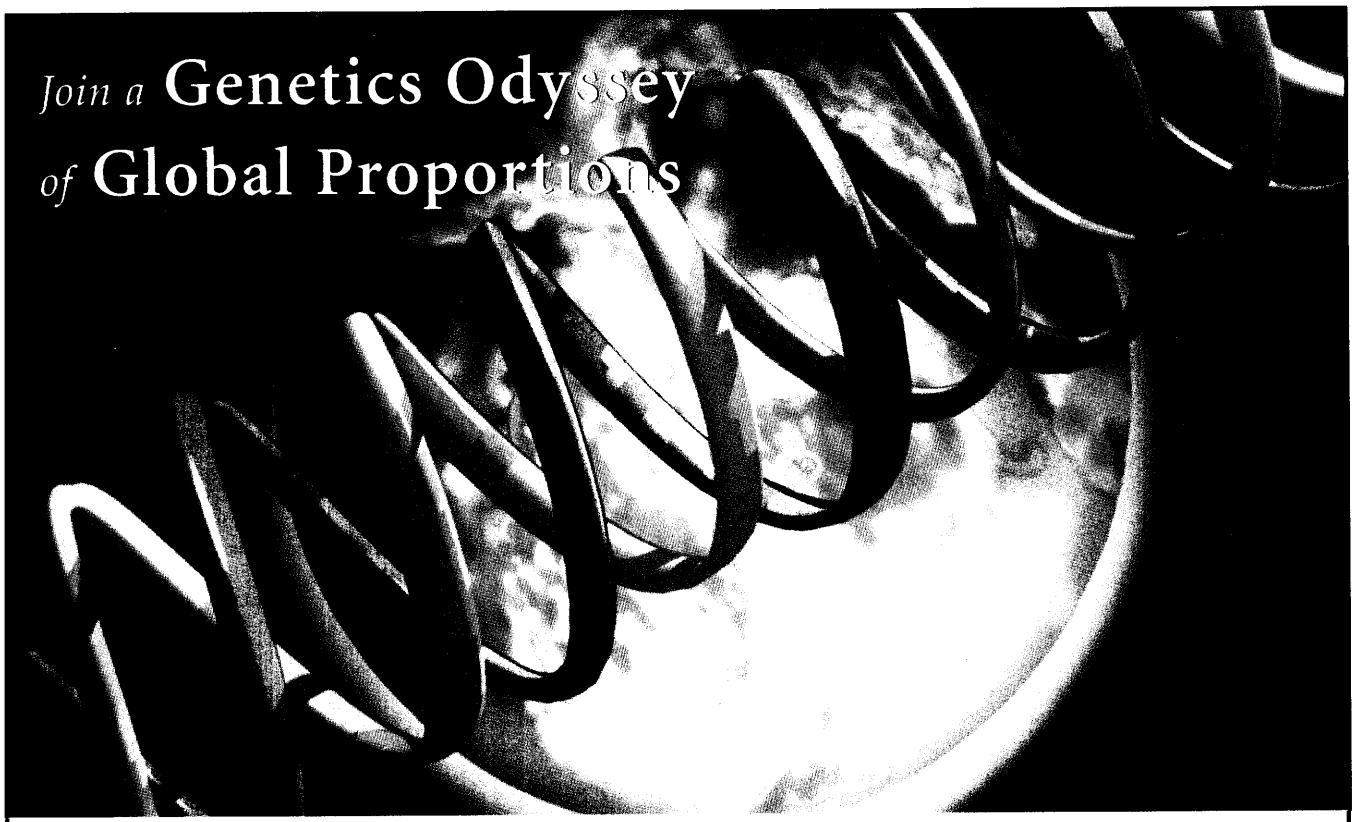
Mayo Clinic
Post-Doctoral Fellowship in Protein Traffic and Cytoskeletal Biology

A post-doctoral research position is available to study the role of the large GTPase dynamin in membrane/protein traffic and cytoskeletal organization. Qualified individuals should have a Ph.D. in a relevant field of study.

For information on specific projects, the laboratory of the sponsor, and how to apply online, go to: http://www.mayo.edu/mcniven_lab/. For applying by mail, send resumes to:

Mark A. McNiven, Ph.D.
Mayo Clinic
Dept of Biochemistry & Molecular Biology
200 First Street SW
Guggenheim Building 1721
Rochester, MN 55905
See also: http://www.mayo.edu/research/

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



As the pioneers of PCR technology, Roche Molecular Systems has embarked on an incredible adventure that has not only launched the global genetics revolution, it has unlocked the molecular man and dramatically altered the future of medical care. Every day is a new opportunity to create novel diagnostics tools, close the gap on infection and detection, and take the power of genomics to the next level. It's an exciting place to be. And the journey has just begun.

Be sure to visit our booth at the February 19th AAAS/Science Career Fair at the San Francisco Hilton and Towers.

Roche Diagnostics

We Innovate Healthcare

Scientist - DNA Synthesis
Job Code RM184-SCI

Associate Scientist/Scientist - Core Research
Job Code RM195-SCI

Scientist/Sr. Scientist - Infectious Disease
Job Code RM215-SCI

Associate Scientist - Sample Repository
Job Code RM209-SCI

Principal Scientist - Human Genetics
Job Code RM208-SCI

Scientist - Human Genetics
Job Code RM206-SCI

Associate Scientist/Scientist - Infectious Disease
Job Code RM198-SCI

Sr. Scientist - Human Genetics
Job Code RM001-SCI0

Scientist - Clinical Affairs
Job Code RM232-SCI

Principal Scientist - Core Research
Job Code RM231-SCI

Sr. Scientist - R&D Services
Job Code RM233-SCI

Scientist - Development
Job Code RM007-SCI

Scientist/Sr. Scientist - Human Genetics
Job Code RM229-SCI

Principal Scientist - Core Research
Job Code RM194-SCI

Principal Scientist, Systems Integration - Blood Screening
Job Code RM187-SCI

Roche Molecular Systems, the number 1 diagnostics company on the globe, is a worldwide leader in the development and manufacture of reagents and instruments for early, rapid and accurate disease diagnosis. Located between UC Berkeley and Stanford University in the heart of San Francisco's Biotech Bay, we offer an excellent compensation and benefits program—complete with a matching 401(k), pension plan, 100% tuition reimbursement, flexible hours, credit union, year-end holiday week, periodic company-paid physicals, health club discounts, and child care assistance. To learn more, send your resume, indicating Job Code, to: Roche Molecular Systems, Human Resources, PO Box 9002, Pleasanton, CA 94566-0900, or email to usa.rms_resumes@roche.com. Principals only, please. We are committed to providing equal opportunity to a diverse workforce.

www.roche.com/diagnostics/content/molsys

Taking our lead from nature, Genencor International creates biocatalytic proteins and biomaterials for a wide variety of applications in the healthcare, agriculture and industrial/consumer markets. As a diversified biotechnology company, our proprietary i-biotech™ approach uses integrated technology platforms to deliver innovative solutions to our customers rapidly and cost-efficiently. With 250 products and over $300 million in sales, we're working to make safer, more effective drugs and more powerful cleaning products. We're also enabling the efficient production of chemicals and are working on new breakthroughs to advance "green chemistry," as well as to fuel the world of the future. To get us there, we are seeking more talented professionals who, like us, are innovative by nature.

We currently seek Research Assistants and Associates in the following areas:

Biochemistry • Functional Genomics

Molecular Biology • Immunology • Bioinformatics

Enzymology • Proteomics

We also are looking for Scientists and Engineers in the following disciplines:

Mass Spectrometry • Enzymology • Biochemistry

Bioinformatics • Chemical Engineering

As one of the top biotechnology companies in the world, Genencor offers an informal, highly creative work setting in which high team spirit, open communication and environmental responsibility are considered company hallmarks. Our competitive compensation and benefits package features a generous 401(k) matching plan, stock options, and a retirement plan. For consideration, please submit your resume/c.v, to: **Genencor International, Inc., 925 Page Mill Road, Palo Alto, CA 94304-1013, Fax: (650) 845-6503, email: hr@genencor.com.** Background checks will be conducted. An equal opportunity employer M/F/D/V

For a complete listing of our job opportunities, visit our website at

www.genencor.com

Genencor International, Inc.® Innovative by Nature™

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At SUGEN, we foster a creative, energetic and team-oriented atmosphere to develop small molecule drugs using renowned drug discovery techniques. Our continued success has created an excellent opportunity for experienced professionals to join our team.

Scientist

The ideal candidate will have experience in the purification and characterization of recombinant proteins for crystallographic studies. Strong skills in enzymology, domain mapping by limited proteolysis, biochemical studies of protein structure-function relationships are also required. Additional experience in the analysis of post-translational modification analysis or proteins interactions would be considered beneficial. Requirements: Ph.D. in biochemistry or related discipline with 2 plus years of postdoctoral experience. (Job Code: AR50077-NMT)

Biomarker Scientist/ Senior Research Associate

You will help identify biomarkers from samples obtained from patients enrolled in Sugen's clinical trials, coordinate the receipt and storage of samples, and lead the effort in the analysis of the samples using a variety of gene and protein expression technologies. You will also work with other departments and potentially with clinical sites and contract labs on special projects. Candidates must possess a Ph.D. with 1-3 years of industry experience, OR a BS/MS with 3-5 years of industry experience. The position requires excellent molecular biology and protein biochemistry skills. Experience with microarrays, immunohistochemistry, and the analysis of phosphoproteins is beneficial. Experience with the analysis of clinical samples is a plus. (Job Code: BS50390NJR)

Biomarker Scientist

You will help identify biomarkers in oncology and hematological malignancies, and use new technologies to investigate kinase targets, signaling pathways and mechanism of action of inhibitors. You will also manage a core facility to process preclinical and clinical samples using the Affymetrix GeneChip system. Must be able to work with scientists from many groups to facilitate analysis and data management of gene expression studies with Sugen novel therapeutic targets. The position requires demonstrated experience with gene expression micro-arrays or core facility management, expertise in cell signaling, angiogenesis or cancer biology, and excellent written/verbal communication skills. A Ph.D., 1-3 years of postdoctoral experience, and strong molecular biology skills are all preferred. (Job Code: M050111NJR)

We will reward you with an attractive compensation and benefits package that includes a 1st class pension plan, a generous profit sharing/bonus program, weekly happy hours (TGIF), and a fun, collaborative work environment that encourages creativity and achievement. Please forward resume and cover letter to: **SUGEN, Inc., HR Department, Attn: (Job Code: ____), 230 East Grand Avenue, South San Francisco, CA 94080; FAX: (650) 837-3301; email: jobs@sugen.com (MS Word docs only, please).** *We also have openings for Scientists, Research Associates, Chemists, and I.T. Engineers. Please see our website for more details. EOE*

SUGEN

SCIENCE, INSTRUMENTATION INFORMATICS & BIOINFORMATICS *for* DRUG DISCOVERY

CELLOMICS™
VITAL KNOWLEDGE

Cellomics®, Inc. is a fast-growing biotechnology company that provides cutting-edge computer-based imaging instrumentation and advanced informatics software combined with cell biology solutions for the pharmaceutical industry to facilitate the process of new drug discovery.

Bioinformatics

Data Visualization/GUI Developer
Job Code: SCI-WB3

Web Developer/Master
Job Code: SCI-WB4

Java Technical Lead
Job Code: SCI-WB5

Administration

VP General Counsel
Job Code: SCI-LJ1

Operations

VP Product Development
Job Code: SCI-AS4

VP Manufacturing
Job Code: SCI-AS5

Manufacturing Specialist
Job Code: SCI-AS6

Life Sciences

CellChip Project Leader – Surface Chemistry
Job Code: SCI-RK3

CellChip Research Associate – Surface Chemistry
Job Code: SCI-RK4

CellChip Project Leader – Cell Biology
Job Code: SCI-RK5

Application Scientist
(2 positions available)
Job Code: SCI-JP2

PharmacoCellomics Application Scientist
(2 positions available)
Job Code: SCI-JP4

Application Specialist
Job Code: SCI-JP6

BioAssay Specialist
(3 positions available)
Job Code: SCI-DD1

BioAssay Scientist
(2 positions available)
Job Code: SCI-DD2

Research & Development:

Program Manager
Job Code: SCI-WB7

R&D Project Specialist
Job Code: SCI-BG4

Laboratory Technician
Job Code: SCI-BG5

Systems Research Scientist
Job Code: SCI-BG6

Statistician
Job Code: SCI-BG7

Sales & Marketing

Key Account Manager, Midwest Region
Job Code: SCI-MN3

Field Applications Specialist
(4 Positions Available)
Job Code: SCI-MN6

Product Manager, CellChip System
Job Code: SCI-MN7

Director of Business Development
Job Code: SCI-MN8

Business Development Manager
Job Code: SCI-MN9

Software Support Specialist
Job Code: SCI-MN10

Software

Software Engineer III
Job Code: SCI-LZ9

Software Engineer
Job Code: SCI-KB6

Software Test Engineer II
Job Code: SCI-RS1

Systems Electrical Engineer
Job Code: SCI-AZ1

Project Manager
Job Code: SCI-LZ12

Information Technology

ERP Project Manager
Job Code: SCI-TD8

IS Application Specialist
Job Code: SCI-TD10

Benefiting your Career

Imagine the personal rush of being where you're paid to feel great about your important work. Cellomics not only gives you that feeling but the following great benefits for full-time employees and their families.

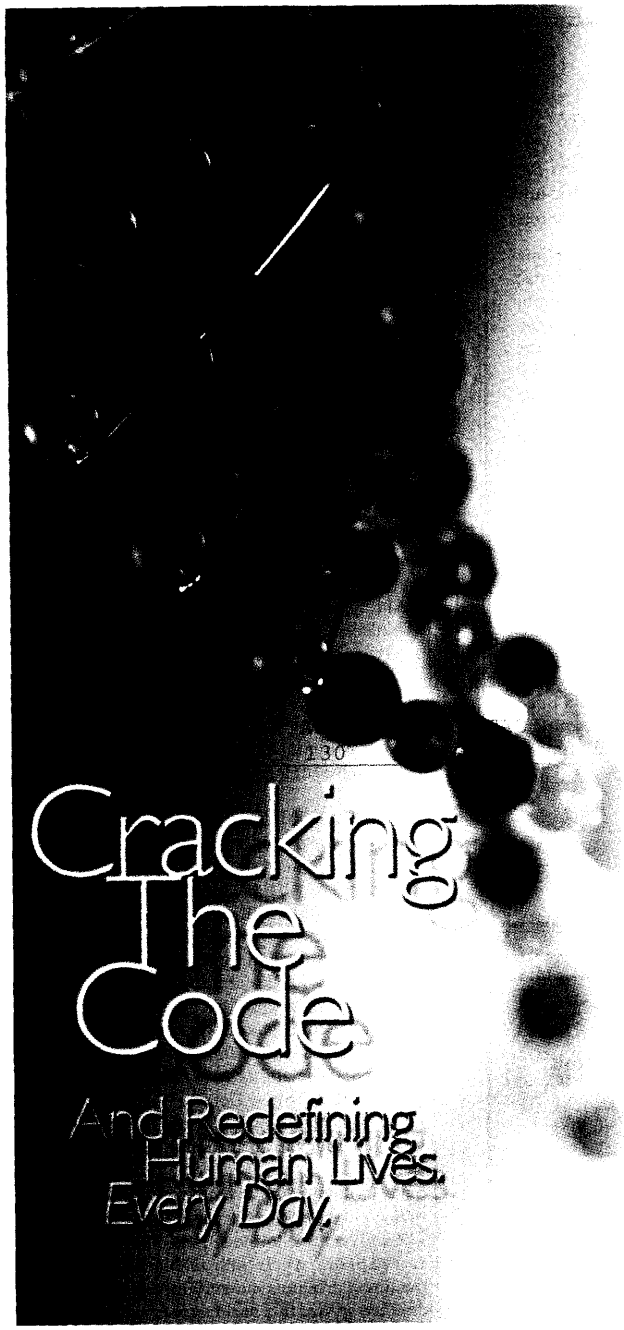
- Medical/Dental/Vision – 100% paid by Cellomics
- Life Insurance
- Short- and Long-term Disability
- 401(k)
- Stock Options
- 12 Paid Holidays; 15 Paid Vacation/ Personal & 5 Paid Sick Days
- Tuition Reimbursement
- Athletic Club Membership Reimbursement
- Casual Dress
- Daily Flex-Time

Indicate Job Code and contact:

Cellomics, Inc., 635 William Pitt Way, Pittsburgh, PA 15238;
Fax: 412-836-3850; HR@cellomics.com

Cellomics, Inc. is pleased to be a participant in the AAAS/Science Career Fair on February 19th. To learn more about our opportunities, please be sure to visit our booth.

Visit us at: **www.cellomics.com**



*At **Celera,** our discoveries are changing the course of history and revolutionizing science. We are leading the world into a new era of pioneering research and developing powerful tools for genomic and medical information. Some of the world's most extraordinary minds have joined us. Now, it is your turn!*

CELERA
An Applera Corporation Business

See us at the AAAS/Science

Career Fair

San Francisco, CA
Monday, February 19th, 11AM-4PM

Current openings include:

Rockville, MD

- **Informatics Research Scientists**
- **Scientist – Chromosome Team**
- **cDNA Bioinformaticians**
- **Proteomics Scientists**
  - **Cell Biology**
  - **Protein Purification**
  - **Mass Spectrometry**
  - **Research Associates**
- **Customer Training Manager**
- **Client Program Manager**
- **Science Application Specialists**
  Positions worldwide in the U.S., Australia, the U.K., and Germany.
- **Technical Support Specialist**
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Davis, CA

- **Scientists – Bioinformatics (DNAP)**

While the possibilities of changing the face of science itself is impressive, we also believe in rewarding you in other ways:

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- Relaxed and team-oriented atmosphere
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- Employee social events
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http://www.celerajobs.com

EOE, M/F/D/V.

STAFF SCIENTIST

Oncology

DNAX Research Institute, a biotechnology company located within the San Francisco Bay Area Biotechnology sector and adjacent to Stanford University, conducts pioneering basic and translational research leading to drug development in the areas of Immunology and Oncology.

We currently have an open position in our Department of Oncology for a Staff Scientist to join our efforts in cancer research and therapeutic discovery. The Department of Oncology has broad research interests, including cell cycle regulation and mitotic checkpoints, oncogenes and tumor suppressor genes, regulation of chromatin remodeling and transcription, and signal transduction by protein kinases and phosphatases. We are seeking highly motivated individuals with the ambition to conduct outstanding research that will advance our understanding of cancer, as well as to see their discoveries converted into novel therapeutic strategies. Areas of particular interest include signal transduction by plasma-membrane receptors, the molecular basis of angiogenesis and metastasis, the application of therapeutic antibodies to the treatment of malignancies, and animal models of human cancer. Successful candidates will have a PhD and/or MD degree, and demonstrated ability as an independent researcher and as a manager of a research staff. Individuals should have a strong commitment to work in a competitive and dynamic research environment, in addition to an excellent track record.

DNAX Research Institute offers a unique environment to conduct research, taking advantage of advanced technology and bioinformatics platforms, state-of-the-art facilities, and a strong international postdoctoral program. This is combined with an ideal infrastructure for translational research and drug development.

DNAX Research Institute is a biotechnology subsidiary of Schering-Plough Corporation. Qualified applicants should send a *curriculum vitae*, the names of three references, and a one-page statement of research interests to: DNAX Research Institute, Human Resources Department, 901 California Avenue, Palo Alto, CA 94304-1104. Fax: (650) 858-7520. Email: hr@dnax.org. DNAX is an equal opportunity employer, m/f/h/v.

DNAX

Max-Planck-Institut für Eisenforschung GmbH
Düsseldorf, Germany

We currently have an opening for a

Director at the Institute and Member of the Scientific Board

The candidate will head the division of Metallurgy and Process Technology. The institute is carrying out application-oriented basic research on steels and related materials and is looking for an internationally known scientist, whose research is focused in the broadest sense on:

Chemical Metallurgy
Technical Chemistry
Process Technology
Kinetics and Thermodynamics of Heterogeneous Chemical Reactions
Transport Processes in Liquids and Solids

The main research areas will be the physically-based, numerical simulation of metallurgical processes, as well as the laboratory synthesis of innovative metallic materials. These areas are associated with other research in our institute in the departments of Microstructure Physics and Metal Forming, Materials Technology, Physical Metallurgy, Interface Chemistry and Surface Engineering.

We offer:
- An excellent research environment
- Research co-operations on a regional, national and international scale
- Interdisciplinary research
- Knowledge transfer via well established contacts with industry

The Max-Planck-Society is an equal opportunities employer and welcomes applications from suitably qualified women. In cases of similar qualifications disabled persons will be treated preferentially.
Please send your application before **March 15, 2001** to the Geschäftsführung, Max-Planck-Institut für Eisenforschung GmbH, Postfach 14 04 44, 40074 Düsseldorf, Germany.

Dean of the School of Forestry and Wood Products

Michigan Technological University seeks qualified applicants and nominees for the position of Dean of the School of Forestry and Wood Products. The Dean is the principal administrative officer for the School of Forestry and Wood Products, a unit presently comprised of 20 faculty and 44 research and support staff, and will function under the supervision of the Provost and Senior Vice President for Academic and Student Affairs for the University.

The School is a strong research unit with two undergraduate degree programs: one in Forestry and one in Applied Ecology and Environmental Sciences. Graduate degrees include an M.S. in Forestry and two Ph.D. degrees: Forest Science, and Molecular Genetics and Biotechnology. The School maintains the Ford Forest, a 4000-plus-acre research forest. Faculty and students of the School seek an individual who has had success in building community and research partnerships. We also seek an individual who will be a true leader and mentor for a diverse group of faculty and staff who work well together as a functional academic unit. The Dean should have Vision and continually strive to advance the mission of the School while maintaining the present collegial atmosphere among faculty, staff, and students.

Qualified applicants must have a doctorate in forestry, ecology, wood science, environmental sciences, or an equivalent combination of education and experience to merit the rank of Professor with Tenure. Qualified applicants must also have teaching and research experience in addition to significant scholarship, and supervisory and leadership experience with the ability to build teams and inspire diverse groups. Qualified applicants should have excellent oral and written communication skills, and must have demonstrated fiscal responsibility and the ability to manage budgets. It is desirable that the new Dean have a record of prior fundraising or advancement experience and of developing policy in an academic setting.

Salary is commensurate with education and experience and includes a substantial benefits package. The University is located in a beautiful area of the United States, where both outdoor recreation and the forest products industry thrive. The School doubled in size this past October with the opening of new teaching and laboratory facilities; the new facilities also contain major state-of-the-art research instrumentation.

Letters of application, curriculum vitae, and a vision statement should be sent to **Michigan Technological University, Human Resources Office, 1400 Townsend Drive, Houghton, Michigan 49931**. A complete job description is available at **www.admin.mtu.edu/hro, by emailing jobs@mtu.edu,** or by calling **(906) 487-2280.** Point of contact is **Margaret R. Gale, Chair, Dean Search Committee (mrgale@mtu.edu or 906-487-2352).** More detailed information on the School of Forestry and Wood Products is available on the School's web page **(www.forestry.mtu.edu).** Review of applications will begin on March 15, 2001 and will continue until the position is filled.

Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.

CUBIST

Cubist Pharmaceuticals is focused on becoming a global leader in the research, development and commercialization of novel antimicrobial drugs to combat serious and life-threatening bacterial and fungal infections.

Senior Director, Combinatorial Biosynthesis

An exciting opportunity exists in our Vancouver, British Columbia, facility for a Senior Director of Combinatorial Biosynthesis. The successful candidate will be a bright, enthusiastic professional who possesses the drive and intensity to lead a team of molecular biologists operating at the forefront of natural product science and to develop this effort to make a substantial contribution to Cubist's pharmaceutical lead discovery operation. Primary responsibilities include developing a robust combinatorial biosynthesis research program based on biosynthetic pathway engineering and environmental samples, as well as interacting with fermentation, screening and natural product chemistry groups in Slough, U.K., and the infectious disease and medicinal chemistry teams based in Cambridge, Massachusetts, to ensure success of the programs. Successful candidates will possess a Ph.D. in Biological Sciences and 12-15 years of discovery or applied research experience. Demonstrated leadership, management and negotiation skills are essential. Some level of travel is required as Cubist's research operations are located in three facilities worldwide.
Job Code: VAN-001

Senior Scientist (Vancouver)

Become a vital member of a multidisciplinary team involved in the modification of natural product biosynthetic pathways. Successful candidates should have a practical understanding of actinomycete genetics/biochemistry or microbiology. Expertise in biosynthetic pathways and extensive hands-on experience with non-ribosomal polypeptide genetics are highly desirable. A Ph.D. degree with 5 years industrial experience is required. Job Code: VAN-002

Scientist (Vancouver)

A challenging opportunity exists for a multidisciplinary scientist to function as part of the team involved in modifying natural product biosynthetic pathways. Successful candidates should have a practical understanding of actinomycete genetics/biochemistry or microbiology. Expertise in biosynthetic pathways and extensive hands-on experience with non-ribosomal polypeptide genetics are highly desirable. Applicants will have a Ph.D. with 2-3 years post degree experience in the study and manipulation of non-ribosomal polypeptides.
Job Code: VAN-003

At Cubist Pharmaceuticals, we offer competitive compensation, stock options, outstanding growth opportunities and a comprehensive benefits package including 3 weeks vacation, group RRSP, tuition reimbursement, stock purchase plan, on-site massage therapy and transportation subsidy. Qualified candidates, please submit curriculum vitae, clearly referencing the Job Code, to:

Cubist Pharmaceuticals, Inc.
Human Resources
24 Emily Street
Cambridge, MA 02139
hr@cubist.com
or fax to: (617) 234-5592

We are an equal opportunity employer.

Please visit our website at:
www.cubist.com

CURE YOUR CAREER.

THE CHINESE UNIVERSITY OF HONG KONG

Applications are invited for:

Department of Surgery

Scientific Officer/Postdoctoral Fellow/Research Associate (2 vacancies)

(Ref. SO/1/PF/1/RASO/1/1/101)

Applicants for the post of Scientific Officer should have a PhD degree plus 4 to 5 years' postdoctoral experience. Applicants for the post of Postdoctoral Fellow should be a fresh doctorate or within 3 years' from obtaining a PhD. Those who have a Master's degree plus 5 years' post-qualification experience in transgenic mouse model will be considered for the post of Research Associate. The appointee will study the pathogenesis of human diseases by using transgenic mouse model. Excellent modern facilities are available. Applicants should have experience in: (a) one or more of the following areas: embryonic stem cell culture, pronuclear/blastocyst microinjection and mouse embryo transfer (experience in study using animal models will be an advantage); OR (b) differential gene expression, subtractive hybridization or other relevant molecular techniques. Appointees are expected to assume duty as soon as possible. Appointment will initially be made on a 2-year contract, renewable subject to mutual agreement.

Monthly Salary and Fringe Benefits

Scientific Officer: not less than HK$28,075; Postdoctoral Fellow: not less than HK$28,655; Research Associate: not less than HK$20,185 (approximate exchange rate: US$1=HK$7.75, £1=HK$11.36). Starting salary and grade will be commensurate with qualifications and experience.

Benefits include annual leave and out-patient medical care. From the second year of employment onwards, dental and hospital care will be offered. A contract-end gratuity and/or University contribution to retirement schemes (totalling up to 15% of basic salary) will also be provided.

Application Procedure

Application forms are obtainable from our WWW: **http://www.cuhk.edu.hk/personnel**. Alternatively, applicants may send full resume, with names and addresses of referees to the Personnel Office, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, or by fax to (852) 2603 6852. Applications, together with copies of qualifications, should be forwarded to the Personnel Office on or before **28 February 2001.** Please quote the appropriate reference number and mark 'Application' on cover.

mayo

MAYO CLINIC
DIVISION OF ENDOCRINOLOGY

An NIH supported postdoctoral position is available to study proteomic aspects of research program using mass spectrometry methods. Research interest is in the regulation of protein synthesis and degradation in healthy and diseased states, particularly in diabetes and the mechanisms of muscle wasting in aging, muscular dystrophies and myopathies.

Candidate should have a Ph.D. in Biochemistry or Chemistry with experience using mass spectrometry methods and have a good understanding of protein chemistry. Applications, including curriculum vitae and names of three references, should be sent to:

Sree Nair, M.D., Ph.D.
David H. Murdock - Dole Food Company Professor of Nutrition Science
Division of Endocrinology
Joseph 5 - 194
Mayo Clinic
200 First Street SW
Rochester, MN 55905

See also: **http://www.mayo.edu/research/**

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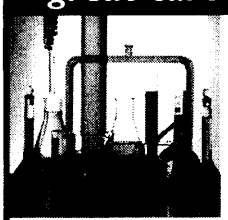


At Elan Pharmaceuticals, we take pride in taking care. From our well-documented advances in neurology and pain management to our pioneering development of an Alzheimer's vaccine, we're committed to channeling the strength of an internationally growing company into biopharmaceutical innovation.

Scientist

Carry out research on biochemical aspects of neurodegenerative diseases, especially Alzheimer's disease, focusing on the biochemistry and cell biology of enzymes and proteins identified by techniques such as 2-D gel electrophoresis, affinity chromatography, and proteomic analysis. You will also supervise the activity of junior laboratory members, and may have defined responsibilities in the context of specific projects in the Biology department. Requires a Ph.D. or equivalent degree in the Biological Sciences and 1-3 years of post-doctoral or industrial work experience in relevant aspects of Biochemistry, Cell Biology or associated areas.

For full position details, visit
www.elancorp.com

Elan Pharmaceuticals offers compelling benefits within a progressive, team-focused environment. For immediate consideration, please e-mail your resume (indicating PCN Number 50530056-SC) to: **elanpharma@rpc.webhire.com**

Elan Pharmaceuticals, Inc.
700 Gateway Blvd.
South San Francisco, CA 94080. EOE.

élan
pharmaceuticals

Associate Laboratory Director Energy, Environment, and National Security

Brookhaven National Laboratory (BNL) is seeking an Associate Laboratory Director (ALD) to manage and develop a diverse research program in environmental sciences, energy sciences, and national security. This Directorate is structured in three research departments (Energy Sciences and Technology, Environmental Sciences, and Nonproliferation and National Security) with a combined budget of about $100M and a staff of about 280 employees. The ALD reports to the Laboratory Director and is part of the Laboratory's level-1 management team. He/she will define the goals and develop the strategic plan for the Directorate.

The position requires an advanced degree (Ph.D. preference) in Science or Engineering; a strong research background in one of the main research areas of the Directorate; demonstrated experience and success in managing and developing a medium-size research program in a federally funded environment or in industry; and excellent communications and leadership skills.

The position requires U.S. citizenship and the ability to obtain a DOE Q clearance. BNL's management structure and the Directorate's research programs may be reviewed on the BNL web site (www.bnl.gov). The position is available immediately and should be filled by October 1, 2001. We invite interested candidates to send their curriculum vitae to Dr. Veljko Radeka, Search Committee Chair, Bldg. 535B, P.O. Box 5000, Upton, NY 11973-5000, (radeka@bnl.gov). BNL welcomes diversity and encourages applications from all qualified individuals.

BROOKHAVEN
NATIONAL LABORATORY

www.bnl.gov

North Central Research Station

Science for People's Sake: Reducing Wildfire Risk

USDA Forest Service, North Central Research Station

The wildfires that burned our nation in 2000 created an urgent need to restore damaged ecosystems, reduce future fire risk, and assist communities at risk from fire. North Central works to improve the quality of life in our communities by discovering and sharing knowledge that sustains our Region's diverse ecosystems and the communities that depend on them. We need your help and so do the people we serve. You can help land managers, local planners, and residents protect and restore their forests and communities. We are currently seeking people for the following positions:

Research Meteorologist– The job involves development of effective mesoscale and boundary-layer predictions of fire weather dynamics and smoke transport at the national and regional level. Desirable skills include a Ph.D. in meteorology, expertise in atmospheric mesoscale and boundary-layer modeling, including atmospheric turbulence and diffusion processes. Location: East Lansing, MI

Meteorologist – The job involves providing support for researchers conducting studies on national and regional fire weather dynamics and developing improved methods for high resolution forecasting of fire-weather dynamics and smoke transport. We are seeking an individual skilled in atmospheric mesoscale and boundary-layer modeling. Location: East Lansing, MI

Disturbance Ecologist/Modeler – The job involves exploring interactions between fire, land management treatments, human settlements, and other disturbances by linking results of empirical studies with a common modeling framework (LANDIS). Desirable candidates will have expertise in spatial modeling, GIS, spatial statistics, and a Ph.D. in landscape ecology, disturbance ecology, fire ecology, forest ecology, or a closely related field. Location: Rhinelander, WI

Quantitative Ecologist – The job involves developing and applying spatially-explicit models to better understand the effects of past and present land uses and fire suppression strategies on biomass accumulation and potential fire responses for a variety of northern forest ecosystems. Desirable candidates will have a Ph.D. in forestry or ecology with an emphasis on linking field ecology to the development and application of quantitative models. Location: Grand Rapids, MN

Research Ecologist – The job involves developing spatially explicit predictive models of the likelihood of historic and modern wildfires based on associations of fire occurrence, climatic gradients, topography, landforms, hydrography, and vegetation. Desirable candidates will have a Ph.D. in landscape ecology, disturbance ecology, fire ecology, or forest ecology and research experience in quantitative analysis of spatial data using univariate and multivariate statistics. Location: Rhinelander, WI

Interdisciplinary Scientist – The job involves assessing the vulnerability of rural communities to destruction from large wildfires and developing tools to help decision makers allocate fire prevention and suppression resources at local and regional scales. A desirable candidate will have a Ph.D. in forest or resource economics, geography, operations research, planning, or public policy, and research experience in quantitative analysis of spatial data. Location: St. Paul, MN

Research Social Scientist – The job involves evaluating public responses to fire management treatments, particularly fuel reduction and restoration, across a wide range of social and biophysical settings. Desirable candidates will have a Ph.D. in a social science, and experience modeling and explaining people's responses to stand/landscape treatments. Ability to work on interdisciplinary teams is critical. Location: Evanston, IL

Bio-Spatial Scientist – The job involves developing methods of vegetation classification of remotely sensed imagery to aid in identification of landscapes prone to catastrophic fire. Desirable candidates will have a Ph.D. in geography, remote sensing, ecology, or forestry, and significant research experience with image processing, GIS, and analysis of spatial data. Location: Rhinelander, WI

Geo-Spatial Analyst – The job involves providing support to researchers in identifying the key characteristics of communities relevant to effectively managing fire within an ecosystem. Desirable skills include experience conducting statistical analyses based on the physical location of spatial entities (for example, communities, national forests, ecosystems) in a landscape. Location: St. Paul, MN

To Express Interest

For application information or a copy of the recruitment notice, contact: Jim Elioff at (651) 649-5022 (e-mail: jelioff@fs.fed.us), or Linda Kolodziej (651) 649-5023 (e-mail: lkolodziej@fs.fed.us).

Candidates will be considered without discrimination for any non-merit reason such as race, color, religion, sex, national origin, politics, marital status, physical handicap, age or membership in any employee organization. The USDA Forest Service is an equal opportunity employer.

MAX-PLANCK-INSTITUT
FÜR MOLEKULARE PFLANZENPHYSIOLOGIE

The Max-Planck-Institute of Molecular Plant Physiology in Golm close to Berlin invites applications for a

Postdoctoral Position
(Ref: 03/01)

for the time to the end of September 2002 for the identification of SNPs and INDELs in diverse *Arabidopsis thaliana* genotypes and their use in high efficiency multiplex genetic marker systems. In addition techniques for genome wide mutation detection shall be developed and implemented. These methods will be applied to support map-based gene cloning and to analyse natural variations in *Arabidopsis*.

We are looking for a highly motivated scientist with a background in molecular biology and an interest in molecular genetics and biochemistry. Experience in advanced techniques for mutation detection (such as SSCP, DHPLC, LM-SBE, APEX, OLA or enzymatic mismatch detection) and for DNA fragment analysis via capillary sequencer are desirable.

The salary is calculated from the BAT scale. Applications including the usual documents (cv, certificates, list of publications etc.) and the letters of at least two referees should be sent to

Max-Planck-Institut für Molekulare Pflanzenphysiologie
Personalverwaltung
Am Mühlenberg 1, D-14476 Golm, Germany

XOMA (US) LLC is a biopharmaceutical company that develops products to treat severe infections, infectious complications of traumatic injury and surgery, and immunologic disorders. Our efforts depend on the continued commitment and swift support of our staff. Join us and help advance our leading development opportunities for the future.

Scientist II

Working in our Pharmacology Department, you will establish animal models of cancer and autoimmune disease and collaborate in generating data which supports new filings and aids the Clinical Department's design of human studies. In addition to a PhD in Immunology, Pharmacology or a related field, you should have 2+ years of postdoctoral experience and a background in working with animal models in cancer.

XOMA is a well-positioned, flexible organization that offers competitive salaries and excellent benefits. Please respond to: XOMA (US) LLC, Human Resources, Job Code: Scientist II, 2910 Seventh St., Berkeley, CA 94710. Fax to (510) 644-0471. Email to hr@xoma.com. EOE.

XOMA

MARINE BIOLOGICAL LABORATORY & BOSTON MEDICAL CENTER

The **BioCurrents Research Center** (BRC), a biotechnology research resource of the NIH (NCRR), seeks to make two **post-doctoral** level appointments in **cellular biochemistry and physiology**. The positions are part of a joint research endeavor between the BRC, a medical bioengineer company and the **Obesity Research Center, Department of Medicine, Boston Medical Center.** The work will be centered on the laboratories at Woods Hole, MA.

Position 1[BRCE]: Basic and applied electrophysiology of the endocrine pancreas combining membrane biophysics and secretory physiology.

Position 2[BRCB]: Signal transduction and metabolic pathways regulating insulin secretion from a biochemical and cell biological perspective.

The appointees will join a year round group of 12 research scientists and support staff focused on instrument development, biophysics and cell biology as related to cellular transport mechanisms. Both positions are funded for two years in the first instance and available immediately. Applicants should be at the post-doctoral level or have equivalent experience. Applicants should submit a curriculum vitae, transcripts, and the name, address, telephone number and email of at least three (3) references to: **MBL, attn: Human Resources [with position reference no.], 7 MBL St., Woods Hole, MA 02543; tel. (508) 289-7422; email resume@mbl.edu.** Further information on the BRC can be found at **www.mbl.edu/BioCurrents.**

The MBL is an equal opportunity/affirmative action employer. Non-smoking workplace.

Scientist Positions Available

KOSAN Biosciences is a rapidly growing biotechnology company developing drug candidates from an important class of natural product compounds known as polyketides. We have a superior technology platform & are seeking top-level researchers to continue our rapid development & progress in the areas indicated below:

Molecular Biology. Research Associates with some expertise in recombinant DNA methodology, basic biochem & organic chem, growth of micro-organisms, sequencing DNA, isolation & chromatography of microbial metabolites, & performing enzyme assays. BS/MS in mol. bio, microbio. or biochem. Exp. highly desired. Job Codes: 50017/50015.

Scientists with skills in the genetics of actinomycetes, & bio- & organic chem. Responsibilities will include designing experimental approaches, cloning, characterizing, expressing wild-type & mutant genes, & evaluating the consequences. Ph.D. mol. bio/biochem. required. Job Codes: 50014/50030.

Pharmacology. Research Associates with skills in establishing screening & mechanistic assays to support development of novel anti-cancer, anti-inflammatory, & neuro-protective agents, & establishing enzymatic & bioanalytical assays for supporting pharmacokinetic studies. BS/MS in pharmacology, cell bio/biochem & 5 years related exp. required. Job Code: 50018.

Chemistry. Senior Medicinal Chemist to direct a chemistry group performing polyketide synthesis. The successful candidate will possess a comprehensive knowledge of chemistry, the drug development process & have demonstrated the ability to successfully lead teams & projects. Ph.D. in chemistry w/ 10+ yrs. exp., 4+ yrs., as lead chemist required. Job Code: 50050.

Process Development. Natural Products Scientist to develop methods to purify small molecules from fermentation broth. Responsibilities include developing & executing experiments that support purification process optimization, & HPLC, NMR & MS characterization of final products, troubleshooting equipment problems & transferring processes to manufacturing scale. Ph.D. in chem, chem. engineering or related areas required. Job Code: 50039.

Send cover letter (include job code) & resume to: **Jobs@KOSAN.com.** (MS Word documents ONLY). For additional information visit our website at **KOSAN.com.**

Discover a World Full of Possibilities

As an emerging force in the biopharmaceutical industry, Aviron has attracted extraordinary individuals to develop some of the world's most innovative vaccine technologies. We have several products in development, including FluMist™, an investigational influenza virus vaccine, as well as vaccines to prevent croup, mononucleosis, cytomegalovirus (CMV) and respiratory syncytial virus (RSV).

The development organization at Aviron is involved in developing new biopharmaceutical products and processes during preclinical and clinical stages. The focus of this group is on process, analytical development and testing clinical samples, as well as the production of material for early-phase clinical trials.

Research Associate II/III

Use your laboratory test abilities, preferably gained in a GLP or clinical laboratory environment, as you test clinical trial samples, operate laboratory instrumentation, evaluate test results, and write scientific reports and SOPs. The ideal candidate will have a BS in Microbiology or Molecular Biology and 2-7 years experience in an industrial/biotech setting or as a Medical Technologist. Background in tissue culture, ELISA, hemagglutination, and molecular techniques (PCR), basic laboratory skills for preparing reagents, and documentation experience are needed. Computer proficiency in word processing and spreadsheet applications is needed. Knowledge of GLPs is highly desirable. Job Code GM-10137

Scientist III/IV and Research Associate IV/ Scientist, Analytical Development

You will develop/document non-isotopic assays for quantitative measurement of whole virus/viral components and impurities in Aviron vaccines, and humoral/cellular immune response to Aviron vaccines. Requires a PhD in Immunology, Microbiology, or Biochemistry and 6+ years pharmaceutical/biotechnology industry experience for the Scientist III/IV position; MS in Analytical or Biological Sciences with 6+ years pharmaceutical/biotechnology industry experience or a PhD with 1-2 years experience for the Research Associate IV/Scientist position. Knowledge of state-of-the-art bioanalytical techniques and related instrumentation, creative abilities in the application of existing instruments to develop rapid and sensitive methods for macromolecules and live viruses in a complex mixture, and an understanding of regulatory and quality (GMP/GLP) requirements related to analytical method development, validation and application are needed. Documentation and technical report writing skills are essential. GLP/GMP experience is highly desired. Job Code PS-00811, PS-00812

Supervisor, Clinical Testing Laboratory

We seek a self-motivated individual with viral laboratory and management experience to supervise testing of clinical trial samples. You will oversee the daily operations of a testing laboratory in a GLP environment. Other duties include managing/training employees; scheduling tests to meet timelines; reviewing lab data; preparing reports, protocols, and SOPs; overseeing reagent qualifications and inventory; maintaining equipment; and ensuring compliance with regulatory and safety practices. Candidates should have 6-8 years laboratory and/or management experience in a GLP environment with serologic assays, ELISA, PCR, viral assays, and tissue culture. Background in virology or microbiology is desirable. Job Code GM-10137

Scientist IV, Process Development

As a group leader, you will direct the development of downstream processing and purification processes suitable for manufacturing Aviron's vaccine products. You will assemble a group of development scientists and play a key role as a primary technical interface with Aviron's external development and manufacturing partners. Specific responsibilities include product recovery, filtration and purification steps, bulk formulation and sterile filling and product characterization. A PhD and 5+ years industry experience or a BS and 10+ years experience are required. Job Code PS-1115

Cell Culture Scientist/ Process Development Scientist

You will be an integral member of a team responsible for developing procedures to grow viruses in mammalian cell culture using bioreactors. The candidate should be experienced in adapting cells to grow in serum-free media, media optimization, and cell banking procedures. Expertise in developing chromatographic techniques for downstream processing is highly desirable. Working knowledge of cGMP/GLP is essential. Requires an MS/PhD in Chemical Engineering, Biochemistry or related with 2-5 years experience in an industrial environment. Job Code PS-00708

Formulation Scientist

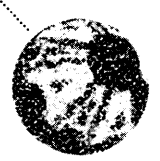
We're seeking a formulation development scientist with a strong background in lyophilization, spray drying or protein and drug delivery technologies. Particular emphasis will be placed on those possessing significant experience in protein stabilization methodologies. The main task will involve the development of novel formulations to stabilize viral vaccines made of live-attenuated viruses. Experience with analytical processes and vaccine development is a plus. Excellent verbal, written and interpersonal skills are desired. Qualified candidates should possess a PhD with 3+ years of research experience and an accomplished publication record. Job Code PS-00555

Other opportunities:

Manufacturing Supervisor, Job Code GM-1006

Join our growing team and make an impact on your life and the lives of others. We offer a competitive salary and attractive benefits package, including stock options. Please forward resume, indicating Job Code, to Aviron, Human Resources, 297 North Bernardo Ave., Mountain View, CA 94043; fax (650) 919-6624; email to pstevenson@aviron.com (please use Job Code in subject line). No phone calls, please. Aviron welcomes candidates from diverse backgrounds. EOE.

Aviron



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POSITIONS OPEN

FACULTY POSITIONS REGULATORY BIOLOGY AND CELL SIGNALING
University of Texas, Houston

The University of Texas Medical School in Houston has two tenure-track faculty openings for an expanding focus in regulatory biology and signal transduction. Appointments may be at the **ASSISTANT PROFESSOR** level for candidates completing their postdoctoral training or at the **ASSOCIATE PROFESSOR** level for candidates with funded, independent research programs. Applicants using innovative approaches to address molecular, biochemical, and biophysical mechanisms regulating physiological processes will be given preference, but a broad spectrum of research areas will be considered. Responsibilities include the development of a funded, internationally recognized research program and participation in medical and graduate education. Positions are located within the Texas Medical Center which includes University of Texas, Houston Health Sciences Center, Baylor College of Medicine, and M.D. Anderson Cancer Center. Attractive start-up packages and competitive salaries and benefits will be provided. Send curriculum vitae, a description of future research plans, and at least three letters of reference to: **Dr. Peter Davies** or **Dr. Agnes Schonbrunn, Department of Integrative Biology and Pharmacology, University of Texas Medical School at Houston, P.O. Box 20708, Houston, TX 77225**. Review of applications will begin immediately and will continue until the positions are filled. *The University of Texas is an Equal Opportunity Employer and encourages applications from women and minorities.*

PHYSIOLOGY POSITION

The Department of Biomedical Sciences of the Ohio University College of Osteopathic Medicine is seeking to fill a tenure-track faculty position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level to begin by fall of 2001. Primary responsibilities are to teach organ system physiology in a clinically oriented, innovative medical curriculum and to develop an externally funded research program. Priority will be given to individuals with expertise in renal or gastrointestinal physiology. A Ph.D. (or equivalent) and a minimum of two years of postdoctoral training are required. The 11-month salary will be commensurate with experience and accompanied by an excellent benefits package and start-up funds. Review of applications will begin March 15, 2001. Applications will be accepted until the position is filled. Submit a brief statement of research and teaching goals, curriculum vitae, representative reprints, and three letters of recommendation to: **Richard E. Klabunde, Ph.D., Search Committee Chair, Department of Biomedical Sciences, Ohio University College of Osteopathic Medicine, Irvine 304, Athens, OH 45701. E-mail: klabunde@ohio.edu. Department website: www.oucom.ohiou.edu/dbms**.

Ohio University is an Affirmative Action/Equal Opportunity Employer.

CHIEF OF NEUROLOGY AT DARTMOUTH

The Dartmouth–Hitchcock Medical Center is seeking a Board-certified Neurologist as Chief of the Section of Neurology. This Physician will lead the clinical, educational, and research missions of a comprehensive academic program. We hope to recruit a nationally recognized leader in clinical neurology who also has a track record of competitively funded research. The selected applicant will hold senior rank at Dartmouth Medical School. We hope that the successful candidate will help to integrate the clinical and basic neurological sciences within the greater neuroscience community at Dartmouth College. Applicants should send a brief letter and curriculum vitae to: **David W. Roberts, M.D., Chief, Section of Neurosurgery, Dartmouth–Hitchcock Medical Center, Lebanon, NH 03756. FAX: 603-650-4547**.

Dartmouth–Hitchcock Medical Center is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minority groups.

POSITIONS OPEN

UNIVERSITY OF MINNESOTA
Cancer Center

NCI CCC

ASSISTANT PROFESSOR CANCER GENETICS

The University of Minnesota Cancer Center (CC) and Department of Genetics, Cell Biology, and Development (GCD) are conducting a search for a tenure-track Assistant Professor in cancer genetics. The position offers a competitive salary, start-up package, and modern laboratory space with access to state-of-the-art core facilities. The candidate must have a Ph.D. or M.D., with evidence of high-quality research productivity in the area of molecular biology and cancer genetics. Emphasis will be placed on the potential for interaction with existing CC programs and interest in cancer gene function or identification, genomics, cancer susceptibility genes, and risk assessment of therapeutic response. Applications will be accepted until the position is filled. Please send curriculum vitae, a brief statement of current and future research, and three letters of reference to:

Chair, Cancer Genetics Faculty Search Committee, c/o S. Herlofson
University of Minnesota Cancer Center
Mayo Mail Code 806, 420 Delaware Avenue S.E.
Minneapolis, MN 55455
Website: www.cancer.umn.edu

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

FACULTY POSITION IN MOLECULAR BIOPHYSICS AND STRUCTURAL BIOLOGY
Rice University
Department of Biochemistry and Cell Biology

Applications are invited for a tenure-track faculty position in molecular biophysics. All biophysics research areas will be considered, but special consideration will be given to applicants whose research is in the areas of structural biology and X-ray crystallography. The position can be at the **ASSISTANT, ASSOCIATE**, or **FULL PROFESSOR** level but senior candidates are particulary encouraged to apply. The X-ray Diffraction Center is located in the newly renovated Keck Hall with state-of-the-art facilities that include a recently installed Rigaku generator and an MSC Jupiter140 CCD detector. The Center also has an interactive graphics facility with an SGI-based virtual reality environment. An endowment from the Kresge Foundation provides an operational budget for the Center and for future equipment upgrade/replacement. Rice is also the lead institution in the Gulf Coast Protein Crystallography Consortium, which is constructing a beamline at Louisiana State University's Center for Advanced Micro Devices (CAMD) synchrotron facility.

Candidates must have completed a Doctoral degree, have postdoctoral training, exhibit outstanding communication and leadership skills, and have a record indicating exceptional potential or demonstrated excellence in research and teaching. The successful candidate will be expected to develop and maintain a vigorous research program supported by extramural funding and participate in graduate and undergraduate teaching. Review of submitted applications will commence immediately and continue until the position is filled. Please send a letter of application, curriculum vitae, summary of past research and statement of future research plans, and arrange for four letters of reference to be sent to:

Molecular Biophysics Faculty Search Committee
Department of Biochemistry and Cell Biology
Rice University, MS–140
P.O. Box 1892
Houston, TX 77251-1892

Rice University is an Equal Opportunity/Affirmative Action Employer; women and minority candidates are especially encouraged to apply.

POSITIONS OPEN

TENURE-TRACK APPOINTMENT DEPARTMENT OF ENGINEERING
Harvey Mudd College

Applications are invited for a tenure-track position that emphasizes biomedical engineering and applied biology with a secondary interest in electrical engineering. Appointment is anticipated at either the **ASSISTANT** or **ASSOCIATE** rank depending upon qualifications. The successful applicant must have a Ph.D. in biomedical engineering or electrical engineering with research experience that ideally combines the two fields. This position, supported in part by a grant from the Howard Hughes Medical Institute, is intended to enhance linkages between our Engineering and Biology Departments. Such linkages might include contributing to curricular development in the two departments, advising biology-related Clinic projects, or supervising interdisciplinary undergraduate research projects. The College is prepared to structure the position as a joint appointment for a period of time if that seems appropriate. Candidates must be committed to excellence in teaching elective courses in biomedical engineering as well as required courses in systems engineering and engineering science. All engineering faculty also supervise team projects in the College's Clinic Program. The applicant must also demonstrate a potential for continued scholarly development through research and/or consulting. Excellent opportunities exist in Southern California for collaborative research and consulting with local universities and industry. Please submit a cover letter, résumé, personal statement of teaching philosophy and research interests, and the names of three references to: **Professor Anthony Bright, Department of Engineering, Harvey Mudd College, 301 East 12th Street, Claremont, CA 91711**. *Harvey Mudd College is an Affirmative Action/Equal Opportunity Employer. Applicants from grants typically underrepresented on engineering faculties are strongly encouraged to apply.*

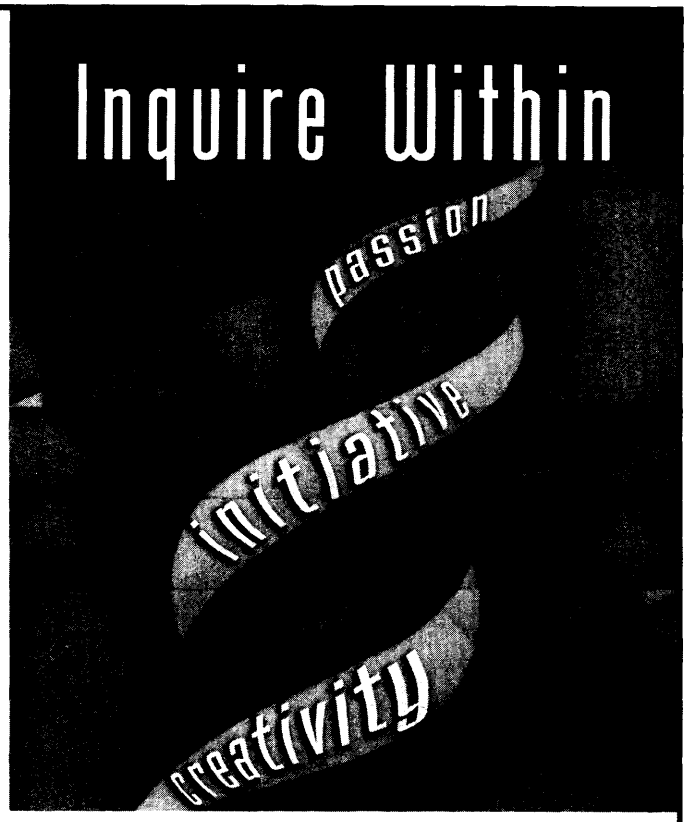
VISITING ASSISTANT PROFESSORS. The Department of Biology, Kenyon College, is seeking applications for two one-year replacement positions. We seek candidates who can teach some of the following courses: upper-level courses in ecology, animal behavior, marine biology; an introductory environmental science course; a team-taught introductory ecology and evolution course; and a team-taught laboratory course in introductory biology. Applicants should also be able to advise students on independent research projects. Candidates should hold a Ph.D. degree and demonstrate teaching excellence.

Review of applications will begin 19 March 2001 and continue until the positions are filled. Statements of teaching interests, curriculum vitae, undergraduate and graduate transcripts, and three letters of reference should be sent directly to: **Biology Search Committee, Department of Biology, Kenyon College, Gambier, OH 43022. E-mail: biosearch@kenyon.edu**. Visit our **website: www2.kenyon.edu/depts/biology**.

An Equal Opportunity Employer, Kenyon is committed to building a diverse faculty, staff, and administration and encourages the applications of women and minority candidates.

BIOLOGIST. Wabash College seeks a **VISITING ASSISTANT PROFESSOR** for a one-year sabbatical replacement. Start July 1, 2001. Ph.D. required. Teaching experience desirable. Teaching duties include a senior seminar in the person's specialty and participation in team-taught introductory biology courses for majors and nonmajors. Area of specialty is open but some expertise in cell biology would be particularly helpful. The Department is well equipped for teaching and research, and the successful candidate may be able to continue his/her research. Send letter of application; curriculum vitae (including a brief statement of teaching philosophy and research interest); and three letters of recommendation by March 9, 2001, to: **David Krohne, Biology Department, Wabash College, P.O. Box 352, Crawfordsville, IN 47933-0352**. Questions to **e-mail: Krohned@wabash.edu**. Information about Wabash College at **website: http://www.wabash.edu**. *Wabash College, a liberal arts college for men, encourages applications from women and minorities. Equal Opportunity Employer.*

Genentech's people share some pretty uncommon traits. Initiative, creativity, risk-taking – the stuff from which breakthrough medicines are created. Expect the extraordinary. Share your traits with us.



Scientist/Associate Scientist

You will be responsible for viral safety evaluation/process validation for the manufacture of recombinant therapeutic proteins from mammalian and microbial sources. You will design and perform scale-down protein purification experiments for viral clearance evaluation, develop and validate cellular and molecular assays and new virus clearance and prevention methods, prepare regulatory submissions and supervise a team of skilled research associates. Requires a PhD in Virology, Molecular Biology, Biochemistry or related field and strong knowledge of protein purification and viral assays. Postdoctoral experience is a plus. Excellent communication skills and the ability to lead in a team environment are essential. Job Code: 2554-SCI

Scientist/Associate Scientist

Investigating gene expression and metabolic events in relation to recombinant protein production in mammalian cell culture, you will work within a team to optimize cell culture processes in late-stage clinical research and develop next-generation molecules. You will collaborate with research, process sciences and manufacturing groups to design cell culture experiments in fully instrumented bench top fermentors, evaluate gene expression using PCR technology, investigate the effect of process parameters on cell metabolism and analyze experimental data. Requires a PhD in Biochemistry, Molecular Biology, or Biochemical Engineering with 1-4 years of experience. You should have demonstrated success in research/development and an ability to apply scientific principles for problem solving. Familiarity with mammalian cell culture and technical experience in a supervisory capacity are desired. Job Code: 2958-SCI

Scientist/Senior Scientist

With an Oncology focus in our Pharmacokinetics and Metabolism department, you will use your background in anti-angiogenesis, apoptosis or antibody therapeutics to establish a laboratory that will investigate the mechanism of action of candidate therapeutics for identification of pharmacodynamic markers for use in clinical studies. Partnering with colleagues in clinical and research, you must have a strong understanding of the process of drug development. Requires an MD or PhD with 2 or more years of postdoctoral work or postgraduate experience. You must have a publication record in peer-reviewed journals, excellent communication skills and familiarity with state-of-the-art methodology and technology. Job Code: 2083-SCI

Research Associate

Joining our Protein Structure group, you will explore structure and functional properties of proteins and peptides of therapeutic interest. You will be responsible for the production and characterization of isotopically labeled proteins for structural analysis by multidimensional NMR, including constructing and optimizing bacterial expression vectors, site-directed mutagenesis, *E. coli* growth and fermentation, and protein purification and refolding. Requires a BS or MS in Biochemistry, Chemistry or related field and 3+ years of technical experience in areas related to protein chemistry (purification, refolding, characterization) and molecular biology (mutagenesis, bacterial expression). You should be able to work independently and collaborate with others as necessary using your excellent communication and organizational skills. Job Code: 3064-SCI

For the Research Associate position, please email resumes to starovasnik.melissa@gene.com, indicating Job Code.

To apply, please email your resume, indicating the appropriate Job Code, to genentechad@webhirerpc.com (place Job Code in the subject field; ASCII files only). Or mail to Genentech, Inc., Attn: Human Resources, PO Box 1950, South San Francisco, CA 94083-1950.

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Genentech, Inc.

incredible people

extraordinary science

ASSISTANT PROFESSOR, collateral (nontenure eligible), MicroArray Core in the Nucleic Acids Research Facility (NARF) at Virginia Commonwealth University (VCU). Required: Ph.D. in molecular biology or related field; two years of relevant postdoctoral experience. Experience in PCR, RT-PCR, DNA synthesis and sequencing, robotics, microrrays, informatics. Good communication skills required. Duties: Operate and supervise the MicroArray Core of the NARF, liaison with users, assist managers of Sequencing, Synthesis and RT-PCR, and Bioinformatics cores of NARF. Ensure streamline of the NARF. Teaching in special topics courses. Send letter, curriculum vitae, and names and addresses of three references to: **Gregory A. Buck, Ph.D., Chair, Search Committee and Director, Nucleic Acids Research Facility, Virginia Commonwealth University, P.O. Box 980678, Richmond, VA 23298-0678. E-mail: buck@hsc.vcu.edu**. Deadline for appointment: March 15, 2001. *VCU is an Equal Opportunity/Affirmative Action Employer. Women, minorities, and persons with disabilities are encouraged to apply.*

TWO FACULTY POSITIONS: cell/molecular biology and ecology/organismal biology. The Department of Biology at Grinnell College invites applications for two one-year **ASSISTANT PROFESSOR** positions beginning August 2001. One position is in cell/molecular biology and the other is in ecology/organismal biology. Candidates should be prepared to teach at all levels of our curriculum including a course for nonmajors and at least one upper-level course in the candidate's specialty area. A Ph.D. is required and postdoctoral experience is preferred. Excellent facilities (including a nearby biological field station), equipment, and support for student-faculty research are available. In their letters of application, candidates should address their interest in undergraduate teaching in a liberal arts environment. Send curriculum vitae, three letters of recommendation, and copies of all transcripts to either: **Charles Sullivan, Cell Biologist Search Committee (e-mail: sullivac@grinnell.edu)** or **Jonathan Brown, Organismal Biologist Search Committee (e-mail: brownj@grinnell.edu), Department of Biology, Grinnell College, Grinnell, IA 50112-1690. FAX: 641-269-4285**. For further information about Grinnell College, please see our **website: www.grinnell.edu**.

Review of applications will begin March 1, 2001, and will continue until each position is filled. *Grinnell College is an Equal Opportunity/Affirmative Action Employer committed to employing a highly qualified staff that reflects 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.*

BIOLOGICAL SYSTEMS LABORATORY COORDINATOR

The Keck Graduate Institute (KGI) of Applied Life Sciences seeks a highly motivated individual with knowledge of state-of-the-art biosciences technologies to collaborate with faculty in developing laboratory protocols and coordinate the delivery of the Biological Systems laboratory course. Knowledge of molecular and cellular techniques, state-of-the-art laboratory instrumentation, ability to write protocols, teach laboratory, coordinate procurement of equipment and materials for laboratory. Ph.D. degree in the biological or chemical sciences with three years of research and/or teaching experience or M.S. with five years of experience or B.S. and eight years of experience. Mail curriculum vitae and cover letter to: **Dr. Miguel Barbosa, Keck Graduate Institute, 535 Watson Drive, Claremont, CA 91711. FAX: 909-607-8598; e-mail: miguel_barbosa@kgi.edu; website: www.kgi.edu**. Open until filled. *Equal Opportunity Employer.*

POSITIONS OPEN

TENURE-TRACK POSITION FUNCTIONAL GENOMICS AND BIOINFORMATICS

The University of Florida, Shands Cancer Center, invites applications for a tenure-track faculty position at the rank of **ASSISTANT PROFESSOR** or above in functional genomics and bioinformatics. Successful applicants will join a multidisciplinary team of researchers from around the campus as a member of the Cancer Center and the University of Florida Genetics Institute. Applicants will be expected to develop a competitive independent research program with the ultimate goal of bringing the power and promise of genomic research to problems of the specific oncological diseases. Individuals studying model organisms are encouraged to apply. The successful applicants will join the faculty of the College of Medicine with their department affiliation being determined by their specific research interests. Applicants must have an M.D. and/or Ph.D. degree and a demonstrated record of expertise either in functional genomics or bioinformatics. Applications will be reviewed starting March 1, 2001, but the application will remain open until a suitable candidate is found. Salary and rank will be commensurate with experience. Interested applicants should submit their curriculum vitae, a brief description of their research interests, and the names of three individuals from whom recommendations can be solicited. Send requested information to: **Dr. Richard W. Moyer, Search Committee Chair, University of Florida, Department of Molecular Genetics and Microbiology, P.O. Box 100266, Gainesville, FL 32610-0266**.

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

TENURE-TRACK FACULTY POSITION DEVELOPMENTAL NEUROSCIENCE
Louisiana State University Health Sciences Center New Orleans

The Department of Cell Biology and Anatomy invites applications for a faculty position at the **ASSISTANT, ASSOCIATE**, or **FULL PROFESSOR** level commensurate with credentials and experience. We are seeking an individual with strong molecular and genetics expertise in a mammalian system and research interests in neurogenesis, neurotrophins, signal transduction, axon-guidance, neuron-glia interactions, synaptic plasticity, or regeneration. Applicants are expected to have a strong potential or established record of extramural funding. To apply, please send curriculum vitae, statement of research interests, and the names of three references to: **Dr. Reha Erzurumlu, Chair of the Faculty Search Committee, Department of Cell Biology and Anatomy, Louisiana State University Health Sciences Center, 1901 Perdido Street, New Orleans, LA 70112-1393**. *LSUHSC is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH INSTRUCTOR POSITION

Applications are invited for a Research Instructor position in the Department of Pathology, The University of Alabama at Birmingham. This is an experimental pathology position in the laboratory of **Professor William E. Grizzle, M.D., Ph.D.**, where research is focused on evaluation biomarker expression in prostate, breast, and colorectal neoplasia. Minimum requirements are a Ph.D. in the biological sciences and a minimum of four years of postdoctoral experience in the area of biomarker evaluation in neoplastic processes. Demonstrated ability to independently prepare and present data in the form of oral presentations, publications, and grant proposals is also required. Applicants should send curriculum vitae and names of references to: **William E. Grizzle, M.D., Ph.D., Professor, Department of Pathology, University of Alabama at Birmingham, 521A Kracke Building, Birmingham, AL 35233-7331**. *The University of Alabama at Birmingham is an Affirmative Action/Equal Opportunity Employer and welcomes applications from women and minorities.*

POSITIONS OPEN

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

The Department of Pharmacology, Georgetown University School of Medicine, is beginning recruitment for several tenure-track faculty positions at the rank of **ASSISTANT/ASSOCIATE PROFESSOR**. These positions provide a competitive salary and generous start-up package. We are seeking candidates whose research emphasizes the use of targeted gene disruption, stem cell biology, transgenic animal models, molecular imaging, or electrophysiology to investigate problems in neurobiology or cardiovascular biology. The Department has national prominence, substantial extramural funding, and a very active graduate training program, providing an enriching environment for research collaborations, mentorship, and excellence in teaching.

Applicants should send their curriculum vitae, a statement of their research goals, three reprints, and arrange to have three letters of reference sent to: **Dr. Kenneth L. Dretchen, Chairman, Department of Pharmacology, Georgetown University School of Medicine, 3900 Reservoir Road, N.W., Washington, DC 20007. FAX: 202-687-6437; e-mail: dretchek@georgetown.edu**. Visit our **website: http://www.georgetown.edu/departments/pharmacology/index.html** for additional information. *Applications are encouraged from women and underrepresented minorities.*

FACULTY POSITION
University of Wisconsin–Madison Cellular/Molecular Physiology

The Department of Comparative Biosciences, School of Veterinary Medicine invites applications for a tenure-track faculty position (**ASSISTANT** or **ASSOCIATE PROFESSOR**). Qualifications include a Ph.D., postdoctoral experience, ability to develop extramurally funded research program, and commitment to excellence in teaching. Individuals with research interests in the cellular/molecular basis of oxygen sensing, cellular stress responses, or plasticity are particularly encouraged to apply, but strong candidates with other research interests will be considered. Teaching responsibilities include cardiovascular and/or respiratory portions of veterinary physiology course and participation in graduate education. To apply, send curriculum vitae, brief statements of research interests and teaching philosophies, and three letters of reference to: **Gordon S. Mitchell, Chair, Department of Comparative Biosciences, University of Wisconsin, 2015 Linden Drive West, Madison, WI 53706**. Apply by March 30, 2001. For additional information, see **website: http://www.vetmed.wisc.edu/jobs.html**. *Equal Opportunity/Affirmative Action Employer.*

FOUR TENURE-TRACK POSITIONS
Departments of Biochemistry and Chemistry

University of Saskatchewan: four tenure-track positions at the **ASSISTANT PROFESSOR** rank.

Department of Chemistry: Analytical Chemist with research interests in separation chemistry, analytical/environmental, analytical/surface chemistry, or mass spectroscopy. X-ray Crystallographer with expertise in X-ray crystallography of biological macromolecules.

Department of Biochemistry: NMR Specialist with expertise in the nuclear magnetic resonance spectroscopy of biological macromolecules. Biochemist with research interests in any area of biochemistry. Candidates will possess a Ph.D. and relevant research experience and should have a strong commitment to teaching and to developing vigorous and creative research programs. The full text for this ad and information about the Departments can be found at **websites: www.usask.ca/chemistry/** and **www.usask.ca/medicine/biochem/**.

DNA Array and Reproductive Toxicology: Postdoctoral Traineeships

The funding sources (EPA and NIEHS) limit awards to U.S. citizens or permanent residents. All positions require a doctoral degree (usually the Ph.D.) in an appropriate biomedical science.

Preliminary applications (curriculum vitae, names and addresses of three references) for all positions should be sent to: **David J. Holbrook; Curriculum in Toxicology; University of North Carolina; Chapel Hill, NC 27599-7270.** Telephone (919) 966-4685; Fax (919) 966-6357; e-mail: david_holbrook@unc.edu. For specific information on the research training projects, a candidate should contact the research adviser for each position.

Project 1: Development and utilization of cDNA microarrays to detect and quantify genetic biomarkers of exposure to reproductive toxicants.

Project Description: The genomic breadth of cDNA microarrays allows for testing of the hypothesis that altered gene expression patterns not only delineate toxicant modes-of-action, but are in and of themselves a recognizable and quantifiable biomarker of exposure applicable to risk assessment. Array technology complements ongoing transgenic, molecular and biochemical studies focused on defining toxicant mode-of-action, protective mechanisms mediated by heat shock proteins, and susceptibility to reproductive toxicants (e.g., the water disinfectant byproduct bromochloroacetic acid). Our current mouse TestisArray is focused on a single tissue, but additional mouse and rat arrays are being developed to facilitate comparison of gene expression patterns linked to various exposures across multiple tissues and species. Visit the EPA MicroArray Consortium (EPAMAC) website (http://www.epa.gov/nheerl/epamac) for more information on our work.

Research Adviser: Dr. David Dix, Reproductive Toxicology Division (MD-72), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711. Tel: 919-541-2701; Fax: 919-541-4017; E-mail: dix.david@epa.gov

Project 2: Differential gene expression in response to developmental toxicants.

Project Description: The project will explore the responses to developmental toxicants at the genomic level. The data generated in this project will be analyzed to determine if this approach offers the potential to identify mechanisms common across targets/responses/ compounds, based on similar genomic/proteonomic profiles. Environmental toxicants and model compounds that disrupt embryonic morphogenesis will be administered to pregnant mice and target tissues of the developing embryo will be evaluated for gene expression. Techniques appropriate for this project include DNA Array, Laser Capture Microdissection, standard and real time reverse transcription polymerase chain reaction (RT-PCR), in situ hybridization, immunohistochemistry, and protein analytical methods. Complex mixtures of cell types from embryonic/fetal/neonatal specimens (dissected limb bud, palatal shelf, ureter, etc) could be analyzed as well as specific cell types obtained with LCM sample retrieval. Protein expression analysis with array techniques would depend on further development of methods for proteonomic analysis for small specimens, but would be of sufficient interest to retain in the plan of research. Additional information on expression of specific proteins could be gained through densitometric analysis of immunohistochemically stained sections of the target tissues. Genes identified as affected by the exposure(s) would be analzyed for correlation patterns that may occur in common across toxicants or target tissues. Specific genes that have pronounced changes in regulation may be of interest for localization by in situ hybridization methods. Confirmation of the identity and degree of response for specific mRNAs of highest interest, as markers of response or potentially informative of mechanisms. would be confirmed by real-time RT-PCR.

This research explores the potential to use profiles of responses to assist in difficult scientific issues, such as the need for extrapolation across species, prediction of low dose responses, evaluation commonalities in mechanisms across targets, species and/or toxicants, and possibly evaluation of increased effects in population subgroups with specific genetic polymorphisms. The exploration of profiles of response at the genomic level opens the possibility of generating data sets to evaluate potential for a compound to disrupt morphogenesis. There is also the potential to identify mechanisms common across targets/responses/compounds, based on similar genomic/proteonomic profiles.

Research Adviser: Dr. Barbara D. Abbott, Developmental Biology Branch, (MD-67), Reproductive Toxicology Division, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711. Phone (919) 541-2753, Fax (919) 541-4017, email: abbott.barbara@epa.gov

Project 3: Mechanisms of Susceptibility to Teratogenesis.

Project Description: This project will explore interactions between maternal nutrition, maternal genotype and toxicant exposure. Two collaborative projects are ongoing in the laboratory in this area. One project is examining the impact of maternal folate status on response to teratogens. Female rats are fed diets of different folate content from weaning through mating and pregnancy and are exposed to teratogens during organogenesis to examine toxicant/nutrient interactions. Embryos are collected during organogenesis for assay of cell death, cell proliferation, and gene expression by a variety of means. Fetuses are collected at term for standard teratological evaluation. We will extend these studies to mouse strains with impaired folate metabolism, such as the Splotch mouse. Whole embryo culture is also being used to evaluate toxicant/nutrient interactions in vitro. The second project involves studies on the developmental toxicity of perfluorooctane sulfonate (PFOS), a member of a chemical class used in a broad range of products. PFOS is known to be an inhibitor of HMG-Co-A reductase, a cholesterol synthetic enzyme, and PFOS causes a reduction in serum cholesterol. We will examine the role of cholesterol synthesis inhibition in the developmental toxicity of PFOS both in vivo and in vitro, in rats as well as in two strains of mice. Studies in which maternal dietary cholesterol is varied and/or in which mouse strains with disturbances in cholesterol metabolism are used may also be carried out depending on our initial findings. In any case, follow-up studies examining pathogenesis and mechanisms of effect will be conducted using a variety of biochemical and molecular approaches.

Techniques and equipment available for these projects include confocal microscopy, DNA Array, Laser Capture Microdissection, standard and real time reverse transcription polymerase chain reaction (RT-PCR), in situ hybridization, immunohistochemistry, and protein analytical methods.

Research Adviser: Dr. John M. Rogers, Developmental Biology Branch, (MD-67), Reproductive Toxicology Division, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711. Phone (919) 541-5177, Fax (919) 541-4017, email: rogers.john@epa.mail

Other Projects: Other projects in biochemical and molecular toxicology are available. **Contact Dr. Holbrook.**

Goldhaber Distinguished Postdoctoral Fellowships

Brookhaven National Laboratory (BNL) has created the Gertrude and Maurice Goldhaber Distinguished Postdoctoral Fellowships Program with funding from Battelle Memorial Institute and Stony Brook University. These prestigious Fellowships are awarded to candidates with exceptional talent and credentials and a strong desire for independent research at the frontiers of their field. The fellowships are three-year appointments and will each carry a starting salary of $65,000 per annum and a modest amount of independent funds. Candidates should be at a maximum three years past receipt of the Ph.D.

Brookhaven National Laboratory is an internationally recognized multidisciplinary laboratory carrying out basic and applied research in the physical, biomedical, and environmental sciences and in selected energy technologies. The Laboratory is situated on 5,000 acres approximately 65 miles from New York City.

We will consider excellent candidates with training in any discipline pertinent to the mission of the laboratory, but fellows in the following areas would at present be of particular interest:

Atmospheric Sciences – Work in collaboration with current members of the Atmospheric Sciences Division to develop new methods for the measurement of atmospheric trace gases or aerosols, deploy those techniques in planned field studies, and participate in the interpretation of the resultant field data.

Structural Biology – Work in collaboration with current members of the Biology and Medical Departments to identify and isolate large DNA damage repair complexes and characterize their interactions.

Accelerator Physics – Work in collaboration with members of the National Synchrotron Light Source and Collider Accelerator Departments on various aspects of the Photo-injected Energy Recovering Linac. High-brightness and high-power electron beams provide for potential applications that involve high-energy electron cooling of ion beams, a sub-picosecond light-source, and a high luminosity electron-ion collider.

If you are interested in pursuing this unique opportunity, please send a letter of intent outlining your research interests, a CV, list of publications, and names and contact information of three references familiar with your work, to: Dr. Leonard Newman, (e-mail: newman@bnl.gov), Brookhaven National Laboratory, Bldg. 815E, P.O. Box 5000, Upton, New York 11973-5000. Please refer to the Laboratory's webpage: www.bnl.gov for more information. BNL is an equal opportunity employer and encourages applications from minorities and women.

BROOKHAVEN
NATIONAL LABORATORY

www.bnl.gov

The **Biozentrum of the University of Basel** establishes a Bioinformatics Division and seeks to appoint several Assistant Professors by spring 2001.

Bioinformatics Professorships (tenure track)

We seek young researchers in informatics of the life sciences who are interested in the modeling of cellular processes, in dynamics and interactions of biomolecules, in genomics, or in image pattern recognition. We anticipate to develop a curriculum for bioinformatics and a research program in collaboration with the Swiss Institute of Bioinformatics. An attractive infrastructure is available in the vicinity of the Biozentrum and the University computer center, and significant investments in personnel and instrumentation are planned.

Applicants interested in developing this new center of excellence in informatics of the life sciences and in creating a strong research and teaching program are requested to send their Curriculum Vitae, a list of publications, descriptions of past and future research, and names and addresses of three references to the address listed below by March16, 2001. Applications by female scientists are particularly encouraged.

UNI
BASEL

Professor Andreas Zuberbühler, Dekan der philosophisch-naturwissenschaftlichen Fakultät der Universität Basel, Klingelbergstrasse 50/70, CH-4055 Basel

For additional information please contact andreas.engel@unibas.ch

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PENNINGTON BIOMEDICAL RESEARCH CENTER
BATON ROUGE, LOUISIANA

POSTDOCTORAL AND RESEARCH ASSOCIATE POSITIONS IN FUNCTIONAL FOODS AND FUNCTIONAL GENOMICS FOR B.S. AND PH.D. CANDIDATES

The Pennington Biomedical Research Center (a division of Louisiana State University), with its 50 faculty and staff, is one of the leading institutions in research focusing on nutrition; the 4 major research themes are Obesity, Functional Foods, Nutrition and Chronic Disease, and Nutrition and Performance. The current positions advertised are within the Obesity & Functional Foods divisions. Successful applicants will also be encouraged to develop interactions with the other research divisions. The Pennington Center has extensive state of the art facilities for both basic and human research and outstanding core facilities to support each area. More information is available at **www.pbrc.edu**. Salaries and start-up packages are highly competitive.

(FUNCTIONAL FOODS DIVISION)

Postdoctoral Researcher (3 positions) – Ph.D. required
(Reference # 103)

The goal of this USDA funded project is to identify bioactive compounds with potential to affect metabolic processes relevant to specific chronic diseases, and discover the metabolic/mechanistic basis of action for targeted crop extracts or compounds with known or suspected health benefits. Model systems include tissue culture, animal and human feeding studies. In addition to traditional biochemical markers, we will apply gene expression, proteomics and cell signaling techniques. Research facilities, scientific environment and funding for these studies are excellent. Minimum requirement: Doctoral degree in Biomedical Science. Salary dependent on qualifications and experience.

(FUNCTIONAL GENOMICS DIVISION)

Research Associate (Reference # T100) – BS or MS degree required

Postdoctoral Researcher (Reference # T101) – Ph.D. required

Applicants should have a basic knowledge of techniques such as isolation of RNA and DNA, amplification by PCR and RT-PCR, preparation of vectors for cloning, preparation of plasmids, agarose gel electrophoresis, and transfection of cell lines with DNA constructs preferred. Applications will be accepted until suitable candidate is found. For further information contact **George Argyropoulos Tel: 225 – 763-2530; or E-mail: argyrog @pbrc.edu.**

Applications will be accepted until suitable candidates are found. All applications should indicate clearly the position reference information and include a curriculum vitae. Send application to: Mrs. Evelyn Bennett, Human Resource Management, Pennington Biomedical Research Center, 6400 Perkins Road, Baton Rouge, LA 70808-4124. Electronic submission of applications from qualified candidates should be sent to Hrm@pbrc.edu

The Pennington Biomedical Research Center/ Louisiana State University is an equal opportunity employer.

Creating Therapies

Geron Corporation provides employees an opportunity to be part of a multi-disciplinary team. We depend on each employee to take ownership and contribute to our shared goals. Together, we have created a working environment that is entrepreneurial, professional, challenging and friendly.

Group Leader Medicinal Chemistry (Job# SC1200)

Supervise a group of medicinal chemists in the solution of organic synthesis and structure-activity relationship (SAR) development problems in the cancer chemotherapy arena (i.e. telomerase). Versatile application of skills to process development and discovery/screening problems is required.

Computational Biologist (Job# SC2900)

Integrate large cDNA clone sets with micro-array gene expression data to identify and evaluate genes controlling cellular differentiation. Requires experience in signal transduction processes, regulatory cascades or control of cellular differentiation.

Development Scientist (Job# SC1501)

Optimize and scale-up Geron's cell culture processes leading to cell manufacturing for therapeutic use, evaluation and qualification of raw materials; develop process controls and product specifications; and conduct stability and shelf-life studies. You will also help formulate products, develop assays, and manage vendor relationships/contracts.

Chemist (Job# SC4400)

Perform organic synthesis for structure activity relationship development in the cancer chemotherapy arena.

Scientist (Job# SC0600)

Identify, develop and establish appropriate animal models for in vivo proof-of-principle and pre-clinical studies focused on telomerase-based therapies for skin related diseases.

Scientist (Job# SC0401)

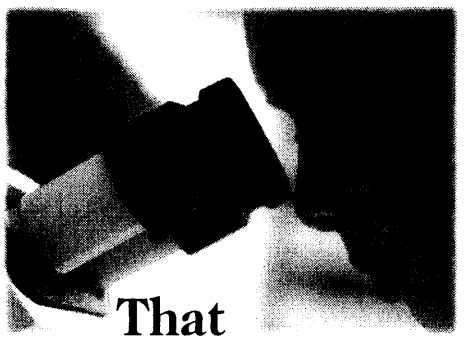
Identify, develop and establish appropriate animal models for skin related diseases such as wound healing and evaluate telomerase based therapeutic candidates. Experience with skin grafting/wound healing and skin histology necessary. Supervisory experience a plus!

Scientist (Job# SC0501)

Derive neural cell from stem cells in vitro and perform lineage analysis and functional characterization of mature phenotypes. Experience with neuronal cell growth and differentiation necessary.

Geron is a biopharmaceutical company focused on discovering, developing and commercializing therapeutic and diagnostic products for applications in oncology, drug discovery and regenerative medicine. Geron's product development programs are based upon three patented core technologies: telomerase, human pluripotent stem cells and nuclear transfer.

www.geron.com



That Improve Lives

Scientist (Job# SC0601)

Identify/establish appropriate animal models of cardiac function. Transplantation and characterization of cardio myocytes derived from stem cells using functional and histological analysis. Requires experience with animal models and cardiac physiology.

Scientist (Job# SC0701)

Derive ß-islet cells from ES cells. Involves lineage analysis and functional characterization of mature phenotypes. Requires experience with ES cells or pancreatic cell differentiation.

Scientist (Job# SC0801)

Evaluate reprogramming and transdifferentiation of somatic cells utilizing lineage analysis and functional characterization of many different cell types. Requires experience in the derivation of cells from different germ layers.

Scientist (Job# SC0901)

Construct vectors and genetic modification of stem cells and their derivatives involving analysis and characterization of cell differentiation. Requires extensive molecular biology and tissue culture skills. Experience with ES cell growth and differentiation is a plus!

All SCIENTIST positions require a Ph.D. coupled with at least four years of academic/industry experience in a related field.

Research Associate (Job# SC1401)

Support research in the modification of embryonic stem cells and the characterization of the resultant cells. Cell culture experience and basic molecular biology skills required. Familiarity with immunocytochemistry is a plus! Requires a BA/BS (MA/MS pref'd) in related field with 2+ years' industry experience.

For more details on these, as well as our other opportunities, please visit our website @

www.geron.com

We will reward you with an attractive compensation and benefits package that includes a 401(k) & stock option plan, bonus program, and a fun, collaborative work environment that recognizes achievement and promotes from within. Please forward your resume to: Geron Corporation, Attn: Job#____, 230 Constitution Dr., Menlo Park, CA 94025; FAX: (650) 473-8668; or Email: hr@geron.com. EOE

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Positions available in different organizations

National University of Singapore
http://www.nus.edu.sg/NUSinfo/Appoint/APPOINT.HTML
Microbiology Faculty Member
Physiology Faculty Member
Principal Investigator – Dendritic Cell Laboratory
Chemistry Faculty Member
Physics Faculty Member

Bioprocessing Technology Centre
http://www.eng.nus.edu.sg/btc/job.htm
email: *Director_Search@nstb.gov.sg*
Director of Bioprocessing Technology Centre

Singapore Genomics Program
email: *TangMS@nuh.com.sg*
Chief Scientific Officer
Division Heads
Research Scientists & Postdoctorate Scientists
Principal Investigators – Bioinformatics; Engineers & System Managers – Bioinformatics

Singapore General Hospital
email: *gnewmc@sgh.com.sg*
Scientist – Molecular; Genetic & Cerebrovascular & Vascular Research

National Cancer Centre
email: *dmswmc@nccs.com.sg*
Scientist – Brain Tumour Research Laboratory

National University of Singapore
http://www.med.nus.edu.sg/mbbsphd
email: *medwtpd@nus.edu.sg*
Clinicians/Scientists - Faculty of Medicine
MBBS-PhD Fellowship

http://obgyn.nus.edu.sg/
email: *obgngsc@nus.edu.sg*
Post Doctorates/Post Graduate students — Faculty of Medicine, Nuclear – Reprogramming project

Centre for Natural Product Research
http://www.cnpr.nus.edu.sg
email: *cathylee@cnpr.nus.edu.sg*
Senior Research Biologist
Research Biologist

S*BIO
email: *dtansbio@singnet.com.sg*
Drug Discovery Scientists – Combinational Chemistry
Drug Discovery Scientists – High Throughput Screening
Drug Discovery Scientists – Drug Discovery Informatics
Genomics Scientists – Bioinformatics
Genomics Scientists – Gene Function
Genomics Scientists – Expression Library
Technology/DNA Microarrays/
Gene Validation

Visit us at our booth at the AAAS San Francisco meeting or our website at www.contactsingapore.org.sg for more information. **Contact Singapore Boston, 929 Massachusetts Avenue, Suite 02-C, Cambridge, MA 02139** Tel: 617-499-9941

Postdoctoral Fellowship at NIH HIV Research

A postdoctoral position is available for molecular studies on replication of HIV and development of new anti-HIV strategies. Research projects include the role of the viral nucleocapsid protein in HIV reverse transcription and investigation of virus assembly. Applicants should have a strong background in molecular biology and some experience working with RNA and enzymes; virology background desirable. Less than five years of postdoctoral experience is required. Please send a curriculum vitae, bibliography, and the names and addresses of three references to:

Dr. Judith G. Levin, Chief
Section on Viral Gene Regulation
Laboratory of Molecular Genetics
NICHD, Building 6B, Room 216
NIH
Bethesda, MD 20892-2780
Fax: (301)-496-0243
Email: judith_levin@nih.gov
Website: http://dir.nichd.nih.gov/lmg/svgr/index.htm

NIH is an Equal Opportunity Employer.

MAX-PLANCK-INSTITUT
FÜR MOLEKULARE PFLANZENPHYSIOLOGIE

The Max-Planck-Institute of Molecular Plant Physiology in Golm close to Berlin, Germany invites applications for a

Postdoctoral Position
(Ref: 02/01)

on Functional Genomics in Molecular Plant Physiology to be employed for a period of two years in the Department of Prof. L. Willmitzer.

The successful applicant will join a team of molecular geneticists and molecular plant physiologists to study genes and gene interactions that mediate and (cross-)regulate metabolic and developmental processes in plants, with emphasis on *Arabidopsis thaliana*. The postholder will be responsible to apply and further develop up to date techniques for genome expression analysis based on DNA microarrays and to closely interact with (bio-)informaticians and mathematicians for the analysis of the very large sets of data generated.

Candidates should have a PhD in biology or biochemistry and extensive experience in molecular genetics with knowledge in physiology and biochemistry. Practical experience with advanced methods to study gene expression profiles of tissues and organs are highly desirable.

Applications including the usual documents (cv, certificates, list of publications etc.) and the names of at least two referees should be sent to

Max-Planck-Institut für Molekulare Pflanzenphysiologie
Personalverwaltung
Am Mühlenberg 1, D-14476 Golm, Germany

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

Pharmacogenomics

Postdoctoral positions are available to join an established research program focused on molecular mechanisms of genetic polymorphisms in drug metabolism and effects (reviewed in *Am. J. Hum. Genet.* 63: 11-16, 1998; *Science* 286: 487-491, 1999). Ongoing research focuses on molecular and biochemical studies of genes and their products involved in the metabolism and effects of anticancer agents, such as antifolates and thiopurines, including isolation and characterization of novel protein complexes that modulate cellular sensitivity to thiopurines (*Mol. Pharmacology* 59: 367-374, 2001), development of knockout mouse models, and functional characterization of genetic polymorphisms in humans (see *PNAS* 92: 949-953, 1995; *PNAS* 94: 6444-6449, 1997). Candidates should have a recent Ph.D. and a strong background in molecular biology or biochemistry.

St. Jude Children's Research Hospital (Danny Thomas, Founder) is an outstanding biomedical research center that provides an exceptional training environment for scientific endeavors and career development. Stipends and benefits are highly competitive. Please visit our web site at www.stjude.org and review the Education and Training Section for additional information. Qualified candidates should send a letter of interest, curriculum vitae and names of three references to:

Dr. William E. Evans
St. Jude Children's Research Hospital
332 N. Lauderdale Street
Memphis, TN 38105-2794

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Roche

Bioscience

Roche Bioscience is committed to innovation in human pharmaceutical research. Our Palo Alto-based research units are focused on innovative breakthroughs in small molecule drug discovery. We intend to lead the industry through research excellence, sound business decisions and timely delivery of novel drugs.

RESEARCH SCIENTIST II
CNS Behavioral Pharmacology

Providing critical scientific leadership within the Neurobehavior group, you will manage a team of Research Associates involved in screening and target validation activities using behavioral models of CNS disorders. In addition, you will be expected to participate on project teams and provide program leadership for novel exploratory programs. You should have a PhD or equivalent in Neuroscience or Pharmacology and 3-5 years postdoctoral experience in CNS or a related field. Previous experience leading a group of individuals toward achievement of goals is essential. This position requires an extensive background in behavioral models of CNS disorders. Job Code: 1402-SCI

POSTDOCTORAL FELLOWSHIP POSITIONS

Biochemistry

You will help determine the specific roles of mucins in asthma and COPD and be expected to publish the results in peer-reviewed journals. To this end, you will purify and characterize the biochemical composition of human and animal respiratory mucins. You will have the opportunity to work with many internal and external investigators. You should have a PhD or equivalent in Biochemistry or a related field. Proficiency in protein purification, gel separation techniques, HPLC and *in vitro* assays are essential. A background in respiratory biology is preferred but not essential. Job Code: 2388-SCI

Neurophysiology

You will study the relationship between cytokines/inflammatory pathways in neuropsychiatric and CNS disorders and elucidate the role of cytokines and neuroinflammation in the etiology of anxiety and depression by conducting experiments to correlate indicators of CNS inflammation to behavioral or biochemical outcomes. Requires a PhD or equivalent with *in vivo* neuropharmacology, immunology, or systems neuroscience experience. Job Code: 1364-SCI

Transgenics

The Neurobiology Transgenics group is seeking an individual to support *in vivo* model development activities in our Genitourinary research area. Your project will involve creating and characterizing a transgenic model of pelvic hypersensitivity/overactive bladder. This project will allow for significant collaborative interactions. You must be able to employ a wide range of molecular, cellular, and physiological approaches to transgenic model development. Requires a PhD or equivalent. Neuroscience background is preferred. Job Code: 1400-SCI

Pharmacology & Cell Sciences

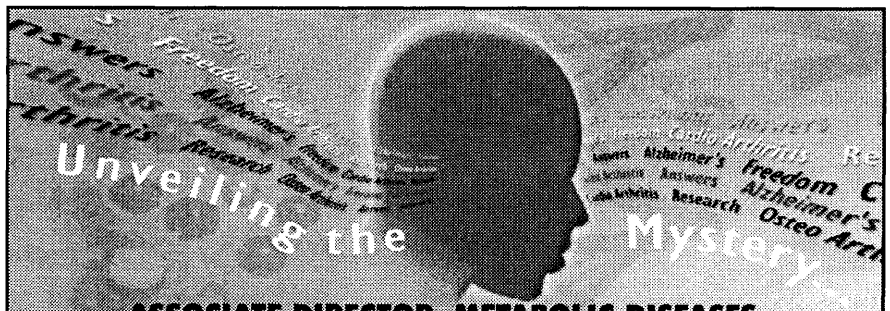
Working on photoprotein-based physiological reporter molecules, you will create and characterize novel Ca++-dependent and fluorescent biosensor molecules used to study receptor-mediated signal transduction mechanisms. Drawing from your knowledge of cell and molecular biology and biochemistry, you will implement unique biosensor methods in support of basic discovery programs. Requires a PhD or equivalent. You must have experience in signal transduction, molecular and/or cellular biology, physiology, and/or photoprotein research. Job Code: 1405-SCI

CNS Neurobehavior

You will contribute to the development of novel *in vivo* models of neuropsychiatric disorders, such as depression and cognition. Must have extensive background in behavioral models of CNS disorders. Requires a PhD or equivalent in CNS-related field. Strong neuropharmacolology and neuroscience background is preferred. Job Code: 1401-SCI

We reward results by offering competitive salaries and an excellent benefits package. We have a campus-like setting and an on-site fitness center. If you would like to explore our opportunities firsthand, apply today by sending your resume, indicating appropriate Job Code, to us at Roche Bioscience, 3401 Hillview Avenue, A2-HR, Palo Alto, CA 94304. Fax to (650) 424-8159 or email paloalto.hr_staffing@roche.com. As an equal opportunity employer, we are committed to workforce diversity.

Visit our website for more information at **www.roche.com/bioscience**.



ASSOCIATE DIRECTOR, METABOLIC DISEASES

MitoKor is a pre-IPO biotechnology company focused on mitochondria, the biochemical power plants of cells. MitoKor is headquartered in San Diego with a wholly-owned subsidiary in Melbourne, Australia.

You will work with the Director to plan and execute all aspects of pre-clinical drug discovery for Type II diabetes, from new target identification/validation, to lead testing and optimization in vitro and in vivo. You will be expected to participate as a team member in ongoing drug discovery projects, and to develop independent research projects to help identify/validate mitochondrial molecular targets for the treatment of diabetes and obesity.

The ideal candidate must be an enthusiastic hands-on team player with the ability to help oversee and direct the NIDDM drug discovery program. Highly motivated and independent scientist with a background in pre-clinical (in vitro and in vivo) drug discovery in the field of diabetes is required. The successful candidate will have a Ph.D. and/or M.D. in a biological science with a minimum of 8 years experience Type II diabetes drug discovery in the pharmaceutical or biotechnology industry.

In addition to an excellent compensation and benefits package, including stock options and 401k, we offer a challenging work environment and the opportunity to be involved in making MitoKor a success. **For immediate consideration, please e-mail, send or fax your resume (Job Code 2001-002) to: 11494 Sorrento Valley Road, San Diego, CA 92121; Fax (858) 509-5700; e-mail: hr@mitokor.com** EOE/M/F/D/V

MITOKOR

Please visit our web site for additional career opportunities: www.mitokor.com

Ground-breaking Research. Advanced Technology. Dedicated People.

At Axys Pharmaceuticals, our scientific staff employs state-of-the-art techniques to develop therapeutic treatments for cancer. If you are committed to quality and excellence, bring your skills and expertise to Axys Pharmaceuticals and play an integral role in our success.

We are building shareholder value through (1) a broad and diversified pipeline of research and development programs partnered with world-class pharmaceutical companies; (2) expansion of a non-partnered research and development franchise in oncology; and (3) the spin out of affiliated businesses that leverage our technologies in order to provide capital for our drug discovery and development programs. We currently have several career opportunities in the following areas of research:

- **Chemistry**
- **Biology**
- **Pharmacology**
- **Preclinical Sciences**

Besides attractive salaries and outstanding benefits, we offer the opportunity to be part of a dynamic environment that fosters professional & personal growth. For more information and to see a current listing of open positions, please visit our website. Resumes may be sent to:

Axys Pharmaceuticals
Attn: HR Deptartment
180 Kimball Way
South San Francisco, CA 94080
Email: human_resources@axyspharm.com
We look forward to hearing from you. EOE

AXYS

www.axyspharm.com

THE OPPORTUNITY OF A LIFETIME. EVERY DAY.

Setting New Standards, Reaching New Goals in Cardiovascular Care

COR Therapeutics, Inc. is a publicly-held biopharmaceutical company focused on the discovery, development, and commercialization of novel therapeutics for the treatment and prevention of severe cardiovascular diseases. We currently have excellent opportunities in our Biology department.

Scientist, Blood Coagulation Factors

Responsible for studies involving various inhibitors of blood coagulation, including carrying out independent research directed at delineating mechanisms of inhibition of coagulation factors in in vitro/in vivo systems. Collaborate with team members to identify and characterize specific modes/markers of thrombin generation to be used for monitoring the efficiency of anticoagulant therapy. Ph.D. in Biochemistry, Cell Biology, or Molecular Biology required and at least 3 years of relevant post doctoral experience. Significant experience in mechanistic studies of Proteolytic enzymes is required for this position. (Job# A087-SCI)

Scientist/Senior Scientist, ADP Receptor

Responsible for the investigation of signaling pathways and structure function analyses of the recently cloned platelet Gi-coupled ADP (P2Y12) receptor (Nature, in press), and the analysis of P2Y12 knock-out animals. Ph.D. required and at least three years relevant post-doctoral experience, and experience in molecular pharmacology/biochemistry of G protein coupled receptors. A proven record of accomplishment, strong publication record, and excellent communication skills are required. Molecular & cell biology experience preferred. (Job# A086-SCI)

Scientist/Senior Scientist, TGF-B Signaling & Biology

Member of a team focused on understanding the mechanisms by which the TGF-B family of growth factors signals, and the utilization of this information to develop inhibitors of these pathways. Previous experience in TGF-B biology, signal transduction, and drug development will be viewed favorably. Ph.D. (or equivalent) in biochemistry, molecular biology or related discipline and at least 3 years of relevant post doctoral training. (Job# A093-SCI)

Scientist, Platelet Signaling & Biology

This position will elucidate mechanisms of platelet-mediated inflammation, and play a key role in the discovery of novel anti-inflammatory drug targets. Requires a Ph.D./MD in a biological science and relevant postdoctoral experience. A strong background in Cellular and Molecular Biology with experience using related biochemical techniques is essential. (Job# A066-SCI)

To apply, please send resume to: COR Therapeutics, Inc., Attn: (Job#), 256 East Grand Avenue, South San Francisco, CA 94080; Fax (650) 244-9287; Email: hr@corr.com. EOE

COR

www.corr.com

OSI Pharmaceuticals

~ Cancer Drug Discovery ~

OSI Pharmaceuticals is expanding its internal cancer drug discovery program as we prepare to move to our new facility in **Farmingdale, Long Island.** OSI is a leading biopharmaceutical company with a substantial portfolio of product opportunities for commercialization. OSI utilizes a comprehensive drug discovery and development capability to facilitate the rapid and cost effective discovery and development of novel, small molecule compounds. OSI offers a superb benefits package, including 3 weeks vacation, stock options, 401 (K) and opportunities for career development. Qualified candidates may send resumes to: **Human Resources, OSI Pharmaceuticals, Inc., 106 Charles Lindbergh Boulevard, Uniondale, NY 11553-3649.** Additional details about these positions can be found on our website, www.osip.com.

We are looking for a number of talented individuals **(Ph.D., MS and BS),** experience in cancer drug discovery preferred, in the following areas:

- Molecular Biology
- Biochemistry
- Cell Biology
- *In Vivo* Pharmacology

www.osip.com

The Centre for Addiction and Mental Health, the largest agency of its kind in Canada, is continually advancing its understanding of mental health and addiction. We improve the quality of life by providing first-class clinical care, research, prevention, and education. As a recognized W.H.O. Centre of Excellence, the CAMH is affiliated with the University of Toronto. We are currently seeking a ...

Molecular Neuroscientist

The Neuroscience Research Department at the Centre for Addiction and Mental Health (CAMH) in Toronto invites applications for a Scientist position in the area of Molecular Neuroscience to establish his/her own research laboratory. The successful candidate is expected to be an outstanding established scientist with a proven track record in Molecular Neuroscience and have the ability to obtain extramural funds. Expertise in genetic model systems, including non-mammalian systems, will be considered an additional strength.

The CAMH is a research hospital fully affiliated with the University of Toronto. Research Scientists at the CAMH typically hold cross-appointments at the University of Toronto. Research at the CAMH covers the entire spectrum of basic to clinical research in mental health and addictions. The Scientist position is fully supported by the CAMH and includes intramural support. The Neuroscience Research Department includes research facilities for mouse transgenics, sophisticated imaging, and human genetics.

Applicants should submit a curriculum vitae, a one page summary of a five year program including specific aims, attach their three most important publications along with a one page justification for their choices, and arrange for three letters of reference. The application should be sent by **March 31, 2001,** quoting **File #212E,** to:

Centre for Addiction and Mental Health
Centre de toxicomanie et de santé mentale

Human Resources
Centre for Addiction and Mental Health
1001 Queen Street West
Toronto, Ontario, Canada M6J 1H4
Fax: (416) 583-4316
e-mail: jobs@camh.net

Visit our Web-site at: www.camh.net

ASSOCIATE DIRECTOR
Center for Personalized Medicine Research

Marshfield Clinic employs nearly 600 physicians in multiple specialties at 38 sites throughout central, western and northern Wisconsin. Marshfield Medical Research Foundation (MMRF) is the research division of Marshfield Clinic. It employs approximately 200 people and includes the Clinical Research Center, Marshfield Epidemiology Research Center, National Farm Medicine Center, Rural Cancer Research Center, And Centers for Community Outreach, Medical Genetics, Health Services Research and Personalized Medicine.

The Associate Director will assist the Director of the Marshfield Medical Research and Education Foundation, in association with the Director of Marshfield Laboratories, in creating and directing a new medical research and education center, the Center for Personalized Medicine Research (CPMR), within the Foundation to advance the application of genetic science to human health. The goal of this new research and education center is to translate genetic data into specific knowledge about disease and into clinically relevant information that will enhance patient care by helping physicians to diagnose genetically influenced problems, prescribe personal preventive measures, and select the most effective medications which are least likely to cause adverse reactions.

The successful candidate will have:

- Ph.D. in management, social science, or health science, preferred
- Executive management experience in leading organizations of major projects with annual budgets in excess of $15 million
- Experience in helping to create, as a line executive or strategic planner, new not-for-profit research centers or commercial enterprises, preferably in healthcare, biotechnology, or science.
- Knowledge of federal or state government, including legislative branches an/or executive departments and agencies.
- Oversight of corporate communication, external and internal
- Successful research an/or business development experience and familiarity with grants and/or contracts.
- Ability to think strategically and analytically and to communicate concisely and effectively.

DEADLINE TO SUBMIT an application is 3/7/01. Interested candidates may contact:

Mary Treichel
Physician Recruitment
MARSHFIELD CLINIC
1000 N Oak Avenue
Marshfield, WI 54449

Telephone:
800-782-8581
***Extension* 19774**
Fax: 715-221-9779

E-mail:
treichem@mfldclin.edu

Website:
www.marshfieldclinic.org/recruit

MARSHFIELD CLINIC

Sorry. Not a health professional shortage area. An equal opportunity affirmative action employer

FACULTY POSITIONS

Assistant Professor Positions
Vascular Biology Center of Excellence

The Vascular Biology Center of Excellence is a new multi-million dollar initiative at The University of Tennessee Health Science Center in Memphis and is seeking qualified tenure-track faculty primarily at the Assistant Professor level in the area of Vascular Biology with a focus on endothelial cell biology, vascular adhesion molecules or thrombosis/hemostasis.

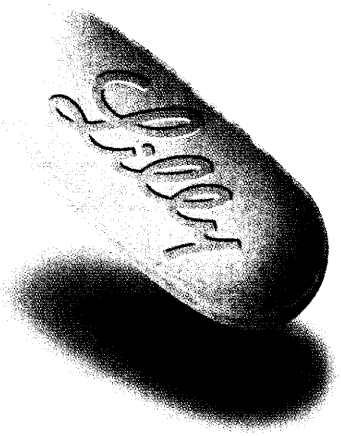
Located in the medical center of the University of Tennessee in Memphis, the Vascular Biology Center of Excellence provides a productive research environment for scientific endeavors and interdisciplinary collaboration. Basic, translational and clinical research are integral parts of the Center's activities.

Successful candidates will have a Ph.D. or M.D. degree or both, 2-5 years of post-doctoral experience and a strong publication record. Laboratory and office space as well as start-up funds will be provided.

Please send your CV, a letter detailing your specific training and research interests, date of availability, and the names and addresses of three references to:

Lisa K. Jennings, Ph.D.
Director, Vascular Biology Center of Excellence
The University of Tennessee, Memphis
Coleman Building H300
956 Court Avenue
Memphis, TN 38163

The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADE employer and encourages applications from qualified women and minorities.



A cure for the common career.

The Lilly Postdoctoral Scientist experiences exceptional opportunities, training, and rewards. These include collaboration with a mentor who has a strong, well-documented scientific research program, access to superior facilities and resources, the chance to work across scientific disciplines, competitive compensation and benefits, and affiliation with a progressive company known worldwide for excellence in research.

Postdoctoral Position in Virology

The Infectious Diseases Research Group seeks a motivated individual to study Hepatitis C Virus (HCV) RNA replication. Qualified candidates have a strong background in molecular virology, molecular biology, or RNA biochemistry and a recently completed Ph.D. in an associated field. The postdoctoral scientist will investigate the molecular mechanisms of HCV RNA replication using in vitro and cell-based assays. This project will provide background for the long-term goal and direction for identifying novel anti-HCV targets.

Interested applicants should respond directly to **Dr. Gail H. Cassell at g.cassell@lilly.com or Dr. Dayue Chen at chen_dayue@lilly.com, or fax to 317.276.1743. Please refer to this position and code ADJOUID01 in any correspondence.**

Postdoctoral Scientist

An immunology postdoctoral fellowship is available to study host-immune modulation during Hepatitis C infection and immunomodulators in other infectious diseases. The successful candidate has a Ph.D. with a strong background in cellular immunology and interest in cytokine signal transduction. Proven expertise in molecular cell biology and/or protein biochemistry, and cell culture systems is also desired. Hands-on experience with phage display libraries, chip arrays, or animal models is beneficial.

Interested applicants should respond directly to **Dr. Gail H. Cassell at g.cassell@lilly.com or Dr. Thomas Tan at tan_seng-lai@lilly.com, or fax to 317.276.1743. Please refer to this position and code ADJOUID02 in any correspondence.**

Applicants are encouraged to apply on-line at **www.lilly.com**. We are an equal opportunity employer dedicated to the strength diversity brings to the workplace.

Lilly
Answers That Matter.

TUMOR IMMUNOLOGIST

The Department of Pathology and the Cancer Center at the University of Illinois at Chicago jointly invite applications for a tenure-track Research Faculty position at the level of **ASSISTANT, ASSOCIATE,** or **FULL PROFESSOR**. Candidates should have a Ph.D. and/or M.D. and an outstanding record of research accomplishments and independent funding in tumor immunology. The successful candidate will be expected to maintain extramural funding and to develop a dynamic research program that enlists the collaboration of other faculty members within the Institution. The candidate also will be expected to provide training opportunities for students and Postdoctoral Fellows and to participate in the education of graduate and medical students. There are state-of-the-art, institutionally supported core facilities including those for flow cytometry, confocal microscopy, fluorescence imaging, mouse transgenics, ES cell manipulation, peptide synthesis, protein and DNA sequencing and microarray production and analysis, and laser capture microdissection. Intramural Phase 1 cancer vaccine protocols are being pursued by several Investigators within the institution. Programmatic initiatives in tumor immunology potentially will be facilitated by already established programs in stem cell and organ transplantation, cytokine-mediated signaling, apoptosis, and genomic/proteomics. Position open until filled. Faculty rank and salary will be commensurate with experience. Interested individuals should send their curriculum vitae, a summary of research interests, and names of three references to: **Dr. Robert Folberg, Professor and Head, Department of Pathology (M/C 847), 446 College of Medicine West Building, University of Illinois at Chicago, 1819 West Polk Street, Chicago, IL 60612.** *University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITIONS in musculoskeletal biology. The Department of Orthopedic Surgery at Upstate Medical University invites applications for two new tenure-track faculty positions within the Division of Musculoskeletal Biology. A Director of Musculoskeletal Biology will be appointed at either the **ASSOCIATE** or **FULL PROFESSOR** level with expertise in cellular and molecular biology. The individual will have a track record of extramural funding and will have the opportunity to shape and advance an interdisciplinary biological research program. A second **ASSISTANT PROFESSOR** position will develop and/or utilize existing cell culture, animal model, and/or molecular techniques in the general area of musculoskeletal biology. All research activities will be based in the new $50 million Institute for Human Performance (**website: www.upstate.edu/ihp**).

Applicants for both positions must possess a Ph.D. and/or M.D. degree along with relevant postdoctoral training and experience. Qualified applicants should send their curriculum vitae, a statement of research focus and goals, and the names and addresses of three references to: **Kenneth A. Mann, Ph.D., Institute for Human Performance, 750 East Adams Street, Syracuse, NY 13210.** *SUNY Upstate Medical University is an Affirmative Action/Equal Opportunity Employer.*

The Department of Neurology in the School of Medicine of the University of Pennsylvania is seeking faculty members who are interested in the molecular basis of neurologic diseases. Generous start-up packages will be provided. Successful candidates will be expected to be ABPN Board-certified with postresidency Fellowship training and to develop a competitively funded research program. We anticipate making appointments at the level of **ASSISTANT** or **ASSOCIATE PROFESSOR** in the tenure track. Academic rank will depend on qualifications and experience of the candidate. Please send letter of interest and curriculum vitae to: **Francisco González-Scarano, M.D., Professor and Chair, Hospital of the University of Pennsylvania, Department of Neurology, 3400 Spruce Street, Philadelphia, PA 19104.** *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSITIONS OPEN

FACULTY POSITION: GLOBAL ECOLOGY AT THE CARNEGIE INSTITUTION OF WASHINGTON

The Carnegie Institution of Washington's Department of Plant Biology seeks a **FACULTY MEMBER** with a research focus on microbial processes in an ecosystem context. This position is open to applicants with a Ph.D. and significant research experience at all career stages. The emphasis can be terrestrial, aquatic, or marine. We are especially interested in Researchers who address the ways microbes regulate one or more of the major biogeochemical cycles (carbon, nutrients, water) or other ecosystem goods and services. Key issues include the role of microbial diversity, consequences of microbial processes at the ecosystem or global scale, and the representation of microbial processes in simulation models. The successful applicant will join an interdisciplinary group with a focus on global ecology.

The Carnegie Institution of Washington is a nonprofit organization dedicated to cutting-edge basic research and "the application of knowledge to the improvement of mankind." Located on the campus of Stanford University, the Department of Plant Biology integrates its primary research mission with opportunities for teaching, graduate training, and broad collaborations.

To apply, please send a résumé and a statement of research interest and arrange to have three letters of reference sent to: **Christopher Field, Carnegie Institution of Washington, 260 Panama Street, Stanford, CA 94305 by March 15, 2001. FAX: 650-325-3748; e-mail: chris@jasper.stanford.edu; website: http://carnegiedpb.stanford.edu.** *The Carnegie Institution of Washington is an Equal Opportunity/Affirmative Action Employer.*

CELLULAR/MOLECULAR TOXICOLOGIST
University of Mississippi Medical Center
Department of Pharmacology and Toxicology

The Department of Pharmacology and Toxicology invites applications for a **TENURE-TRACK POSITION** that will be available July 1, 2001. Rank of entry will be commensurate with qualifications of the applicant. Candidates will be expected to develop a strong, extramurally funded research program in the general area of toxicology. The research would have an emphasis on cellular and/or molecular biology mechanisms of action of xenobiotics complementary to current research in the Department. The candidate also will participate in the teaching of graduate, medical, and dental students.

The minimum qualifications for applicants are a Ph.D. or equivalent in toxicology, pharmacology, biochemistry, or a related field and one to two years of postdoctoral experience. Applicants should submit curriculum vitae and a description of future research plans and teaching interests by June 1, 2001, to:

Chairman, Faculty Search Committee
Department of Pharmacology and Toxicology
University of Mississippi Medical Center
2500 North State Street
Jackson, MS 39216-4505

In addition, the applicant should request three letters of recommendation be sent directly to the above address. *Equal Opportunity Employer; Minorities/Females/Disabled/Veterans.*

ACS-funded **POSTDOCTORAL POSITION** available immediately to study the molecular mechanisms of V(D)J recombination using a variety of approaches (for examples, see **website: http://mmi.creighton.edu/faculty/swanson.html**). The applicant should possess a strong background in molecular biology, molecular immunology, or biochemistry; experience with cell transfection techniques is desirable. Please send curriculum vitae and the names of three references (include contact information) to: **Patrick C. Swanson, Ph.D., Department of Medical Microbiology and Immunology, Creighton University, School of Medicine, 2500 California Plaza, Omaha, NE 68178. Telephone: 402-280-2716; FAX: 402-280-1875; e-mail: pswanson@creighton.edu.**

POSITIONS OPEN

THE OHIO STATE UNIVERSITY

The Division of Pharmaceutics invites applications for an **ASSOCIATE** or **FULL PROFESSOR** position in the areas of drug delivery and/or drug transport. Applicants are preferred with research interests in molecular and biological approaches. The Division consists of nine faculty and 45 doctoral students with research focus in drug delivery and pharmacokinetics-pharmacodynamics (**website: http://topol.pharmacy.ohio-state.edu**).

Ohio State is a comprehensive research university that offers an excellent research environment for basic and clinical sciences. The College of Pharmacy has state-of-the-art research and library facilities. The College is part of a medical center complex that includes a cancer hospital and research institute, a comprehensive cancer center, a heart and lung research institute, and a retrovirus center. Other shared university facilities include a supercomputer center and a chemical instrumentation center.

A letter of application along with curriculum vitae, the names and addresses of three references, and a statement of research interests and professional goals should be sent to:

William L. Hayton, Chair
Division of Pharmaceutics
College of Pharmacy
The Ohio State University
500 West 12th Avenue
Columbus, OH 43210-1291
Telephone: 614-292-1288
E-mail: hayton.1@osu.edu

The Ohio State University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, Vietnam-era veterans, disabled veterans, and individuals with disabilities are encouraged to apply.

GENETIC OR MOLECULAR EPIDEMIOLOGIST STATISTICAL GENETICIST OR BIOSTATISTICIAN
(Junior or Senior Level)

The McDermott Center for Human Growth and Development at The University of Texas Southwestern Medical Center at Dallas invites applications for **ASSISTANT** or **ASSOCIATE PROFESSOR** faculty positions. We seek outstanding individuals with knowledge, training, and innovative research programs in biostatistics, population genetics, or genetic epidemiology. Successful applicants should hold a Ph.D. and/or M.D. and should be capable of establishing a vigorous, independent research program and teaching in one of several active graduate programs. Attractive start-up packages, state-of-the-art core facilities, and new laboratory space are available.

Applicants should submit curriculum vitae containing a summary of past research accomplishments, a statement of future objectives, salary requirements, and three professional references to:

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

UTSW is an Equal Opportunity Employer.

TENURE-TRACK ASSISTANT PROFESSOR IN BIOLOGY

Ph.D. with expertise in at least one of these areas: cell biology, genetics, and microbiology. Responsibilities include teaching introductory and upper levels and advising and supervision of undergraduate research. A maturing and enthusiastic Christian faith and commitment to the mission of a residential, evangelical Christian university is essential. See **website: www.letu.edu/news/jobs** for more information. Send letter and curriculum vitae to: **Dr. Glenn Sumrall, Provost, LeTourneau University, Box 7001, Longview, TX 75607-7001. E-mail: GlennSumrall@letu.edu; FAX: 903-233-3227.**

POSITIONS FOR ASSISTANT OR ASSOCIATE PROFESSORS
Massachusetts General Hospital
Harvard Medical School

Two faculty positions are available at the Cutaneous Biology Research Center of MGH/Harvard Medical School (**website: http://cbrc-a12.mgh.harvard.edu/**). Applicants must have a Ph.D. and/or M.D. degree and relevant postdoctoral experience. Areas of interest are cutaneous and epithelial biology, pigment cell biology, immunology, and matrix biology. Individuals with a demonstrated ability to develop imaginative approaches to important biological questions in these areas that extend existing faculty interests are encouraged to apply. Current faculty members investigate inductive signaling, transcriptional regulation, apoptosis, angiogenesis, carcinogenesis, extracellular matrix function, and appendage development in vertebrate and invertebrate systems. Excellent core facilities and generous start-up funds are available.

All application materials must be received by April 1, 2001, for full consideration. Send curriculum vitae; reprints; brief statement of research directions; and names, addresses, and telephone numbers of three references to:

Paul F. Goetinck, Chair
Faculty Search Committee
Cutaneous Biology Research Center
Massachusetts General Hospital-East
Building 149, 13th Street
Charlestown, MA 02129

The MGH/Harvard Cutaneous Biology Research Center is a committed Equal Opportunity/Affirmative Action Employer. Minorities, women, handicapped, and veterans are encouraged to apply.

GENE REGULATION

The Department of Biological Sciences at Florida International University, the Florida State University at Miami, is extending its search for **TENURE-TRACK FACULTY** in gene regulation who will develop grant-funded research, supervise Ph.D. and M.S. students, and display a strong commitment to teaching at all levels. Teaching duties may include courses in biochemistry and molecular/cellular biology. A Ph.D. and postdoctoral experience are required. FIU is a Carnegie Research I University enrolling 32,000 students. The growing Department has 38 congenial faculty in ecology and in marine, integrative, and cell and molecular biology (**website: www.fiu.edu/~biology**). A new biology research building is under construction. Send curriculum vitae, research goals and teaching experience, three relevant reprints, and names of three references postmarked by 2001 March 1 to: **James Allen, Gene Regulation Search, Department of Biological Sciences, FIU, Miami, FL 33199. FAX: 305-348-1986**. *FIU is an Equal Opportunity/Access Employer and Institution.*

TENURE-TRACK FACULTY POSITION

Applications are invited for a faculty position in the Neuroscience/Drug Abuse Research Program at the Julius L. Chambers Biomedical/Biotechnology Research Institute at North Carolina Central University within the Research Triangle area of North Carolina. Generous setup funds are available for the successful candidate to establish a research program in molecular, biochemical, or cellular neuroscience of drugs of abuse. Applicants must possess a Ph.D. and/or M.D. and at least three years of postdoctoral experience. Submit a letter describing research and professional goals, curriculum vitae, and three letters of reference to: **Dr. Allyn C. Howlett, Director, Neuroscience/Drug Abuse Research Program, J.L. Chambers Biomedical/Biotechnology Research Institute, NCCU, 700 George Street, Durham, NC 27707.**

North Carolina Central University is a constituent institution of the University of North Carolina System and an Equal Opportunity/Affirmative Action Employer. North Carolina Central University complies with the Immigration Reform and Control Act of 1986.

POSITIONS OPEN

THEORETICAL BIOLOGIST

The Department of Organismic Biology, Ecology, and Evolution at University of California Los Angeles invites applications for an open-rank, **TENURE-TRACK FACULTY POSITION** in theoretical biology. Candidates must apply mathematical and/or computational methods to theoretical research projects in the fields of evolution, ecology, and/or behavior. UCLA has outstanding academic support for faculty, including access to the UC Natural Reserve System, a campuswide Institute of Mathematics and Applied Physics, Program in Computational Biology, and attractive start-up packages. Successful candidates are expected to develop a vigorous research program and to contribute to undergraduate and graduate teaching. Senior-level candidates also would be expected to actively participate in enhancing interdepartmental programs focusing on mathematical or computational biology. Junior-level candidates should have postdoctoral experience and a strong research record. Send curriculum vitae, statements of research and teaching interests, and the names and addresses of three references to: **Dr. Charles Taylor, Chair, Theoretical Biology Search, Department of Organismic Biology, Ecology, and Evolution, University of California, Los Angeles, CA 90095-1606. E-mail: taylor@biology.ucla.edu**. Consideration of applications will begin on April 1, 2001. *The University of California is an Equal Opportunity Employer committed to excellence through diversity.*

FACULTY POSITION
INFECTIOUS DISEASE IMMUNOLOGY

The Department of Microbiology at the James H. Quillen College of Medicine, East Tennessee State University, invites applications for a tenure-track position starting July 1, 2001, at the **PROFESSOR, ASSOCIATE PROFESSOR,** or **ASSISTANT PROFESSOR** level. Our focus will be on applicants using molecular approaches to explore immunologic aspects of human viral or fungal (preferably) or parasitic or bacterial diseases (or animal models of these human diseases). This individual will be the first of seven faculty recruits for a to-be-developed new program in immunology combining clinical and basic sciences. Successful applicants will be expected to pursue vigorous, independent, and collaborative research programs in microbial immunology and to teach in their area of expertise. Applicants should have a Ph.D., M.D., M.D./Ph.D., or a D.V.M./Ph.D. and preferably established extramural funding. Salary and rank are commensurate with qualifications and experience. The James H. Quillen College of Medicine, located in Johnson City, Tennessee, is beginning its 26th year and is currently expanding and strengthening its research mission. Johnson City is a town of 60,000 nestled in the Blue Ridge Mountains 60 miles northeast of the Great Smoky Mountain National Park. Johnson City offers a moderate cost of living, good schools, and numerous cultural and recreational activities. Interested individuals should submit an application letter containing (1) a statement of research and teaching interest, (2) curriculum vitae, (3) reprints of three recent significant publications, and (4) three letters of recommendation to: **Dr. Robert V. Schoborg, Chair, Microbiology Faculty Search Committee, Department of Microbiology, James H. Quillen College of Medicine, East Tennessee State University, Box 70579, Johnson City, TN 37614. Telephone: 423-439-6295; FAX: 423-439-8044; e-mail: Schoborg@etsu.edu**. Screening of applicants will begin February 1, 2001, and the search will continue until a suitable candidate is found. *ETSU is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR OR INSTRUCTOR

The Department of Radiology at Beth Israel Deaconess Medical Center, Harvard Medical School, invites applications for a faculty position at the Assistant Professor or Instructor level. We are interested in an Investigator who employs antibody or cell-based immune targeting strategies for *in vivo* imaging of cancer and other diseases. There exist a number of opportunities for stimulative collaboration with other investigators in Beth Israel Deaconess Medical Center and other institutes in the Harvard Medical area.

Applicants should have a Ph.D. or M.D./Ph.D. with successful research accomplishments at the postdoctoral or faculty level. The successful candidate is expected to initiate and/or sustain active, independent research programs that are supported by extramural funding. An attractive start-up package will be available. Interested candidates should send curriculum vitae, a summary of research interests and past accomplishments, and a list of three or more professional references to: **Melvin E. Clouse, M.D., Vice Chairman and Director of Research, Department of Radiology, Beth Israel Deaconess Medical Center, One Deaconess Road, Boston, MA 02215. Telephone: 617-754-2529; e-mail: mclouse@caregroup.harvard.edu**. Visit our **website: radiology.bidmc.harvard.edu**.

Beth Israel Deaconess Medical Center is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR
PHYSIOLOGICAL ECOLOGY

The Department of Biological Sciences at North Dakota State University invites applications for a tenure-track Assistant Professor position to begin August 15, 2001. The successful candidate is expected to develop an externally funded research program in physiological ecology and to train graduate students. Primary teaching duties include physiological ecology and endocrinology courses. For details on minimum/preferred qualifications and for other information, see **website: http://www.ndsu.nodak.edu/ndsu/holbrook/nonclass.stm**. To apply, submit a letter of application; curriculum vitae; a statement of teaching and research interests; a statement of teaching philosophy; copies of transcripts from all college-level work; copies of publications; and three letters of reference to: **Faculty Search Committee, Stevens Hall, North Dakota State University, Fargo, ND 58105-5517**. For full consideration, complete applications should be received by March 1, 2001. *NDSU is an Equal Opportunity Institute.*

FACULTY POSITION IN BIOCHEMISTRY

Keuka College seeks applicants for a tenure-track **ASSISTANT PROFESSOR** position beginning fall 2001. Ph.D. in biochemistry or related field, expertise in either molecular biology or protein chemistry, and demonstrated ability in teaching are required. Responsibilities: laboratory course in general biochemistry for biology/biochemistry majors and upper-level courses in biochemistry and cell and molecular biology. Other possible areas of interest include environmental or organic chemistry and a general science course for elementary education majors. Send letter of application, curriculum vitae, official undergraduate and graduate transcripts, and three letters of recommendation to: **Personnel Department, Keuka College, Keuka Park, NY 14478**. Applicant review will begin February 15, 2001, and continue until the position is filled. See **website: http://www.keuka.edu**. *Equal Opportunity Employer/Affirmative Action.*

POSTDOCTORAL POSITION, Johns Hopkins School of Medicine. A position is available immediately for a Fellow with experience in instrumentation/software development for magnetic resonance applications. The candidate should have experience and interest in EPR/MR/MRI applications to chemical and biological systems. Salary commensurate with experience. Send curriculum vitae to: **Dr. Jay L. Zweier, JHAAC, 5501 Hopkins Bayview Circle, Room LA.14, Baltimore, MD 21224. E-mail: jzweier@welch.jhu.edu.**

ASSISTANT/ASSOCIATE PROFESSOR OF CARDIOVASCULAR MEDICINE
University of California, Davis

The Division of Cardiovascular Medicine is seeking applications for a tenure-track position as Assistant or Associate Professor with expertise in basic research in cardiovascular biology. We are particularly interested in recruiting individuals with strong expertise in molecular genetics and gene expression profiling or physiological genomics in murine models of cardiovascular-related diseases. Candidates should have a Ph.D., M.D., or M.D./Ph.D. degree; a clear record of scientific excellence; and must hold or be competitive for external research funding. The successful individual will be expected to have an independent research program and to participate in teaching of graduate, postgraduate, and medical students. The Division has related research programs in exercise, vascular biology, cardiac metabolism, and cardiac ion channel regulation. Send letters with complete curriculum vitae and names and address of three references to:

Ann C. Bonham, Ph.D.
Chair, Cardiovascular Medicine
Faculty Search Committee
c/o Terri Bradley, Division Manager
University of California, Davis, Medical Center
Division of Cardiovascular Medicine
4860 Y Street, Suite 2820
Sacramento, CA 95817

Positions are open until filled but not later than July 1, 2001. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

JUNIOR OR SENIOR FACULTY POSITION IN STRUCTURAL BIOLOGY
School of Medicine
Department of Cellular and Molecular Physiology
Yale University

Applicants are solicited for a faculty position at the junior or senior level in the Department of Cellular and Molecular Physiology, Yale University School of Medicine. Candidates must hold a Ph.D., M.D., or equivalent degree. The candidate's research interest should be in the general area of cellular and molecular physiology with particular emphasis in the structural biology of ion channels, iontransporters, or related membrane proteins. Excellent opportunities are available for collaborative research as well as for graduate and medical student teaching.

Qualified women and minority group members are encouraged to apply. Complete curriculum vitae, a statement of research interests and goals, and three letters of reference should be sent by April 1, 2001:

Dr. Steven C. Hebert, Chair
Department of Cellular and Molecular Physiology
Yale University School of Medicine
333 Cedar Street
P.O. Box 3333
New Haven, CT 06510

Yale University is an Affirmative Action/Equal Opportunity Employer.

ASSOCIATE/FULL PROFESSOR of Psychology, Department of Psychology, University of Hawaii at Manoa. General funds, full-time, tenure track, to begin approximately August 2001. Teach classes in behavioral neuroscience and assist in the development of a cross-disciplinary neurosciences program. Research interests complementing those of current faculty. Expertise in a variety of cellular and molecular techniques relevant to behavioral neuroscience; teaching or administrative experience in development of cross-disciplinary teaching programs in neuroscience. Annual salary range: Associate: $43,824 to $64,872; Professor: $53,316 to $78,924. For additional information, contact: **Karl Minke** or **Robert Blanchard; e-mail: minke@hawaii.edu** or **e-mail: blanchar@hawaii.edu; Telephone: 808-956-8414.** Review of applications will begin on March 19, 2001.

POSITIONS OPEN

THE OHIO STATE UNIVERSITY COLLEGE OF VETERINARY MEDICINE

The Ohio State University, Department of Veterinary Biosciences, invites nominations and applications for the position of **CHAIR OF THE DEPARTMENT** of Veterinary Biosciences. The Department combines the expertise of 24 core faculty in the disciplines of veterinary anatomy, immunology, microbiology, pathology, pharmacology, physiology, and toxicology. The Department is ranked in the top 10% of over 200 departments at the University and has obtained over $4 million in extramural research funds in fiscal year 2000, primarily in core research areas of infectious diseases, endocrinology, physiology, and cancer research. Many faculty members are jointly appointed in the College of Medicine, Comprehensive Cancer Center, and are members of interdisciplinary research groups and university-supported interdisciplinary graduate programs in molecular and developmental biology, biochemistry, and neurosciences. The Department supports state-of-the-art facilities including recently renovated Biosafety Level Two and Three laboratories, flow cytometry and confocal imaging instrumentation, electron microscopy, cardiac electrophysiology laboratory, and completely equipped biochemistry and molecular biology laboratories. Departmental faculty, staff, and resources are a vital component of the basic and clinical education of veterinary medical students and of a strong graduate and postdoctoral Scientist training program. The College of Veterinary Medicine is part of the most comprehensive health science center in United States that includes Colleges of Medicine, Dentistry, Nursing, Optometry, Pharmacy, and Allied Medical Professions, as well as The Ohio State University Hospitals and Heart and Lung Institute, Center for Retrovirus Research, Center for Biomedical Engineering, and a National Institutes of Health-designated comprehensive cancer center. The University maintains fully accredited and centralized laboratory animal care programs including two campuswide transgenic animal facilities. The preferred candidate should have the D.V.M./Ph.D. degrees and demonstrated leadership in his/her research and professional field. The Search Committee is looking for candidates whose expertise falls within the departmental fields of teaching and research and who have and will maintain a nationally funded research program. The candidate is expected to have administrative experience, effective communication skills, and leadership qualities to encourage faculty and resource development that builds on current strengths of the Department. Working knowledge of resident training programs for Board certification, graduate programs, and professional medical education is highly desirable. Applications should include curriculum vitae, summary of current research and administrative activities, and the names (with complete mailing addresses, telephone, FAX, and e-mail addresses) of at least five individuals from whom letters of references may be solicited by the Search Committee. Academic rank and salary are negotiable. Evaluation of applications will begin March 1, 2001, and continue until the position is filled. Address correspondence to: **Daniel D. Sedmak, M.D., Professor and Chair of Pathology, College of Medicine and Public Health, The Ohio State University, 129 Hamilton Hall, 1645 Neil Avenue, Columbus, OH 43210-1218.** For more information, contact **Dr. Sedmak; e-mail: Sedmak.2@osu.edu; Telephone: 614-292-4692.** *The Ohio State University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, Vietnam-era veterans, disabled veterans, and individuals with disabilities are encouraged to apply.*

Two **POSTDOCTORAL POSITIONS** for Reproductive/Developmental Biologists: One candidate will study the transcriptional switching of genes that occurs as trophectoderm differentiates; the second will study the basis of sex ratio skewing that occurs as blastocysts form during *in vitro* embryo culture. Send complete curriculum vitae and the names and addresses of three references to: **Dr. R. Michael Roberts; e-mail: robertsrm@missouri.edu; website: http://web.missouri.edu/~reprphys/.**

POSITIONS OPEN

FACULTY POSITION UNIVERSITY OF CHICAGO

The Department of Anesthesia and Critical Care at the University of Chicago will make at least two tenure-track faculty appointments beginning the summer of 2001. The level of appointment will be either at the **ASSISTANT** or **ASSOCIATE** level commensurate with the candidate's qualifications. Qualified individuals will join a strong and well-established cadre of NIH-funded M.D. and Ph.D. researchers in newly remodeled office and laboratory space. Current faculty have interests in the neurobiology of synaptic transmission, cognition, anesthesia, neuroprotection, pain, and drug abuse. Qualified individuals will receive a generous start-up package of office and laboratory space, as well as funds for equipment, supplies, and secretarial and technical staff support. The candidate will be expected to implement a nationally recognized, extramurally funded research program that provides opportunities for the training of predoctoral students, Postdoctoral Fellows, and Residents in research. Qualified candidates will also participate in the teaching of medical students, graduate students, and Residents. Applications are solicited from individuals who apply either genetic, molecular, cellular, or systems-level approaches to neurobiology. Although preference will be gien to those individuals whose research interests complement and extend those of current faculty, new research directions will be considered as well. Curriculum vitae, a two- to three-page statement of research interests, names of three references, and three representative publications should be mailed to:

Dr. Jonathan Moss
Professor
Department of Anesthesia and Critical Care
University of Chicago
5841 South Maryland Avenue, MC4028
Chicago, IL 60637

FACULTY POSITION ANATOMY/CELL BIOLOGY

Musculoskeletal tissue biology tenure-track position in the Department of Anatomy. Candidates should have a Ph.D. or equivalent; postdoctoral experience; a background in developmental, cell, or molecular biology; interests in mechanisms of tissue degeneration, repair, or regeneration; and the ability to work with other investigators in the Rush Arthritis and Orthopedics Institute. Rank is open. Willingness to teach in medical or graduate-level courses desirable. Submit curriculum vitae, three letters of recommendation, up to five reprints, and a statement of research and teaching interests to: **D. Rick Sumner, Chair, Department of Anatomy, Rush Medical College, 600 South Paulina, Chicago, IL 60612. Website: http://www.rushu.rush.edu/anatomy/index.html.** *Rush Medical College is an Affirmative Action/Equal Opportunity Employer.*

PROFESSOR, FOREST FIRE ECOLOGY

The Department of Forest Sciences at Colorado State University is seeking applications for a nine-month, tenure-track Professor in fire ecology. Responsibilities include teaching, research, service, and outreach. For information on the position, see **website: http://www.cnr.colostate.edu/FS/.**

Qualifications: Applicants must hold an earned Doctorate with expertise in an area related to fire ecology.

Closing date for application: Applications will be considered until the position is filled; applications should be submitted by March 15, 2001, for full consideration. Qualified applicants should submit a letter of application, résumé, and three reference contacts to: **Dr. Philip N. Omi, Chair, Search Committee, Department of Forest Sciences, Colorado State University, Ft. Collins, CO 80523-1470. Telephone: 970-491-6911; FAX: 970-491-6754.** *CSU is an Equal Employment Opportunity/Affirmative Action Employer.*

Tenure/Tenure-Track Position

The Intramural Research Program of the National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health invites applications for a tenure/tenure-track position(s) as an investigator to direct a research program related to the basic biological mechanisms of the rheumatic diseases. Candidates should have Ph.D. or M.D. degree with at least three years of post-doctoral experience and an exceptional publication record. We are seeking an independent and interactive individual who will apply modern molecular, cellular, and genetic techniques to the investigation of fundamental problems of immunology or inflammation, particularly in the area of arthritis or autoimmunity. The successful candidate(s) will be provided with the resources needed for a vigorous program. The Intramural Research Program has active research programs in genetics related to inflammation, signal transduction in immune and inflammatory cells, basic immunology and autoimmunity, muscle and skin biology and structural biology and there is a closely associated Clinical Investigations Branch in which translational research in rheumatic diseases - especially arthritis, lupus, myositis, and periodic and unusual febrile illnesses are now studied. Excellent opportunities exist for collaborations with these groups and with other intramural basic and clinical scientists.

Applicants should forward their curriculum vitae, bibliography, a statement of research interests, and the names of three references to:

Dr. Peter Lipsky
c/o Scott Sigley, NIAMS, HRMB
Building 31, Room 4C13
31 Center Drive, MSC 2350
Bethesda, MD 20892-2350
E:mail: ss403p@nih.gov

Applications must be postmarked by February 28, 2001

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Fellowship Opportunity — (Hepatic Uptake and Efflux Transporter Function) Req# DMPK-S6
This 1-2 yr. fellowship involves research to understand the role of hepatic transporters in the disposition of potential new drugs and development of assay techniques for specific transporters. Requires a recent Ph.D. in Cell Biology, Physiology, Pharmaceutics or a related discipline, specific knowledge of drug transporters in tissue uptake/efflux, and experience in protein expression and cell culture techniques. Some familiarity with DNA and protein analysis techniques (as well as computational software) preferred. Strong presentation and writing skills are essential, as is the ability to do independent work.

AstraZeneca offers outstanding rewards to those who can help us help others. Please send your resume to ***AstraZeneca, indicating requisition code# DMPK-S6. E-mail: hrjobopportunity@AstraZeneca.com or FAX to: (302) 886-7124, Attn: Caroline Kelley.*** *AstraZeneca is proud to be an Equal Opportunity Employer.*

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Working in our highly collaborative research environment, you will design and execute functional cell-based assays, participate in mechanism-of-action and receptor characterization studies, and significantly contribute to identification and validation of novel therapeutic antibody targets. In addition to a PhD and 2-4 years postdoctoral experience, a minimum 2-4 years independent research experience in industry or equivalent is required. You must have a background in cellular immunology and one of the following areas: *in vitro* and *in vivo* autoimmune and inflammatory disease models, or genomes-based target identification or receptor-ligand structure/function studies.

In addition, we have an opening for a Postdoctoral Fellow with background in immunology and cell biology and an interest in working in a dynamic research environment in biotechnology.

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Research with Teaching
Postdoctoral Fellowship Positions Available

NIH funded Post-doctoral Research and Education Program (PREP) seeks applications from Post-doctoral Fellows interested in teaching and research.

Fellowships include 3 years of support for research (~80% time) with a research mentor and a concurrent program in learning to teach (~20% time) with lectures, workshops, practice teaching at minority serving colleges, and learning to use the World Wide Web for course development. Most areas of biological research are available in the laboratories of funded faculty research mentors at Emory University, Morehouse School of Medicine, Morehouse College, Clark-Atlanta University and Spelman College, all in Atlanta, Georgia. Teaching mentors also include faculty at Morris Brown College.

Fellows must have successfully completed an M.D. or Ph.D. in a science or related field. Fellows must be US citizens or permanent residents. Underrepresented minorities are strongly encouraged to apply for these fellowships.

Visit our website at **www.emory.edu/WHSC/MED/PHYSIOLOGY/PREP** for the PREP research and teaching mentors, application forms and deadline information.

Questions? Email us at **PREP@emory.edu**

Applications should be sent to **PREP, c/o Dr. Robert B. Gunn, Director, Emory University School of Medicine, Department of Physiology, Atlanta, GA 30322-3110**. FELLOWSHIPS CAN BEGIN IMMEDIATELY!

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POSITIONS OPEN

The Department of Biology (**website: www.bio.uni.edu**) and the interdisciplinary program in Environmental Science (**website: www.envprogs.uni.edu**) at the University of Northern Iowa invite applications for an anticipated tenure-track **ASSISTANT PROFESSOR** of Environmental Biology position effective August 2001. A Ph.D. in a biological science or a related environmental field and evidence of successful teaching at the introductory level are required. The successful candidate will be expected to develop a research program in environmental biology, be committed to mentoring of undergraduate and graduate students, seek research funding, and contribute to the teaching of general education/introductory biology classes and laboratories.

The University of Northern Iowa is a Regent's Institution with 13,000 students. The Biology Department has 25 tenure-track faculty members and three Instructors representing diverse areas of biology. The Department has approximately 600 undergraduate and graduate students pursuing programs that lead to B.A., B.S., M.A., and M.S. degrees. Resources available to faculty and students include well-equipped research facilities with modern scientific equipment, excellent computer support, and an extensive greenhouse teaching and preserved specimen collection. A new addition to the biology building is anticipated in 2003. Cedar Falls/Waterloo is a pleasant metropolitan area with a population of 110,000.

Applications must be received by March 10, 2001, to be given full consideration. A.B.D.s will be considered with evidence of completion by August 1, 2001. Please submit curriculum vitae, undergraduate and graduate transcripts, a statement of research interests that discusses the applicant's future research plans and potential for student involvement, as well as a teaching statement explaining the applicant's approach to teaching majors and nonmajors biology classes. Three letters of reference should also be sent to:

Dr. Ed Brown, Chair of Search Committee
Department of Biology
University of Northern Iowa
Cedar Falls, IA 50614-0421
FAX: 319-273-7125
Telephone: 319-273-2645
E-mail: ed.brown@uni.edu

The University of Northern Iowa is an Equal Opportunity Educator and Employer with a comprehensive plan for Affirmative Action. The Department encourages applications from minority persons, women, Vietnam-era veterans, and persons with disabilities.

POSTDOCTORAL POSITION available to study the regulation of cardiac and neuronal Ca channels by eicosanoids and other modulators. Experience with oocyte voltage clamp, patch clamp, and molecular biology is desirable. Send curriculum vitae, research interests, and the names and contact information of three references to: **Dr. Robert L. Rosenberg, Department of Pharmacology, CB Number 7365, University of North Carolina, Chapel Hill, NC 27599-7365. E-mail: robert_rosenberg@med.unc.edu**. *Affirmative Action/Equal Opportunity Employer.*

Golden Harvest Seeds Inc. seeks a **RESEARCH INFORMATION TECHNOLOGY MANAGER**. Qualifications: M.S. in biological research with minimum of two years of experience in information technology or research development. Twenty to 30% travel required. *U.S. citizenship required.* Visit "Careers" at **website: www.goldenharvestseeds.com** for more information or contact: **Jim Emanuel; Golden Harvest, P.O. Box A, Waterloo, NE 68069. Telephone: 800-228-9906.**

Johns Hopkins School of Medicine. Positions available for a **FELLOW** or **INSTRUCTOR** in vascular biology. Experience required in the enzymology and/or molecular biology of nitric oxide synthase or NADPH oxidase. Salary commensurate with experience. Send curriculum vitae to: **Dr. Jay L. Zweier, JHAAC, 5501 Hopkins Bayview Circle, Room LA.14, Baltimore, MD 21224. E-mail: jzweier@welch.jhu.edu.**

POSITIONS OPEN

Georgia State University

TENURE-TRACK FACULTY POSITION NEUROSCIENCE EDUCATION

Georgia State University is engaged in a major expansion of its research and instructional programs in behavioral neuroscience as part of the recently launched NSF Science and Technology Center for Behavioral Neuroscience. Generous state and institutional funds along with $20 million from the National Science Foundation have been committed to fund the Center for the first five years. The Center is a consortium of more than 60 Neuroscientists from Georgia State and other Atlanta-area universities including the Atlanta University Center, Emory University, Georgia Tech, and Morehouse Medical School. The purpose of the Center is to foster interdisciplinary collaborative approaches towards understanding the basic neural mechanisms underlying the regulation of complex social behaviors and emotions. The Center is also designed to enhance minority participation in science, to encourage technology transfer to industry, and to aid in bringing research findings to the public.

Applications are invited for an anticipated tenure-track **ASSISTANT PROFESSOR** position in science education in the Department of Biology. The successful applicant will establish a research program in behavioral neuroscience. Research programs in fear, aggression, affiliation, and reproduction are particularly welcome. The University will provide laboratory space and a generous setup package. In addition, the applicant will direct several education/outreach programs for the Center for Behavioral Neuroscience. The successful applicant should have administrative precollege educational outreach experience, university-level teaching experience, and at least two years of postdoctoral research training. In addition, interdisciplinary and interinstitutional experience is desirable.

Initial review of applications will begin March 1, 2001. Applications including curriculum vitae, reprints, a statement of teaching and outreach experience and goals, a statement of research plans, and three letters of recommendation should be sent to:

Chair of Science Education Search Committee
Department of Biology
P.O. Box 4010
Georgia State University
Atlanta, GA 30302-4010

Georgia State University, a Research University of the University System of Georgia, is an Equal Opportunity Educational Institution and an Equal Employment Opportunity/Affirmative Action Employer.

FACULTY POSITION ENVIRONMENTAL HEALTH SCIENCES, MOLECULAR BIOLOGY, EPIDEMIOLOGY

Faculty position, genetic polymorphism and cancer: The Tulane Cancer Center and the Department of Environmental Health Sciences are seeking candidates for a tenure-track appointment at the **ASSISTANT PROFESSOR** level. Candidates with research interests in molecular genetics as it applies to genetic polymorphism and cancer or molecular biology studies of relevance to the influence of the environment on cancer are preferred. The successful candidate will be provided with an excellent research environment and start-up resources and will be expected to participate in teaching of graduate students within the Department. Submit applications, including curriculum vitae and summary of research interests with a relevance statement, and arrange for three letters of recommendation to: **Dr. Prescott Deininger, Tulane Cancer Center, SL–66, Tulane University Health Sciences Center, 1430 Tulane Avenue, New Orleans, LA 70112**. The position will remain open until filled by a qualified candidate. *Tulane University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITION
Information Sciences and Technology

The Department of Mechanical Engineering at MIT invites applications for a faculty position in information sciences and technology. The Department is particularly interested in candidates with multidisciplinary research experience not necessarily restricted to traditional mechanical engineering disciplines. Examples include but are not restricted to wireless communication systems, sensor networks, and distributed systems and control. The candidate must also have a strong interest in undergraduate and graduate teaching. This appointment will likely be at the junior level, although exceptional applicants may be considered for a senior appointment. An earned Doctorate in the fields of science or engineering is required. Applicants should send curriculum vitae; a one- to-two page statement of research interests; copies of not more than five publications; and the names, addresses, and telephone numbers of at least three references. Industrial experience will be considered positively and applicant may submit records of accomplishments other than journal papers. Applications should be sent to:

Information Sciences and
Technology Search Chair
Department of Mechanical Engineering
Room 3-173
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, MA 02139-4307

MIT is an Equal Opportunity/Affirmative Action Employer. Women and members of minority groups are strongly encouraged to apply.

FACULTY POSITION AVAILABLE GENOMICS

The General Clinical Research Center (GCRC) and the Institute for Genetic Medicine (IGM) at the University of Southern California Keck School of Medicine are seeking an exceptional Investigator with expertise in human genomics to help develop and lead a new multidisciplinary research program in the genetics of complex human diseases. The position will be at the **ASSOCIATE** or **FULL PROFESSOR** level. The faculty appointment will be made in an appropriate basic science or clinical department. Candidates should have a demonstrated record of exceptional accomplishment and extramural funding. Research interest and experience in the genetics of human diabetes, obesity, and/or cardiovascular disease is preferred. The appointee will collaborate with GCRC Investigators to identify genotype-phenotype relationships in the extensive cohorts of human subjects already available for study. S/he will complement the IGM's existing faculty who have research interests in genetics and molecular genetics of cancer, cellular differentiation, mammalian development, and gene therapy. The appointment includes a competitive salary, a generous start-up package, and research space in the state-of-the-art interactive IGM Collaboratories. Applicants should forward their curriculum vitae and a brief statement of future research plans to: **GCRC/IGM Search Committee, 6602 GNH, 1200 North State Street, Los Angeles, CA 90089-9317. E-mail: dwalters@hsc.usc.edu**. *The University of Southern California is an Equal Opportunity/Affirmative Action Employer.*

The Aaron Diamond AIDS Research Center is seeking applicants for **CLINICAL SCHOLAR FELLOWSHIP** in conjunction with Rockefeller University. The Clinical Scholars program provides training to Physicians interested in a career in patient-oriented and basic research. Clinical Scholars will have an appointment for two years beginning in July 2001 with a possible third year granted based upon progress during the period of appointment. Interested individuals should FAX their curriculum vitae along with a letter describing their research interests and the names of three or more Scientists or Physicians prepared to write letters of reference to: **David Ho, M.D.; FAX: 212-448-5158**. No calls, please; telephone calls will not be accepted.

Around the world, major pharmaceutical and biotechnology companies like Bristol-Myers Squibb, Genentech, Merck, and Pfizer turn to Aurora Biosciences to make the process for discovering new medicines smarter and faster than ever before. Behind every one of our solutionsæwhich are based on innovative combinations of biology, chemistry, automation, software and high technologiesæis a close-knit group of talented, knowledgeable professionals committed to improving human health. Add your considerable expertise, skills and insights to our team, and help us shape the future of medicine.

SCIENTIST I/II, DISCOVERY BIOLOGY, ION CHANNELS

We seek a creative and self-motivated scientist to develop and place into practice high-throughput cell-based assays for drug discovery, using novel technologies for ion channel targets. In addition, you will co-develop technologies in a multidisciplinary environment. The ideal candidate must have a PhD and significant experience in two or more of the following areas: biophysics, cell culture, ion transport biology, electrophysiology, optical detection methods, and automation.

In addition to competitive salary and benefits, we offer equity participation via an ISO and Stock Purchase Program. For more background on our company, visit our website at www.aurorabiosciences.com. Then email your resume and letter, referencing Job#0123MM, to hr@aurorabio.com. Or fax to (858) 404-6720. If unable to email or fax, please mail to Aurora Biosciences Corporation, Human Resources, 11010 Torreyana Rd., San Diego, CA 92121. EOE.

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- Marketing Project Manager, Waltham, MA

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If interested please contact: MJ Research, Inc. 590 Lincoln Street, Waltham, MA 02451 Fax: 617-972-8085 Email: hr@mjr.com

We hope to see you at the Science Career Fair on February 19, 2001 at the San Francisco Hilton and Towers. AA/EOE

WE ARE A VITAL GLOBAL FORCE. A cogent synergy of science, technology and commercial minds focused on one thing—controlling disease. Our broad expertise with vaccines, blood testing and therapeutics enables us to target cancer, cardiovascular and infectious diseases and create powerful new opportunities for the future.

Currently, we seek a highly motivated biologist to join our Small Molecule Drug Discovery group in our San Francisco Bay Area location.

SCIENTIST I

Use your scientific expertise to identify novel drug targets involved in inflammation, allergy and asthma. In collaboration with our microarray and bioinformatics groups, you will develop and use DNA microarrays to analyze gene expression in multiple cell-based models of immune activation and define signaling pathway profiles and relevant molecular targets. To qualify, you must possess a PhD and at least 2 years postdoctoral research experience in signal transduction, immunology and/or cell biology, as well as superior organization, communication and collaboration skills. Experience with microarrays is a plus; expertise with genomics tools or a willingness to acquire expertise is essential.

To join our global team, send your resume with salary requirements, indicating Req. #4863, to Chiron, Human Resources, 4560 Horton Street, Emeryville, CA 94608. Or email to jobs@cc.chiron.com (please reference Req. #). EOE. **www.chiron.com**

CHIRON

NATIONAL CANCER INSTITUTE

POSTDOCTORAL (M.D./DVM/PH.D.) FELLOWSHIP OPPORTUNITIES IN THE FOLLOWING FIELDS

Biochemistry	Developmental Biology
Bioinformatics	Drosophila Genetics
Biology	Epidemiology
Biomedical Science	Genetics
Biopharmaceutics	Immunology
Biostatistics	Molecular Biology
Bio-organic Chemistry	Virology
Cell Biology	Molecular Immunology
Cellular Hematology	Nutritional Biochem
Computational Biology	Pharmacology

The National Cancer Institute is the Nation's primary agency for cancer research. The Institute leads the fight against cancer by supporting and conducting ground-breaking research in cancer biology, causation, prevention, detection, treatment, and survivorship. NCI facilities are located in Bethesda and Frederick Maryland.

The postdoctoral Cancer Research Training Award (CRTA) program 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 normally 5 years. Candidates must have less than 5 years postdoctoral experience. U.S. citizenship or permanent residency (green card) required.

Send resume, bibiography of publications, and a cover letter indicating that you are applying against source code 2001SM (Science Magazine) to: National Cancer Institute, 6116 Executive Blvd, Room 502, Bethesda, MD 20892-8342, Attn: Keith Ariola, or by fax at (301) 402-3509, or via email to ariolak@mail.nih.gov

POSITIONS OPEN

HARRIMAN CHAIR IN NEUROSCIENCE/DIRECTORSHIP
University of California, Santa Barbara

The Department of Molecular, Cellular, and Developmental Biology invites applications for a senior faculty appointment in the area of neurobiology. The appointee will serve as **DIRECTOR OF THE NEUROSCIENCE RESEARCH INSTITUTE**, an interdisciplinary research unit with an emphasis on cellular and molecular neuroscience, and will assume the Harriman Chair in Neuroscience. Individuals with basic research programs that will strengthen existing efforts in the visual sciences, neural development, ion channel/membrane biology, neuropharmacology, neurochemistry, neural genomics, or neural degeneration/regeneration and those with an emphasis on cellular and molecular mechanisms are especially encouraged to apply.

The successful candidate must have an established track record of research achievement and funding with an international reputation for excellence. The appointee will maintain a vigorous, independent research program and participate in undergraduate and graduate instructional activities within the Department. In addition, the appointee will be expected to provide direction and leadership for expansion of the neuroscience discipline at UCSB. Further information can be found at **websites: http://lifesci.ucsb.edu/~nriweb/** and **http://www.lifesci.ucsb.edu/mcdb/**. Applicants should submit a letter describing research and teaching interests accompanied by curriculum vitae, representative publications, and the names and addresses of three individuals who will be prepared to provide letters of recommendation to:

Neurobiology/NRI Director Search Committee
Department of Molecular, Cellular, and Developmental Biology
University of California
Santa Barbara, CA 93106

The position will remain open until filled.

UCSB is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR DEPARTMENT OF PHYSIOLOGY
University of Florida College of Medicine

The Department of Physiology invites outstanding applicants for a tenure-track faculty position at the Assistant Professor level. The successful candidate will be expected to develop a strong, extramurally supported, independent research program in cellular and molecular physiology and complement current departmental strengths. These strengths include gene therapy for cardiovascular and other metabolic diseases, neuroendocrinology, developmental physiology, membrane physiology, and signal transduction. The Department is ranked high nationally in research dollars/faculty and excels in teaching professional and graduate students. The college has a Mammalian Genetics Center, Hypertension and Gene Therapy Centers, and Brain Institute. Salary is negotiable based on qualifications and experience. An excellent start-up package includes initial support from the Howard Hughes Medical Institute Biomedical Research Support Program for Medical Schools grant to the College of Medicine. Applicants must have a Ph.D., M.D., or equivalent, postdoctoral experience, and an excellent record of research productivity and quality. Submit curriculum vitae including a statement of research plans and names of at least three references to: **Mohan K. Raizada, Ph.D., Professor of Physiology and Chair of Search Committee, P.O. Box 100274, University of Florida College of Medicine, Gainesville, FL 32610-0274**. Application deadline: March 31, 2001. Anticipated start date: October 1, 2001. *The University of Florida is an Equal Employment Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSITIONS OPEN

ASSISTANT PROFESSOR ENVIRONMENTAL HEALTH SCIENCE

The Environmental Health Science Baccalaureate Program at Salisbury State University is accepting applications for a tenure-track position at the rank of **ASSISTANT PROFESSOR** starting in fall 2001. The Environmental Health Science Program, established in 1993 and housed administratively in the Department of Biological Sciences, is fully accredited by the National Environmental Health Science and Protection Accreditation Council. A new environmental health science laboratory is included in the new science building, which is currently under construction.

A Ph.D. in environmental health science or closely related environmental field with expertise in air or water contamination and in-depth knowledge of the interaction of environmental factors and human health is required. Evidence of teaching and research excellence and fluency in English are also required. A school of public health degree, PE, CIH, or RS may be a plus.

In addition to teaching a variety of introductory and upper-level undergraduate courses for environmental health science majors, the successful applicant will be expected to engage in scholarly professional activities, sponsor undergraduates in research, and perform all other faculty functions. Salary is competitive and commensurate with expertise.

Salisbury State University is an exemplary, moderately sized, comprehensive university that receives many accolades for its high academic standards and close, nuturing community of scholars. For the fourth consecutive year, *U.S. News & World Report's Guide to America's Best Colleges* has ranked Salisbury State University among the top 10 regional universities in the North. The University is listed in the prestigious *Princeton Review's Best 331 Colleges* and has been ranked in the top 10 percent among nearly 600 public universities in the country by *Kiplinger's* the personal finance magazine. Salisbury State University currently offers 38 distinct undergraduate and graduate degree programs. Student enrollment is estimated at 6,000.

The University is located in beautiful Chesapeake Bay country at the southern edge of Salisbury, Maryland, which has a metropolitan population of 70,000. It lies 30 miles west of Ocean City, Maryland; 115 miles southeast of Baltimore, Maryland, and Washington, D.C.; 125 miles south of Philadelphia, Pennsylvania; and 125 miles north of Norfolk, Virginia.

For more information, contact the Human Resources Office at **Telephone: 410-543-6035**. Forward curriculum vitae; research interests; all transcripts, and three letters of reference by March 15, 2001, to: **Dr. Elichia A. Venso, Chair, Environmental Health Science Faculty Search Committee, Salisbury State University, Salisbury, MD 21801**.

Salisbury State University is an Equal Opportunity Employer. Qualified women, minorities, and the disabled are encouraged to apply. It is the University's policy to make decisions regarding educational opportunities and employment including recruitment, hiring, promotion, and other terms and conditions of employment without discrimination. Inquiries should be directed to: **Equal Employment Officer, Salisbury State University, 1101 Camden Avenue, Salisbury, MD 21801-6860. Telephone: 410-543-6426.**

POSTDOCTORAL POSITION is available immediately to investigate modulation of bone and cartilage remodeling primarily through regulation of matrix metalloproteinases by reproductive hormones and mechanical strain. Areas of emphasis include transfections, protein purification, cloning, modulation of receptor and receptor binding, isolation of receptors, and animal studies. Experience in molecular and cell biology and animal experimentation is essential. Good verbal and writing skills are also required. Please send curriculum vitae and names of three references to: **Dr. Sunil Kapila, Department of Growth and Development, University of California San Francisco, San Francisco, CA 94143-0640. E-mail: skaps@itsa.ucsf.edu**. *UCSF is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

AQUATIC TOXICOLOGIST

A tenure-track faculty position for an Aquatic Toxicologist with expertise in mechanisms and consequences of stress in aquatic animals is available at the Chesapeake Biological Laboratory (CBL), a facility of the University of Maryland Center for Environmental Science (UMCES). We seek a colleague who examines responses of marine organisms to contaminants using molecular and cellular approaches.

The successful candidate will develop a vigorous, extramurally supported research program; participate in graduate-level teaching through the University of Maryland Graduate Program in Toxicology (**website: http://graduate.umaryland.edu/prog_toxicology.html**); and will be encouraged to collaborate with our toxicology faculty as well as environmental Chemists, Ecologists, and Fisheries Scientists at CBL and at our sister UMCES laboratories. More information on CBL and UMCES can be found on our **website: cbl.umces.edu**.

This announcement is targeted towards appointment at the **ASSISTANT PROFESSOR** level for persons with postdoctoral experience; however, exceptional, more senior candidates will also be considered. Applicants should send curriculum vitae, a statement of research and teaching interests, up to five selected reprints, and the names and addresses of at least three references to: **Chair, CBL Toxicology Faculty Search, P.O. Box 38, Solomons, MD 20688** by March 1, 2001. *CBL is committed to diversity and strongly encourages women and minority colleagues to apply.*

TEACHING POSITION IN IMMUNOLOGY DEPARTMENT OF MOLECULAR AND CELL BIOLOGY
University of California at Berkeley

The Division of Immunology of the Department of Molecular and Cell Biology invites applications for a **LECTURER** position (100% time) to begin July 1, 2001, to teach undergraduate lecture and/or laboratory courses in molecular and cellular immunology and to provide academic advising to students. This is a one-year position with possibility of renewal. Salary commensurate with qualifications and experience (minimum $35,940 per year). Minimum qualifications include a Ph.D. degree and at least two semesters of teaching experience at the college level. Preference will be given to candidates with teaching experience in immunology, but candidates from related specialties will be considered. The deadline date for applications is March 31, 2001. Please submit curriculum vitae, summary of teaching experience and interests, and the names and telephone numbers of three references to:

Chair, Immunology Search Committee
University of California at Berkeley
MCB LSA ASU
142 Life Sciences Addition Number 3200
Berkeley, CA 94720-3200

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

ANATOMIST/CELL BIOLOGIST

The Department of Biological Structure and Function solicits applications for a tenure-track faculty position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. Candidates should have a Ph.D. or equivalent degree and demonstrate a strong commitment to teaching and research. The candidate will participate in teaching head and neck anatomy to dental and dental hygiene students. We are particularly interested in candidates with research interests in developmental biology and neuroscience. The successful candidate will be expected to establish a competitive research program. To apply, please send curriculum vitae, three letters of recommendation, a brief statement of research interests, and a statement outlining the candidate's teaching philosophy to: **Dr. Lee Robertson, Department of Biological Structure and Function, Oregon Health Sciences University, 611 S.W. Campus Drive, Portland, OR 97201**.

INTERDISCIPLINARY POSITION

The National Institute on Deafness and Other Communication Disorders (NIDCD) is recruiting for a full-time, interdisciplinary position to administer the Smell Program. The initial appointment may be made up to five years with option to renew. The incumbent assists in formulating and supervising a comprehensive program of grant research support in basic and clinical research on olfaction that involves a broad range of levels of analyses, including human psychophysical, computational, systems, morphological, cellular, molecular, genetic and electrophysiological approaches. The incumbent evaluates ongoing olfactory research, contributes to the overall administration of the Smell Program, provides scientific expertise in the general field of olfaction and serves as a source of technical knowledge. For further description of duties and responsibilities, see NIDCD-01-0001 at http://careerhere.nih.gov. Applicants are required to submit a curriculum vitae plus bibliography, two letters of reference from non-collaborators, copy of doctoral degree and certified translation if applicable, and proof of U.S. permanent residence to: Patricia Jennings, NIDCD Personnel Office, 31 Center Drive, Building 31, Room 3C-11, Bethesda, MD 20892. Applications must be postmarked by **April 16, 2001**.

For additional information contact:
(301) 402-0508 or (301) 402-1562 TDD.

The N.I.H. is an Equal Opportunity Employer

Branch Chief
National Institute on Drug Abuse

We are recruiting for postdoctoral leadership (Branch Chief) of the Neuroimaging Research Branch, Intramural Research Program (IRP), National Institute on Drug Abuse (NIDA), National Institutes of Health (NIH). The duty station for this position is located on the Johns Hopkins Bayview Campus in Baltimore, Maryland. Candidates should have a strong record of accomplishment in the use of noninvasive human neuroimaging to advance the understanding and treatment of addiction. Imaging experience, including a background in image acquisition and analysis with various imaging modalities, is critical. Expertise in the area of fMRI is especially important. Knowledge and background in the study of abused drugs including cocaine, heroin, amphetamines, nicotine, and marijuana as well as a background in neuroscience are desirable. The Branch Chief will lead a large multi-disciplinary team dedicated to research into areas of brain mechanisms of addiction, medications discovery, and therapeutic interventions using both PET and fMRI studies of receptor binding, local glucose utilization, BOLD, and other emerging techniques. The successful candidate for this prestigious position will be hired under the auspices of the flexible NIH Title 42 hiring authority. The appointment will include a competitive salary and a full Federal benefits package. Applicants interested in applying must submit a Curriculum Vitae with bibliography; three letters of reference from noncollaborators; and a statement of research interests and goals. Send application materials to: **Morgan DuBrow, Chief, Human Resources Management Section, NIH/NIDA/IRP, 5500 Nathan Shock Drive, Baltimore, MD 21224, Building C, Room 247. Application materials must be received by the Close of Business on March 15, 2001.** Late applications will not be considered. Questions regarding the vacancy may be referred to Mr. DuBrow on 410-550-1638, e-mail MDUBROW@intra.nida.nih.gov

The NIH is an Equal Employment Opportunity employer - applications from women and minorities are encouraged.

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

The Diabetes Branch of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health (NIH) invites applications for tenure track positions for scientists in research involving the endocrine pancreas/beta cells of the islets of Langerhans. Specific areas of research interest includes: pancreatic islet stem/progenitor cells; beta cell development; regulation of beta cell gene expression; and beta cell signaling. Priority will be given to applicants at the Assistant Professor level at traditional universities or those finishing their post-doctoral positions. The applicant must have a proven record of accomplishments and will be expected to propose and pursue and independent research program in one of these fields. These positions offer unparalleled opportunities for interdisciplinary collaboration within NIDDK and throughout NIH.

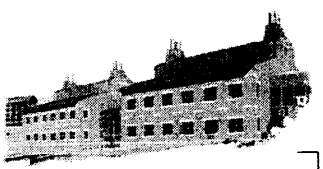
The Diabetes Branch of NIDDK is located on the main intramural campus of the NIH in Bethesda, Maryland, a suburb of Washington, D.C.

Interested applicants should send a Curriculum Vitae and a list of publications, copies of three major publications, a summary of research accomplishments, a plan for future research and three letters of recommendation to:

Dr. Jurrien Dean, Chair, Search Committee, Laboratory of Cellular and Developmental Biology, NIDDK, Building 6, Room B1-28, NIH, Bethesda, MD 20892. The closing date for all applications to be submitted is **March 30, 2001**.

NIH is an Equal Opportunity Employer

The Jackson Laboratory



Staff Scientists

The Jackson Laboratory is currently recruiting faculty members in Cancer-, Developmental- and Neuro-Genetics, and in Bioinformatics/Computational Biology. The Laboratory is an independent, not-for-profit mammalian genetics research institution and is designated a Basic Cancer Center of the National Cancer Institute.

- Excellent Collaborative Opportunities - An interactive staff of over 30 principal investigators with ongoing research in Cancer, Developmental Biology and Aging, Genomics, Hematology and Immunology, Metabolic Diseases, Neurobiology and Sensory Deficits, Heart, Lung, Blood and Sleep Disorders and Bioinformatics/ Computational Biology.
- Unparalleled Mouse and Genetic Resources - Over 2,000 genetically defined JAX mouse strains are available, plus numerous databases (MGI, MGD and GXD). A large, chemically-induced mutagenesis program has just been funded.
- Outstanding Shared Scientific Services - Equipped with state-of-the-art technology, staffed by personnel trained in Biological Imaging, Flow Cytometry, DNA Sequencing, Expression Profiling and Protein Services, Transgenic and Targeted Mutant Preparation, and Research Computing.
- Training Programs - Our Postdoctoral Program Office assists in recruiting and interviewing the nearly 50 post-doctoral fellows on site.
- Major Meeting Center - The Jackson Laboratory hosts a series of courses and conferences featuring the mouse as a model for human development and disease.
- Grants Management Support - A highly qualified staff is available to aid in grant preparation and submission.

Successful applicants should have a Ph.D., M.D. or a D.V.M., postdoctoral training, a record of research excellence, and the ability to develop a competitive, independent research program.

Applicants should cite ad 502 and send a curriculum vitae, statement of research interests, and names of three references. Send to: The Director's Office, The Jackson Laboratory, 600 Main Street, Bar Harbor, Maine 04609. **FAX:** (207) 288 6044 • **E-mail:** rsp@jax.org.

The Jackson Laboratory is an EOE/AA Employer

http://www.jax.org

POSITIONS OPEN

HEAD, DEPARTMENT OF ANATOMY
The University of British Columbia

The Faculty of Medicine, University of British Columbia, invites applications and nominations for the position of Head of the Department of Anatomy.

We seek an acadmic leader to be responsible for directing and developing the teaching and research and service programs of the Department. The Department has 13 full-time faculty members and attracts strong research support. The successful candidate should have a proven record of scholarly achievement, a strong research background, a commitment to undergraduate and graduate medical education, and the ability to encourage and develop interdisciplinary initiatives. Anticipated start date will be July 1, 2001. Academic rank and salary will be commensurate with experience and qualifications.

Applications, accompanied by detailed curriculum vitae and names of three references, should be directed by March 31, 2001, to: **Dr. J. A. Cairns, Dean, Faculty of Medicine, University of British Columbia, Room 317, Instructional Resources Centre, 2194 Health Sciences Mall, Vancouver, BC V6T 1Z3 Canada.**

The University of British Columbia hires on the basis of merit and is committed to Employment Equity. We encourage all qualified persons to apply. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

MICROARRAY SCIENTIST
UNIVERSITY OF ARIZONA

ASSISTANT STAFF SCIENTIST position immediately available in the Laboratory of Molecular Systematics and Evolution. The LMSE is a core facility providing molecular biology services and instruction in current molecular genetic methods including automated sequencing, mutation detection, and microsatellites. We are currently establishing a microarray facility to support a variety of research projects involving a range of species. The candidate will be expected to set up a university core facility for microarray. Required: Bachelor's degree with five years of related research experience or Master's degree with three years of related research experience, including two years of experience in microarray technology including mRNA isolation, labeling and hybridization, PCR, and laboratory supervision. Ph.D. preferred. Salary dependent on experience. To apply, submit a letter of interest; curriculum vitae, and names, telephone numbers, and e-mail addresses of three references to: **Dr. Michael Hammer, University of Arizona, Biotechnology Program, P.O. Box 210077, Gould-Simpson, Room 1011, Tucson, AZ 85721-0077.** Review of materials begins February 23, 2001. *The University of Arizona is an Equal Employment Opportunity/Affirmative Action Employer; Minorities/Women/Disabled/Veterans.*

PLANT BIOLOGIST: The Department of Biological Sciences invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level with a starting date of fall 2001. Although we encourage applications from all areas, we are especially interested in candidates using cellular and molecular techniques to investigate plant development. The successful candidate will be expected to pursue a vigorous, independent, externally funded research program and participate in the undergraduate and graduate teaching goals of the Department, including courses in the candidate's specialty. Applicants must have a Ph.D. or equivalent degree; postdoctoral experience will be advantageous. Applicants should submit curriculum vitae, statement of research and teaching interests, and three letters of recommendation by March 2, 2001, to: **Search Committee, Department of Biological Sciences, University of Cincinnati, Cincinnati, OH 45221-0006.** *The University of Cincinnati is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and persons with disabilities are encouraged to apply.*

POSITIONS OPEN

CHIEF FINANCIAL OFFICER

Argonne National Laboratory, one of the nation's premier energy/research and development organizations operated by the University of Chicago for the U.S. Department of Energy, has a key position for a **FINANCIAL EXECUTIVE** available to a well-qualified candidate.

The chosen professional would integrate all business lines and support operations functions and act as surrogate for the University of Chicago on-site with respect to its financial and contractual interests. The CFO determines the Laboratory's financial policies and practices; interprets contractual implications and adjudicates financial issues related to these matters; ensures the adequacy and integrity of its financial structure, processes, and records; and establishes an overall control system. The CFO serves as a member of the Laboratory's Management Council with special responsibilities for general economic appraisals and independent financial forecasting/risk assessments and financial reporting. Treasury functions such as prefinancing, cash management, and risk management for the Laboratory are also part of the job duties as is the controller function.

Qualifications include a Master's degree in business, accounting, or finance or a CPA certificate with broad management experience in multidiscipline organizations. Experience in a research and development environment strongly preferred.

Argonne provides an excellent compensation/benefits package. For prompt consideration, send a detailed résumé with cover letter and the names and addresses of three references no later than February 28, 2001, to: **Roaslie L. Bottino, BOX OCF–43, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, IL 60439. FAX: 630-252-9388.** For additional information, please refer to Argonne's **website: http://www.anl.gov/welcome.html.** *Argonne is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available to study host defense against pulmonary infection and augmentation of immunity through *in vivo* gene transfer. NIH-funded research investigates host determinants of pathogen clearance during experimental murine infection with *Pneumocystis carinii* (**Judd Shellito, M.D.**) and *Mycobacterium tuberculosis* (**Carol Mason, M.D.**). Current research projects address traffic and function of T lymphocyte subsets during pulmonary infection, how alcohol consumption impairs host defense, and novel vectors and genes for local delivery to enhance pathogen clearance and reverse defects in host defense associated with alcohol consumption or depletion of CD4+ T lymphocytes. M.D. or Ph.D. applicants should send curriculum vitae to: **Judd Shellito, M.D., Center for Lung Biology and Immunotherapy, LSU Health Sciences Center, 1901 Perdido Street, Suite 3205, New Orleans, LA 70112. E-mail: jshell@lsuhsc.edu.** *Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE

Position available immediately to study catalytic mechanism of an RNA methyltransferase. NMR experience important. Send curriculum vitae and names of three references to: **Dr. Paul Gershon, c/o Human Resources Office, Texas A&M University System Health Science Center, IBT, 2121 West Holcombe Boulevard, Houston, TX 77030. E-mail: pgershon@ibt03.tamu.edu.** *An Affirmative Action/Equal Opportunity Employer committed to excellence through diversity.*

POSTDOCTORAL POSITIONS at the University of Virginia are available to study molecular basis of human cancer. Major projects involve genetic identification of novel genes and studies of known genes underlying cancer. Prior experience is desired and general qualification is more important. Interested individuals should send curriculum vitae with names and telephone numbers of three references to: **Dr. Jin-Tang Dong, University of Virginia, Box 800214, Charlottesville, VA 22908. E-mail: jd4q@virginia.edu; FAX: 804-924-9206.**

POSITIONS OPEN

FACULTY POSITION IN CARDIOVASCULAR RESEARCH
Donald W. Reynolds Cardiovascular Clinical Research Center at Stanford University
Stanford University School of Medicine

A large-scale effort is being initiated to identify human genes associated with atherosclerotic vascular disease. Sophisticated molecular biology techniques will be employed to clone vascular wall genes, which will then be evaluated for aberrant expression in the diseased vessel wall by microarray transcriptional profiling. Functional genomics approaches, as well as *in vitro* and *in vivo assays*, will be employed to study and prioritize candidate genes for use in genetic epidemiology studies. A position is available on the nontenure research track in the Stanford University School of Medicine for an **ASSISTANT PROFESSOR** who will support these efforts and take advantage of the genetic information being derived from this work to establish an independent research program. The successful applicant will have an M.D., M.D./Ph.D., or Ph.D. degree and significant research experience in genetics/genomics, molecular biology, cell biology, or physiology. The individual in this position will have the unique opportunity to identify and study novel cardiovascular genes at the molecular and cellular level and to learn and benefit from genetic epidemiology studies aimed at linking these genes to human disease. Send curriculum vitae to: **Marcia Gibbs, Faculty Affairs, CV Medicine, Stanford University School of Medicine, Falk Cardiovascular Research Center, 300 Pasteur Drive, Stanford, CA 94305-5406. E-mail: reynoldsbillet@cvmed.stanford.edu.** *Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates.*

ENVIRONMENTAL BIOLOGY AND MICROBIOLOGY POSITIONS

The University of Central Arkansas has tenure-track **ASSISTANT PROFESSOR** positions open for an Environmental Biologist and a Microbiologist. The ideal candidates will share the Department's commitment to superlative instruction to the undergraduate and Master's programs. A Ph.D. is required and development of an active research program is expected. Recent Ph.D. graduates are encouraged to apply.

Teaching responsibilities for the Environmental Biologist will include Introduction to Environmental Science, a graduate course in Aquatic Ecology, and contribution to the lower-division curriculum. The successful candidate will coordinate the biology track of our Environmental Science program. Preference will be given to applicants with interests in aquatic systems. The Microbiologist will teach undergraduate microbiology and additional lower-division and/or senior/graduate-level courses to be negotiated. Areas of research interest may include virology, immunology, microbial ecology, or environmental microbiology.

The Department's 22 full-time faculty utilize about 50,000 square feet of modern teaching and research space and serve about 450 majors and 20 graduate students. Conway is a prosperous city of 45,000 that hosts two other colleges and is an easy drive from both Little Rock and pristine wild areas such as the Buffalo National River and Ozark Mountains. For further information, visit **website: http://www.uca.edu/divisions/academic/biology/.**

To apply, submit curriculum vitae; statements of teaching philosophy and research plans; and three letters of reference by April 1, 2001, to: **Dr. Paul Hamilton, Department of Biology, University of Central Arkansas, Conway, AR 72035.** As an alternative to tenure track, candidates may elect a three-year renewable appointment at the national average salary for this rank in biology. *Affirmative Action/Equal Opportunity Employer.*

MAX-PLANCK-INSTITUT FÜR EXPERIMENTELLE MEDIZIN

Abt. Molekulare Biologie Neuronaler Signale

Junior and Senior Postdoctoral positions are immediately available in the Department of Molecular Biology of Neuronal Signals. Several independent research groups are cooperating to form a dynamic multilingual group interested in the molecular characterization of ion channels and receptors in normal and diseased tissues.

Candidates should be willing to actively interact and exchange techniques as well as know-how with the other members of the group concomitant with conducting independent research projects.

To further complement our group we are interested in candidates with a research record in the field of regulation of gene expression in adults and during development with a focus on Neurobiology. An additional position is open for the study on mechanisms of endo- and exocytosis using imaging techniques and TIRFM (Eur Biophys. J. (2000) 29:67-89).

We are also interested in recent PhDs with experience in: i) electrophysiology to work on the characterization of P2X receptors heterologously expressed and in native tissues, and ii) molecular biology and/or cell biology to work on EAG potassium channels (EMBO J. (1999) 18:5540-5547).

If equally qualified, physically handicapped persons will be favored. The Max-Planck Society wishes to increase the share of women employed in sections with minor female representation. Women are therefore explicitly encouraged to apply.

Applicants should submit a letter including current and long-term research interests, a CV with a list of publications and the name of three possible referees to:

Prof. Walter Stühmer
MPI für Experimentelle Medizin
Molecular Biology of Neuronal Signals
Hermann-Rein-Str. 3
D-37075 Göttingen
Email: wstuehm@gwdg.de
Fax: 0049-551-3899644

GLOBAL OPPORTUNITIES

Fellowship Program for Postdoctoral Research in Japan

In
Scientific, Technical, Engineering,
and
Medical fields
at National Research Institutes

Details available on web site:
http://stafellow.jst.go.jp/index.html

or

Department of International Affairs
Japan Science and Technology
Corporation (JST)

SYMPOSIA

7th National Symposium

BASIC ASPECTS OF VACCINES

May 2 - 4, 2001

BETHESDA, MARYLAND

ANTIGEN PRESENTATION, CELLS AND CELL BIOLOGY
Nina Bhardwaj, *Chair*
Jacques Banchereau
Kenneth Rock
Pramod Srivastava

T CELL SURVIVAL AND APOPTOSIS
Marc Jenkins, *Chair*
Stephen Jameson
Jamey D. Marth
Pamela Ohashi

ADVANCES IN AIDS VACCINE RESEARCH
Norman Letvin, *Chair*
Dennis Burton
Barney Graham
Bruce Walker

TUBERCULOSIS
Robert Modlin, *Chair*
Marcus Horwitz
Gilla Kaplan
Robert Seder

IMMUNOTHERAPY
Philip Greenberg, *Chair*
Eli Gilboa
Drew Pardoll

FEATURED SPEAKER Phillipa Marrack

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EM: symposium@na.amedd.army.mil
http://wrair-www.army.mil/symposia/dmbsym.htm

MEETINGS

A Millennium International Conference of Molecular and Tumor Biology "Stem Cell Differentiation, Genetic Reprogramming and Programmed Cell Death"

September 2-7, 2001 Anno Domini, Nomikos Congress Center, Santorini, Greece

Organizing Scientific Committee: **J. Gurdon** (Cambridge, UK), **D. Housman** (M.I.T., USA), **B. Lim** (Harvard, USA), **A. Sartorelli** (Yale,USA), **A. S. Tsiftsoglou** (AUTH, Greece) (Coordinator)

TOPICS: **Somatic Cell Cloning:** Somatic Cell Cloning, Cell Cloning and Reprogramming, Nuclear Reprogramming, Methylation, Imprinting, **Embryonic and Mesenchymal Stem cell Differentiation:** Murine ES differentiation, Human ES cells, Neural stem cells, Neurotrophins, Mesenchymal Stem cells, Hemopoietic stem cells, **Neoplasia and Cell Death:** Mechanisms of Neoplasia, Transcriptional Factors in Myeloid Cancer, Transcriptional Factors in Lymphoid Cancer, Small GTPases and Cancer, Death Ligands, Apoptosis, **Genomics:** Evolution Genomics, Functional Genomics, Stem Cell Genomics, **Molecular Targets for Drug Development and Pharmacogenomics:** Molecular Targets in Cancer, Mechanisms of Neoplastic Cell Differentation, Pharmacogenomics in Cancer

LECTURERS: **J. M. Bishop** (UCSF, USA), **E. Dzierzak** (Erasmus University, Holland), **P. Gruss** (Hamburg, Germany), **J. Gurdon** (Cambridge, UK), **D. Housman** (MIT, USA), **R. Jaenisch** (Whitehead, USA), **G. Keller** (Red Cross Blood Center, USA), **Kimchi** (Weissman, Israel), **J. Lazo** (Pittsburg, USA), **H Lehrach** (Berlin, Germany), **I. Lemischka** (Princeton, USA), **B. Lim** (Harvard, USA), **R. McKay** (NIH, USA), **R. Mulligan** (Harvard, USA), **M. Munsie** (Victoria, Australia), **C. Ouzounis** (EBI, Hixton, UK), **T. H. Rabbits** (Cambridge UK), **A. Surani** (Cambridge, UK), **D. Tenen** (Harvard, USA), **A. Tsiftsoglou** (AUTH, Greece), **I. Wilmutt** (Roslin Inst., UK), **A. Wyllie** (Cambridge, UK).

Information: Prof. Asterios S. Tsiftsoglou, Laboratory of Pharmacology, Pharmaceutical Sciences, Aristotle University of Thessaloniki, tel. (00 30 31) 997631, fax (00 30 31) 997618, e-mail: **tsif@pharm.auth.gr**

Deadline for application and submission of abstracts: April 1st, 2001

Web site: http://www.auth.gr/research/conf/micmtb/

Please contact the travel agency Transair for ticket and hotel accommodation at reasonable prices transair@the.forthnet.gr www.transair.gr

POSITIONS OPEN

SCIENCE ANALYST

New York City law firm seeks Science Analyst to identify, summarize, and evaluate scientific data and literature related to product liability litigation. Primary fields of inquiry include epidemiology of cancer, heart, respiratory, and other diseases. Some familiarity with theories of carcinogenesis and other disease mechanisms a plus. Position requires ability to understand and critically analyze statistical data and computer skills for online database searching, statistical analysis, and word processing. Good communication skills, both written and oral, are required to prepare and present analyses of medical and scientific issues to nonscientists. Must be a self-starter, team player, have the ability to set priorities, and meet deadlines. Doctoral degree preferred. Prior experience in litigation, consulting, or industry is necessary. Administrative or management experience is a plus. Excellent benefits, congenial atmosphere, and competitive salary offered. Send résumé including salary history and requirements to: **Ms. Maria Zezula, P.O. Box 238, New York, NY 10185-0238. E-mail** résumé to: **sciencelaw@sofcom.com**.

THE UNIVERSITY OF MICHIGAN MEDICAL SCHOOL
Department of Pathology

POSTDOCTORAL POSITIONS available immediately to study signal transduction pathways of apoptosis, innate immunity, and inflammation in mammalian systems. Experimental approaches will include biochemical analysis, molecular biology, and gene targeting in mice. *NIH training requires U.S. citizenship or permanent resident status.* Send curriculum vitae and names/addresses of three references to: **Dr. Gabriel Nunez, Department of Pathology, The University of Michigan Medical School, 1500 East Medical Center Drive, 4219 CCGC, Ann Arbor, MI 48109. E-mail: bcix@umich.edu**.

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

POSTDOCTORAL POSITION available immediately for an individual with experience in molecular biology, cell biology, or biochemistry to study the role of sphingolipids in apoptosis after oxidative stress.

Duska Separovic, Ph.D.
Department of Occupational and Environmental Health Sciences
Life Sciences Building, Room 401
Wayne State University
Detroit, MI 48202
Telephone: 313-577-8065
E-mail: ai7063@wayne.edu

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POSTDOCTORAL POSITION is available to study the role of cadherins in the response to vascular injury including smooth muscle migration and growth regulation. Candidates with recent M.D. or Ph.D. and a strong background in molecular and cell biology are encouraged to apply. Experience in vascular biology and mouse genetics desirable. Send cover letter, curriculum vitae, and references to: **Nicholas Sibinga, M.D., Division of Cardiology, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, Forcheimer G46, 1300 Morris Park Avenue, Bronx, NY 10461. E-mail: nsibinga@aecom.yu.edu**. *Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS available immediately for projects involving DNA-protein interactions that govern basic mechanisms of *in vitro* DNA replication and repair and studies of telomere structure. Work involves combined biochemical and electron microscopic approaches. More details and how to apply can be found on our **website: http://www.unc.edu/~jdglab/main.htm** or write to: **Dr. Jack Griffith, Professor, Lineberger Cancer Center, University of North Carolina, Chapel Hill, NC 27599-7295**.

POSTDOCTORAL POSITIONS available at the National Institutes of Health in Phoenix, Arizona, to identify and characterize novel susceptibility genes for Type 2 diabetes. Experience in molecular biology required; gene expression, cell culture, and biochemistry desirable. Send curriculum vitae and summary of relevant experience to: **Dr. Paska Permana, Clinical Diabetes and Nutrition Section, Phoenix, AZ 85016. FAX: 602-200-5335**.

HENRY FORD HEALTH SYSTEM

TWO EXPERIENCED VIROLOGISTS wanted: The Infectious Disease Research Laboratory at Henry Ford Hospital is a large laboratory that is supported by NIH funding and several commercial contracts. The main area of interest of the laboratory is the development of new antiviral agents and identification of the genetic and structural mechanisms of antiviral drug resistance. The laboratory is looking to expand by hiring two additional Virologists or **MOLECULAR BIOLOGISTS** with interest and experience with one of the following viruses: HIV, HCV, HSV, or HPV. Candidates must have a Ph.D. in virology or related discipline and have significant experience conducting research on one of the above-mentioned viruses. Qualified candidates should also have a strong record of publication in the field of virology and show potential for planning and conducting a strong research program that attracts extramural funding. Successful candidates will be eligible for an academic appointment at Case Western Reserve University. Salary is competitive and will be commensurate with training and experience. Interested candidates should send cover letter describing research interests and goals, curriculum vitae, and contact information to:

Douglas Mayers, M.D.
Division of Infectious Diseases
Henry Ford Health System
2799 West Grand Boulevard, CFP102
Detroit, MI 48202
Telephone: 313-916-2573
FAX: 313-874-4677

POSTDOCTORAL RESEARCH ASSOCIATE

The Department of Physiology and Biophysics at the University of Nebraska Medical Center is seeking applications for two Postdoctoral Research Associates. Both candidates would be expected to participate in ongoing NIH-funded research projects in the area of electrophysiology to study the cellular and molecular mechanisms of electrical remodeling in the failing heart. The research projects in our laboratory focus on the cellular impact of oxidative stress on alterations in myocyte potassium channel function in diabetic and postinfarction models of heart failure. We are seeking candidates with experience in patch clamp, molecular biology, or biochemical techniques that are applicable to fundamental studies of cardiac ion channel regulation. Applicants should send curriculum vitae, a statement of research interests and career goals, and the names of three references to: **Dr. George J. Rozanski, Department of Physiology and Biophysics, University of Nebraska Medical Center, 984575 Nebraska Medical Center, Omaha, NE 68198-4575. E-mail: grozansk@unmc.edu**.

The University of Nebraska Medical Center is an Equal Opportunity Employer.

NIH-funded **POSTDOCTORAL POSITIONS** are available to study cytokine signal transduction and novel cytokine-inducible genes. Candidates with experience or background in molecular biology, biochemistry, or knockout/transgenic animals should send their curriculum vitae plus names and addresses of three references to: **Dr. Yu-Chung Yang, Department of Pharmacology, Case Western Reserve University School of Medicine, 10900 Euclid Avenue, W353, Cleveland, OH 44106-4965. Telephone: 216-368-6931; FAX: 216-368-3395; e-mail: yxy36@po.cwru.edu.**

ASSISTANT PROFESSORS OF MICROBIOLOGY, MOLECULAR BIOLOGY, AND BIOCHEMISTRY

The Department of Microbiology, Molecular Biology, and Biochemistry at the University of Idaho seeks to fill three academic-year tenure-track positions beginning fall of 2001. Two of these positions, funded by NIH-COBRE, are to be filled by candidates capable of establishing nationally competitive research programs in basic biomedical research. We are particularly interested in those persons using advanced molecular and cellular techniques to study medically important questions in cell biology or host-pathogen interactions involving viral, fungal, or protozoan pathogens. Successful applicants for the third position should be capable of establishing a nationally competitive research program using plant, microbial, or animal systems that fit within one of the Department's areas of emphasis: (1) environmental microbiology, (2) molecular genetics or functional genomics, (3) developmental biology, (4) cellular biology, (5) structural biology, or (6) host-pathogen interactions. Successful candidates for all positions must demonstrate the ability to communicate effectively and will be responsible for a one-semester undergraduate course to be taught each year and a graduate-level course in his/her area of expertise to be taught in alternate years. Applicants should have a Ph.D. in microbiology, biochemistry, cell biology, or an appropriately related field and postdoctoral experience with a strong publication record. Send a letter outlining research and teaching interests and philosophy, curriculum vitae, copies of significant publications, and three letters of reference to: **Dr. Greg A. Bohach, Department of Microbiology, Molecular Biology, and Biochemistry, University of Idaho, Moscow, ID 83844-3052**. Applicant review will begin March 15, 2001, although applications will be accepted until suitable candidates have been identified. More information about the Department and these positiosn can be found at **website: www.uidaho.edu/microbiology**. *The University of Idaho is an Affirmative Action/Equal Opportunity Employer.*

The Center for Scientific Review, NIH, is seeking individuals interested in a position as a **SCIENTIFIC REVIEW ADMINISTRATOR** in the area of genetic sciences. The applicant must have a Ph.D. or equivalent degree (or a combination of equivalent training and experience), postdoctoral independent research and administrative experience, and a record of research accomplishment. In addition, one must have a strong background in genetics or related research. The salary will be commensurate with experience. A recruitment/relocation bonus may be available. For further information, **e-mail: dayc@csr.nih.gov**. *NIH is an Equal Opportunity Employer. Selection for any position will be based on merit with no discrimination for nonmerit reasons such as race, color, sex, national origin, marital status, handicap, age, sexual orientation, or membership/nonmembership in an employee organization.*

RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW to use *in vivo* and *in vitro* cellular and molecular techniques to study the role of specific growth factors in CNS remyelination in the laboratory of **Dr. Regina C. Armstrong** (Bethesda, Maryland, U.S.A.). Send curriculum vitae to: **Henry M. Jackson Foundation, Human Resources Department, Attention: Number 000322, 1401 Rockville Pike, Suite 600, Rockville, MD 20852. E-mail: jobs@hjf.org.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately to study neurotransmitter receptor pharmacology. Electrophysiological expertise required. Immunohistochemical experience desirable. **Website: http://www.mco.edu/depts/pharm/tietz.html**. Send curriculum vitae and references to: **Dr. E. I. Tietz, Department of Pharmacology, Medical College of Ohio, 3035 Arlington Avenue, Toledo, OH 43614-5804. E-mail: etietz@mco.edu**. *Affirmative Action/Equal Opportunity Employer.*

CALL for PAPERS

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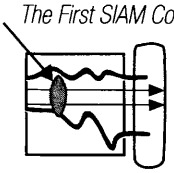

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The objective of the Young Researchers' Aspirin® Award is to encourage scientific research into the mechanism of action and clinical use of acetylsalicylic acid, the active ingredient of Aspirin®. Scientists who have contributed to the knowledge of Aspirin® through original independent scientific research in the field of theqretical (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.

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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, 2001
(Date of receipt of documents by Bayer AG)

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POSITIONS OPEN

POSTDOCTORAL POSITIONS (Ph.D. and M.D.) are available to study the effects of alcohol on host immunity and disease pathogenesis as part of an NIAAA-funded research training grant. Trainees accepted into the program will have the opportunity to conduct mentored research with up to 20 NIH-funded Investigators who are part of the Alcohol Research Center at LSUHSC in New Orleans. Ongoing research projects include alcohol effects on innate and adaptive immunity, host defense against infection, progression of HIV/SIV infection, free radical production and/or P450 function in hepatic tissue, and learning/memory acquisition during SIV disease. In addition to basic research, a comprehensive curriculum is in place to educate trainees in alcohol research topics, statistical analysis, grant writing, and written and oral communication skills. Clinical training is available for selected M.D. trainees. We are looking for candidates who show exceptional promise for a career in basic research and are willing to commit two to three years for in-depth training. *Candidates must be U.S. citizens or permanent residents.* Interested applicants should send a curriculum vitae to: **Judd Shellito, M.D., Biomedical Alcohol Research Training Program, Louisiana State University Health Sciences Center, 1901 Pedido, Room 3205, New Orleans, LA 70112. E-mail: webmaster@alcoholresearch.lsuhsc.edu.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS available immediately to study cytoskeletal protein 4.1R. Multiple 4.1R isoforms are generated from a single genomic locus by several alternatively splicing events. We have documented the possible involvement of 4.1R isoforms in cell division (*JCB* **145:**29), tight-junction biogenesis (*JBC* **275:**30573), and the contractile apparatus in skeletal myofibers (*Mol. Bio. Cell* **11:**3805). Studies will focus on the structure-function relationships of 4.1R isoforms and the molecular mechanisms regulating the alternative splicing of 4.1R. The projects are collaborations between **Drs. Edward J. Benz Jr.** and **Shu Huang**. Please send curriculum vitae to: **Shu Huang, Ph.D., Dana–Farber Cancer Institute, D1420B, 44 Binney Street, Boston, MA 02115. E-mail: Shu-Ching Huang@dfci.harvard.edu; Telephone: 617-632-6965; FAX: 617-632-2662.** *Dana–Farber is an Equal Opportunity/Affirmative Action Employer.*

Urological research: **POSTDOCTORAL FELLOW**. Two positions available. (1) Study hormone and growth factor regulation of prostate cancer cell cycle. Candidate should have knowledge of biochemical and molecular and cell biology techniques including immunoprecipitation, Northern and Western blot analysis, gel shift assays, cell synchronization, and biochemical fractionation. **Prem Reddy, Ph.D.; e-mail: preddy1@hfhs.org**. (2) Study oxygen-derived free radicals and cellular mechanisms of kidney cell injury. Candidate should be experienced in biochemical and molecular and cell biology and have knowledge of histology, cell culture, and small animal model techniques. **S. Thamilselvan, Ph.D.; e-mail: sthamill@hfhs.org**. Send curriculum vitae via e-mail, **FAX (313-874-4324)**, or mail to specified name at: **Henry Ford Health System, Urology Research, 1 Ford Place, 2D, Detroit, MI 48202.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION NEUROBIOLOGY RESEARCH

NIH-funded position open immediately to study the electrophysiological properties of vestibular nuclei neurons in brain slices. Current projects focus on changes in K^+-currents during development and after nerve lesions using patch clamp recording, dye injections, pharmacological testing, and computer analysis. Those with experience in patch clamp recording and a background and interest in biophysics and neurobiology are welcome to apply. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. K.D. Peusner, Department of Anatomy and Cell Biology, George Washington University School of Medicine, 2300 I Street, N.W., Washington, DC 20037. E-mail: anakdp@gwumc.edu.**

POSITIONS OPEN

POSTDOCTORAL FELLOW ANTISOCIAL DRUG DEPENDENCE: GENETICS AND TREATMENT

Studies of the behavioral genetics of clinical psychiatric disorders require interdisciplinary teams of Molecular Geneticists, Behavioral Geneticists, and Clinical Researchers. The Institute for Behavioral Genetics, the Department of Psychiatry's Division of Substance Dependence, and the Department of Molecular, Cellular, and Developmental Biology of the University of Colorado (Boulder and Denver campuses) are collaborating in twin and adoption studies and QTL sibling analyses of clinical populations aimed at defining genetic mechanisms and gene loci contributing to the clinical conditions of conduct disorder, antisocial personality disorder, and substance dependence. Positions are open for Postdoctoral Fellows in psychiatry, psychology, behavioral genetics, and molecular genetics, supported by National Institute on Drug Abuse. Senior faculty include **T.J. Crowley, P.D. Riggs** (psychiatry); **J.K. Hewitt, R.P. Corley, M.C. Stallings** (behavioral genetics); **E.A. Whitmore** (clinical psychology); **L.L. Thompson** (neuropsychology); and **K.S. Krauter** (molecular genetics). *Interested U.S. citizens and permanent residents* should send a letter of interest, including career goals, curriculum vitae, and three letters of reference, to: **Thomas J. Crowley, M.D., Department of Psychiatry, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Box C268-35, Denver, CO 80262**. Review of applications will continue until a suitable candidate is identified and the position filled. *The University of Colorado is an Equal Opportunity Employer.*

FACULTY POSITIONS VIROLOGY/TUMOR IMMUNOLOGY

The Department of Microbiology and Immunology at Georgetown University Medical Center invites applications to fill two to three full-time, tenure-track positions at the level of **ASSISTANT/ASSOCIATE PROFESSOR**, with potential joint appointments in the Lombardi Cancer Center. Applicants should have research interests in the area of virology and/or tumor immunology and experience with the utilization of current biotechnological methods in these disciplines. Candidates must have an M.D. and/or Ph.D. in microbiology or a related discipline, postdoctoral training, and a record indicating outstanding abilities and potential that is supported by publications and the ability to obtain extramural funding. Successful candidates will be expected to develop and maintain an independent, externally funded research program and participate in the educational mission of the institution by teaching graduate and medical students in their discipline. Applicants should submit a detailed curriculum vitae, along with a few selected reprints; a statement of career goals; and an indication of current and long-term research plans, together with the names and addresses of three references to:

Faculty Search Committee
Department of Microbiology and Immunology
Georgetown University Medical Center
3900 Reservoir Road, N.W.
Washington, DC 20007

Georgetown University is an Equal Opportunity/Affirmative Action Educator/Employer. Women and members of ethnic minorities are especially encouraged to apply.

POSTDOCTORAL POSITION to study central mechanisms of hearing. We examine physiological responses, connectional and chemical anatomy, and pharmacology of neurons analyzing sonar and communication signals in bats. Experience in related techniques helpful. Send curriculum vitae and names of three references to: **Human Resources, c/o Dr. J. Wenstrup, Department of Neurobiology and Pharmacology, Northeastern Ohio Universities College of Medicine, 4209 State Route 44, Rootstown, OH 44272-0095. E-mail: jjw@neoucom.edu; website: http://web.neoucom.edu/DEPTS/NEUR/Faculty/WenstrupJ.html.** *An Equal Employment Opportunity/Affirmative Action Educator/Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS

Several Postdoctoral positions are available in the Divisions of Cell Biology and Developmental Biology at The Hospital for Sick Children. Candidates with a strong background in *Drosophila* genetics, molecular/cell biology, protein biochemistry, or neurophysiology are encouraged to apply. Investigators with positions open include: **Dr. Julie Brill**: Analysis of the role of phosphatidylinositol 4-kinase in membrane-cytoskeletal interactions during cytokinesis (*Development* **127:**3855–3864, 2000). **E-mail: brill@u.washington.edu. Dr. Gabrielle Boulianne:** Cell-cell interactions during neural *Drosophila* neural development (*EMBO J.* **19:**4827, 2000); molecular mechanisms of synapse formation and function (*PNAS* **97:**13955, 2000); *Drosophila* models of aging and neurodegenerative diseases (*Journal of Neuroscience* **19:**8435, 1999; *Nat. Genet.* **19:**171, 1998). **E-mail: gboul@sickkids.on.ca. Dr. William Trimble:** Molecular and cellular biology of SNARE-mediated membrane fusion in mammalian cells (*JCB* **149:**697–705, 2000; *JBC* in press, 2000) and *Drosophila* (*PNAS* **97:**3955, 2000); role of septins in cell division (*Current Biology* **9:**1458–1467, 1999) and neurotransmitter release (*Nature Neuroscience* **2:** 434–439, 1999). **E-mail: wtrimble@sickkids.on.ca.**

Please send curriculum vitae and names of three references to the individual Investigator at: **The Hospital for Sick Children, 555 University Avenue, Toronto, Ontario M5G 1X8 Canada. Address: The Hospital for Sick Children.**

POSTDOCTORAL POSITION ECOLOGICAL AND ECONOMIC MODELING

An interdisciplinary team of researchers based at the University of Notre Dame in South Bend, Indiana, U.S.A., seeks a **POSTDOCTORAL RESEARCH ASSOCIATE** for an NSF-funded project on evaluating the biological and economic risks posed to Great Lake ecosystems by invading aquatic species. This project will combine ecological and economic modeling with data on the establishment, spread, and impact of nonindigenous species. The successful candidate will have a leadership role in coordinating the project that includes Notre Dame, the University of Chicago, the University of Wyoming, and the University of Utah; in melding the areas of expertise of the Principal Investigators (aquatic ecology, applied economics, ecological modeling, population genetics, and ethics); and in combining published information with existing models. The position requires a Ph.D. in aquatic ecology, ecological modeling, or resource economics. The position is for at least 13 months (at a starting salary of at least $34,000 per year plus benefits) with the possibility of longer-term support. Send inquiries (**e-mail: lodge.1@nd.edu**) or applications (letter of interest, curriculum vitae, and the names of three references) to: **Dr. David Lodge, Department of Biological Sciences, P.O. Box 369, University of Notre Dame, Notre Dame, IN 46556**. Screening of applications will begin in mid-February 2001.

TWO POSTDOCTORAL POSITIONS are available for a Behavioral Pharmacologist and a Molecular Pharmacologist to study antidepressant and cognitive-enhancing drugs, with a particular focus on beta adrenergic and NMDA receptor-linked adenylyl cyclase and Type 4 phosphodiesterase (PDE4). Ongoing work is integrative, utilizing behavioral, neurochemical, and molecular biological approaches. Applicants with a Ph.D. in pharmacology, neuroscience, experimental psychology, or a related discipline should send their curriculum vitae and the names of three references to: **James M. O'Donnell, Ph.D., Professor of Pharmacology, University of Tennessee Health Science Center, 874 Union Avenue, Memphis, TN 38163. Telephone: 901-448-3621; FAX: 901-448-3849; e-mail: jodonnell@utmem.edu.** *UT is an Equal Employment Opportunity/Affirmative Action/Title IX/Section 504/Americans With Disabilities Act Employer. Minorities and women are strongly encouraged to apply.*

RESEARCH FUNDING OPPORTUNITIES

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Awards provide up to $538,000 to support advanced postdoctoral training and initial faculty appointment.

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

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

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Research Triangle Park, NC 27709-3901
Telephone (919) 991-5100 Fax (919) 991-5160
Web site: www.bwfund.org

Career Awards at the Scientific Interface
Bridging Support for Physical, Chemical, and Computational Scientists Entering Biology

Deadline: May 1, 2001.

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 $538,000 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

Rapid Access to NCI Discovery Resources (RAND) Program

The **National Cancer Institute** is requesting applications for the following new initiative: Rapid Access to NCI Discovery Resources (RAND) program. The RAND program will make available to academic investigators, on a competitive basis, the **discovery and early preclinical development** contract resources of NCI's Developmental Therapeutics Program. The goal of RAND is to remove the most common barriers between basic research findings and their exploitation for discovery of new molecular entities. RAND does not fund grants; applications to the program are requests for NCI drug discovery and development resources to conduct specific tasks the applicants themselves are unable to carry out in their efforts to translate basic research findings to the discovery of new drugs and biologics. 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. RAND Program tasks will be distinct from the Rapid Access to Intervention Development (RAID) initiative. RAND will focus on lead discovery and optimization, whereas, RAID will focus on later development after selection of a lead compound or construct.

The current deadline for receipt of applications is **April 1, 2001**; applications can be submitted April 1 and October 1 annually. A Letter of Interest (LOI) must be submitted via email to the Program Coordinator 30 days prior to the application deadline (March 1, 2001). Further information about this program, including detailed instructions for preparing proposals and LOIs can be found at http://dtp.nci.nih.gov/docs/rand.html. Telephone or email inquiries are encouraged and should be made to:

- RAND Program Coordinator -
Developmental Therapeutics Program
National Cancer Institute
Executive Plaza North Building, Suite 8000
6130 Executive Blvd. Rockville, MD 20852
Tel: 301-496-8720 Fax: 301-402-0831

Qualified undergraduates can train and be mentored at the cutting edge of biomedical research while receiving scholarship support.

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

SCIENCE-RESEARCH SCHOLARSHIP AVAILABLE

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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, they work 1 year of full-time employment at NIH for each year of scholarship 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.

For more information, contact the UGSP at:
http://ugsp.info.nih.gov ■ E-mail: ugsp@nih.gov
Phone: 1-800-528-7689 ■ TTY: 1-888-352-3001

POSTDOCTORAL POSITION
CHROMATIN DOMAINS AND GENE EXPRESSION

NIH-funded Postdoctoral position is immediately available to study heterochromatin (silent chromatin) domains and boundary elements in *S. cerevisiae*. Strong background in molecular biology is required. Experience in genetics and/or biochemistry is desirable but not required. Send curriculum vitae and at least two reference letters (and/or addresses of the references) to: **Dr. Xin Bi, Assistant Professor, Department of Biochemistry, University of Nebraska–Lincoln, Lincoln, NE 68588-0664. E-mail: xbi@unlserve.unl.edu**.

POSTDOCTORAL POSITIONS available. Applicants will use biochemical and molecular techniques to investigate the role of dendritic cells in the host response to periodontal diseases. Applicants are expected to work independently, produce publishable data, and assist with the training of students. Ph.D. and research experience in cell biology and biochemistry are required. Preference will be given to applicants with experience in immunology. Send letter of intent and the names and e-mail addresses of three references to: **Dr. John Tew, P.O. Box 980678, Richmond, VA 23298. E-mail: tew@hsc.vcu.edu**. Deadline: March 15, 2001. *VCU is an Equal Opportunity/Affirmative Action Employer. Women, minorities, and persons with disabilities are encouraged to apply.*

POSTDOCTORAL POSITION

Available immediately to study hematopoietic stem cell development and plasticity. Applicants should have a strong background in molecular and cellular biology. The project will employ MSCV/lentiviral vectors in investigations of embryonic and adult cell populations. Send curriculum vitae to: **Robert G. Hawley, Ph.D., Head, Hematopoiesis Department, Holland Laboratory, American Red Cross, 15601 Crabbs Branch Way, Rockville, MD 20855. E-mail: HawleyR@usa.redcross.org**. *Equal Opportunity Employer; Minorities/Females/Disabled/Veterans.*

POSTDOCTORAL POSITION
VIRAL IMMUNOLOGY
Vanderbilt University

Generation and study of recombinant human monoclonal antibodies to poxviruses using phage-display antibodies, single B cell cloning and human antibody transgenic mice. Qualified individuals will have a Ph.D. or M.D. in immunology or related fields with significant expertise in cellular immunology and molecular biology. Experience with poxviruses, flow cytometry, human hybridomas, or antibody engineering is a plus. Send curriculum vitae to **e-mail: james.crowe@vanderbilt.edu**.

POSTDOCTORAL POSITION available immediately to study neural mechanisms of degeneration in mouse models of Alzheimer's disease and Parkinson's disease. Experience with gene therapy, animal surgery, immunohistochemistry, and/or modern cell-counting methods will be helpful. Send curriculum vitae and the names of three references to: **Dr. Dwight German, Department of Psychiatry, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75390-9070. E-mail: dwight.german@utsouthwestern.edu**. *The University of Texas Southwestern Medical Center at Dallas is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION available in the area of molecular evolution for cancer gene therapy amd structure-function studies. Experience in molecular biology or biochemistry preferred. Send curriculum vitae and names of three references to: **Dr. Margaret Black, Department of Pharmaceutical Sciences, P.O. Box 646534, Washington State University, Pullman, WA 99164-6534. E-mail: blackm@mail.wsu.edu**. Review of applications will begin March 1, 2001. *WSU is an Equal Opportunity Educator and Employer.*

POSITIONS OPEN

THE AGARINI–JOHNS HOPKINS CENTER FOR NEUROREGENERATION

The aim of this program is to support talented Italian Scientists, to contribute to the establishment of a neuroregeneration center in Italy, and to further collaborative relationships between Italian Scientists and Johns Hopkins University School of Medicine.

AGARINI–JOHNS HOPKINS POSTDOCTORAL FELLOWSHIPS

Italian applicants are sought for two to three Agarini–Johns Hopkins Postdoctoral Fellowships at John Hopkins University School of Medicine beginning in July 2001 for a three-year period. The Fellowships will center on basic and applied investigations relevant to the processes of neuroregeneration including axonal and dendritic targeting, cellular replacement, neuronal survival, cell death, and angiogenesis.

Candidates must (1) be an Italian citizen with a Ph.D., M.D., M.D./Ph.D., or an equivalent degree and in the early stages of their career; (2) provide curriculum vitae including professional degrees, institution and location, field of study, years of attendance and university grades, a list of publications, academic and professional honors and awards, three letters of reference, and a summary of the research area of interest written in English; and (3) show a promise of a creative scientific research career in Italy. Postdoctoral Fellows will receive a salary commensurate with experience, a $5,000 scholarly allowance per annum, and one-time cost for round-trip travel from Italy to Baltimore, Maryland.

Please send requested material by March 31, 2001, to:

Heather Rich
Department of Neurological Surgery
Johns Hopkins Medical Institutions
600 North Wolfe Street
Meyer 5-181
Baltimore, MD 21287-7881
E-mail: hrich@jhmi.edu

POSTDOCTORAL RESEARCH ASSOCIATE
BROOKHAVEN NATIONAL LABORATORY

The Biology Department of Brookhaven National Laboratory presently has an opportunity for a Research Associate to study molecular aspects of induction and repair of DNA damage clusters in mammalian cells (see **Sutherland et al.**, *Proc. Natl. Acad. Sci. U.S.A.* **97**:103–108, 2000; *Biochemistry* **39**:8026–8031). Requires recent Ph.D. in biochemistry, molecular biology, or radiation biology and the ability to travel domestically to collaborating institutions. There is a potential for participation in the NASA Heavy Ion Radiobiology program.

Interested candidates should send curriculum vitae; description of research experience/interests; and names, addresses, telephone numbers, and e-mail addresses of three references to: **Dr. Betsy Sutherland, Brookhaven National Laboratory, Biology Department, Building 463, P.O. Box 5000, Upton, NY 11973. E-mail: bms@bnl.gov**. *BNL is an Equal Opportunity Employer. Women and minorities are especially encouraged to apply.*

POSTDOCTORAL ASSOCIATE

Seeking individual who will be responsible for conducting research in an NIH-funded laboratory, which involves cloning, transfection, and functional analyses of genes identified to be linked to human colon cancer metastatic pathways by microarray analysis.

Ph.D. or M.D./Ph.D. in biology, molecular biology, biological sciences, life sciences, or other related field, as well as interest in cancer research. Excellent English skills (both written and verbal) required.

Outstanding research environment and competitive compensation. Send curriculum vitae and the names of three references to: **Professor Timothy Yeatman, M.D., H. Lee Moffitt Cancer Center and Research Institute, 12902 Magnolia Drive, MRC-GI Program, Tampa, FL 33612. E-mail: yeatman@moffitt.usf.edu**.

POSITIONS OPEN

SENIOR POSTDOCTORAL RESEARCHER
COMPARATIVE BIOMEDICAL SCIENCES

Required qualifications: Ph.D. or equivalent degree with major course work in biological and biomedical science, strong laboratory experience and background in molecular and cellular biology, and three years of postdoctoral laboratory experience. Project is molecular biology of tooth eruption. Salary will be commensurate with qualifications and experience. Application deadline is February 23, 2001, or until candidate is selected. Submit letter of application and résumé to: **Dr. Gary E. Wise, Comparative Biomedical Sciences, School of Veterinary Medicine, Louisiana State University, Reference Number 016526, Baton Rouge, LA 70803**. *LSU is an Equal Opportunity/Equal Access Employer.*

POSTDOCTORAL POSITION
in Neuroendocrine Regulation of Affective Behavior

Available immediately. Seeking individual with background in neuroendocrinology and/or signal transduction and expertise in modern neuroanatomical techniques including image analysis. Experience with molecular techniques would be an asset. Project involves estrogen effects on second messengers in limbic areas related to affect. Please send curriculum vitae and names/addresses of three references to: **Rochelle S. Cohen, Ph.D., Department of Anatomy and Cell Biology (M/C 5/2), University of Illinois at Chicago, Chicago, IL 60612. E-mail: rscohen@uic.edu**.

POSTDOCTORAL POSITION
DYNEIN STRUCTURAL BIOLOGY

We seek to fill one to two Postdoctoral-level positions to study the 3-D structure of dynein, a microtubule-based molecular motor. Candidates should have demonstrated experience with electron microscopy and be familiar with cryo-EM and single particle image processing methods.

The Wadsworth Center offers state-of-the-art research facilities and is located in scenic upstate New York. Please mail or e-mail your curriculum vitae, a brief statement of research interests, and names/addresses of three references to: **Dr. Michael Koonce, Wadsworth Center, Empire State Plaza, Box 509, Albany, NY 12201-0509. E-mail: koonce@wadsworth.org**. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION

A Postdoctoral position is available immediately to study gender and hormonal influences on cerebrovascular reactivity with special emphasis on endothelial function, including production of factors affecting contractility and blood coagulation. Advanced degree in pharmacology or physiology is required, and experience with *in vitro* techniques for studying smooth muscle contraction and/or biochemical approaches for analysis of endothelial function is highly desirable. Send curriculum vitae and names of three references to: **S.P. Duckles, Department of Pharmacology, College of Medicine, University of California, Irvine, CA 92697-4265. E-mail: spduckle@uci.edu**.

POSTDOCTORAL POSITIONS
Boston Biomedical Research Institute

Available immediately to study the role of Ras/Raf signaling in epithelial cell transformation **(Dr. S. Hansen)** or cancer/cardiac cell apoptosis **(Dr. P. Erhardt)**. Candidates should have a Ph.D. in molecular or cell biology and experience in signal transduction research. Send curriculum vitae along with names of three references to: **Boston Biomedical Research Institute, 64 Grove Street, Watertown, MA 02472. E-mail: erhardt@bbri.org** or **hansen@bbri.org**.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE
FRED HUTCHINSON CANCER RESEARCH CENTER

A quantitative research group in the Division of Public Health Sciences at the Fred Hutchinson Cancer Research Center has a staff position in scientific programming. Will participate in developing novel methods for discovering disease genes associated with cancer and coronary heart disease, for example. Will develop useful programs for analyzing human genomic information obtained by microarray technologies. Requirements: M.S. to Ph.D.; training in any scientific discipline emphasizing quantitative skills, i.e., biophysics, physical chemistry, astronomy. Requirements: proficiency with scientific programming, familiarity with C/C++ essential. Knowledge of molecular biology, human genetics, and MATLAB is helpful. Salary depends on experience; excellent benefits. To apply, **e-mail** cover letter and résumé (as Microsoft Word attachment or inserted into message) to: **tabrown@fhcrc.org** or mail résumé and cover letter to: **Trina Brown, 1100 Fairview Avenue, MW 805, Seattle, WA 98109-1024. FAX: 206-667-2437.** *Fred Hutchinson Cancer Research Center is an Equal Opportunity Employer committed to workforce diversity.*

POSTDOCTORAL POSITION
BASIC AND APPLIED RNA SCIENCE

Openings for NIH-funded program on yeast small nucleolar RNAs (snoRNAs). Themes include discovering the effects of snoRNA-directed nucleotide modification on rRNA function, characterizing the roles of proteins involved in snoRNA/snoRNP synthesis and function, and developing snoRNAs as tools for altering RNA activity *in vivo* for use in biotechnology and medical applications. The last thrust involves use of snoRNAs to carry ribozymes to the nucleolus and targeting nucleotide modifications to novel sites in RNAs that reside in or pass through the nucleolus; excellent success has been obtained with both technologies. Send curriculum vitae and names and contact information for three references to: **Dr. Maurille J. Fournier, Department of Biochemistry and Molecular Biology, University of Massachusetts, LGRT, Amherst, MA 01003. E-mail: 4nier@biochem.umass.edu.** *The University of Massachusetts is an Affirmative Action/Equal Opportunity/Employer.*

POSTDOCTORAL POSITIONS in functional genomics are available. Particular emphasis will be given to genome-wide studies of signaling networks, DNA-protein interactions and bioinformatics. Candidates should have a recent Ph.D. degree in molecular biology or have proven experiences in informatics.

Please send research experience, curriculum vitae, and three references to: **Dr. G. Wilson Xu, Sloan-Kettering Institute and Graduate School of Medical Sciences of Cornell University, 1275 York Avenue, Box 362, New York, NY 10021. FAX: 212-794-4342, E-mail: w-xu@ski.mskcc.org.**

SYMPOSIUMS

RECENT ADVANCES IN ALZHEIMER'S DISEASE RESEARCH
Sponsored by Alzheimer's Disease Research, a Program of the American Health Assistance Foundation

A one-day symposium covering early disease/mild cognitive impairment, disease genetics, and the role of disease-associated genes in neuronal function plus present and future directions for therapeutic approaches. Speakers include some of the leading Alzheimer's researchers in the world.

Friday, March 9, 2001
San Mateo Marriott
San Mateo, California

To receive a brochure, call **Lisa Morgan** at **Telephone: 301-948-3244** or visit **website: www.ahaf.org.**

POSITIONS OPEN

The Aaron Diamond AIDS Research Center is seeking **POSTDOCTORAL FELLOWS** to conduct research on HIV pathogenesis treatment and vaccines.

Interested individuals should FAX their curriculum vitae along with a letter describing their research interests and the names of three or more Scientists or Physicians prepared to write letters of reference to: **David Ho, M.D.; FAX: 212-448-5158.** No calls, please; telephone calls will not be accepted.

ANNOUNCEMENTS

ATTENTION OTS COURSE ALUMNI

The Organization for Tropical Studies (OTS) is conducting a comprehensive review of its Graduate Education Program, 1963–2001. Please help us to evaluate our program and to chart our course for the future by completing the English or Spanish alumni survey found on the OTS **website: http://www.ots.duke.edu/.**

FELLOWSHIPS

FARROW MEDICAL ALUMNI FOUNDATION
Fellowships in Cancer Research
University of Virginia Medical Center

The University of Virginia Cancer Center announces the availability of funds to support Fellowships in cancer research for recent medical school graduates or residents. This is an outstanding opportunity for individuals with medical training who wish to engage in an intensive research experience prior to choosing a specific career path. Research experiences are highly flexible and are tailored to suit the interests and goals of the applicants. Among the options are (1) two years of dedicated laboratory research with a preselected faculty mentor and (2) an extended program of course work with laboratory research leading to the Ph.D. degree.

Applicants must hold an M.D. degree from an accredited U.S. medical school by the time their Fellowship begins and must be committed to a minimum of two years of uninterrupted full-time research. Salaries range from $35,000 to $60,000 per year depending on the level of medical training at the onset of the Fellowship.

Highest priority will be given to those individuals who demonstrate (through prior experience or letters of recommendation) an interest in conducting cancer-related research. Previous research experience is preferred but not required. Fellows will be able to choose mentors from a wide variety of faculty doing basic, translational, or clinical cancer research. Participating faculty and their research interests are described on the Website of the University of Virginia Medical School (**website: www.med.virginia.edu**). Faculty sponsors should have peer-reviewed funding for cancer-related research and documented experience in student or resident training in research.

Interested individuals should contact: **Dr. Sarah J. Parsons, Associate Director of the Cancer Center** by telephone, FAX, letter, or e-mail to discuss program options, the application process, and strategies to select a faculty sponsor. The deadline for receipt of the application, which in most cases will consist of curriculum vitae and three letters of recommendation, is April 1, 2001.

To initiate the application process or for more information, contact:

Sarah J. Parsons, Ph.D.
Associate Director, Cancer Center
University of Virginia Medical Center
Box 800334
Charlottesville, VA 22908
Telephone: 804-924-2352
FAX: 804-982-0689
E-mail: sap@virginia.edu

POSITIONS OPEN

POSTDOCTORAL POSITION is available to study mechanisms of liver fibrosis, portal hypertension, and liver regeneration using animal models and isolated hepatic cells. A Ph.D. in biological sciences and expertise in cell and molecular biology are required. Send résumé and names of three references with telephone numbers to: **Dr. C.R. Gandhi, Department of Surgery, University of Pittsburgh, E-1540 BST, Pittsburgh, PA 15213. E-mail: Gandhics@msx.upmc.edu.**

GLOBAL OPPORTUNITIES

POSTDOCTORAL POSITION in functional genomics group of a well-funded research program in the field of diabetes and obesity. Knowledge of biochemistry and protein chemistry and expertise in the area of protein purification and functional characterization are essential. Additional experience and familiarity with techniques in molecular biology and cell culture will be an advantage. Position is funded for one year with a possibility to extend further. Salary commensurate with experience (Australian $42,836 to $52,782).

Please send résumé and names, addresses, and telephone numbers of two references to: **Professor Greg Collier, Metabolic Research Unit, Deakin University, Pigdons Road, Waurn Ponds, VIC 3217 Australia. Telephone: 61 3 5227 1323; FAX: 61 3 5227 2170; e-mail: beacon@deakin.edu.au.**

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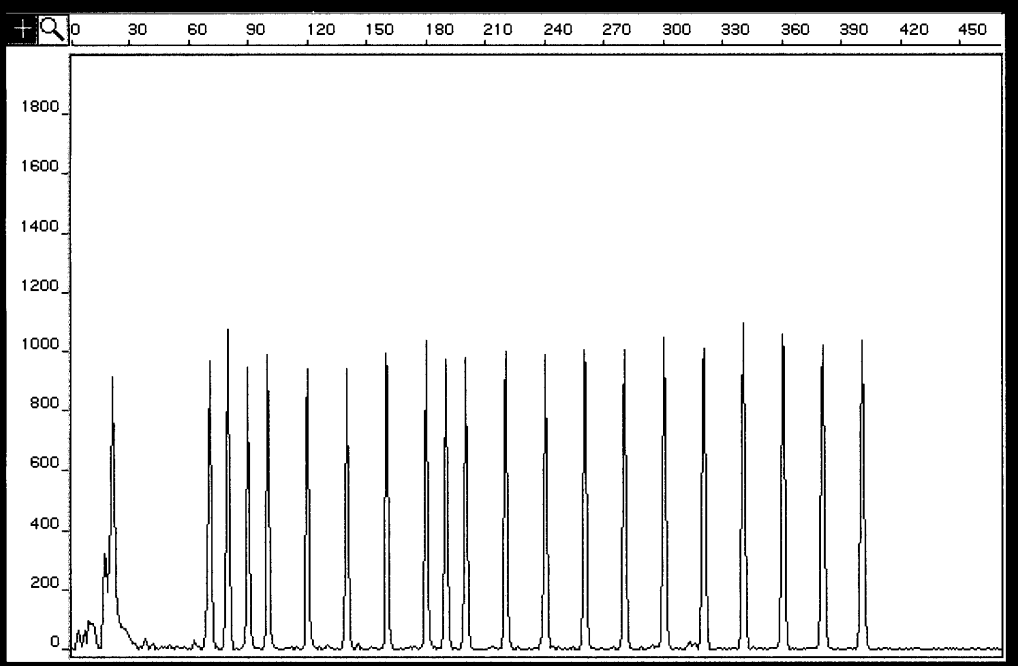

Example of Rhodamine-X labeled MapMarker 70-400 sizing standard run on ABI model 310 Genetic AnalyzerTM. Marker bands are 70, 80, 90, 100, 120, 140, 160, 180, 190, 200, 220, 240, 260, 280, 300, 320, 340, 360, 380, 400 nucleotides long.

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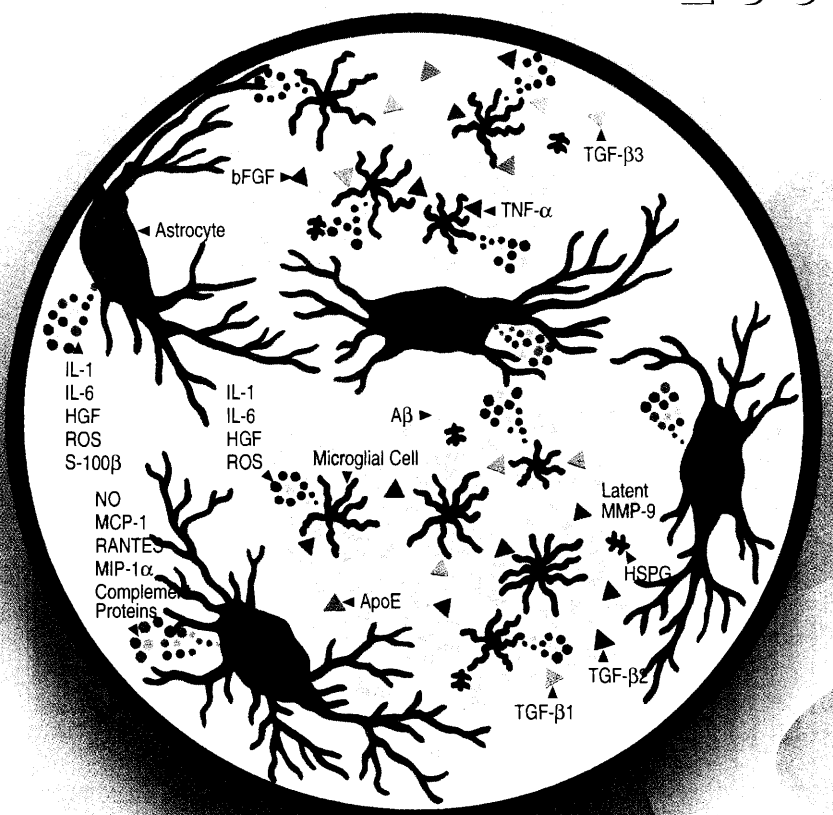

Astrocytes and microglia associated with Aβ plaques in Alzheimer's Disease can release a variety of cytokines and other factors. Please look for a mini-review on Alzheimer's Disease in our 2001 Catalog.

Cytokines & Related Molecules

- Canine
- Feline
- Human
- Mouse
- Porcine
- Rat

Antibodies

- Polyclonal Antibodies
- Monoclonal Antibodies
- Antibody Staining Kits
- Labeled Antibodies
- Antibody Controls
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ELISA Kits

- Colorimetric ELISAs
- Chemiluminescent ELISAs
- Cyclic Nucleotide, Eicosanoid and Free Radical Assays

Mini-reviews & Technical Information

- Mini-reviews
- Application Notes
- Trouble Shooting Guides
- Cytokine Facts

Apoptosis Kits & Reagents

- Apoptosis Detection Kits
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Enzymes, Substrates and Inhibitors

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Europe
R&D Systems Europe Ltd.
4-10 The Quadrant, Barton Lane
Abingdon, OX14 3YS, UK
Tel: +44 (0)1235 529449
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info@rndsystems.co.uk

Germany
R&D Systems GmbH
Borsigstrasse 7
65205 Wiesbaden, Germany
Tel: +49 (0)6122 90980
Fax: +49 (0)6122 909819
infogmbh@rndsystems.co.uk

Europe Free Phone –
Belgique/België: 0800 10 468
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