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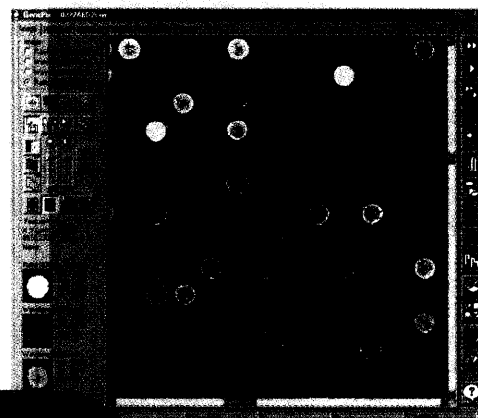
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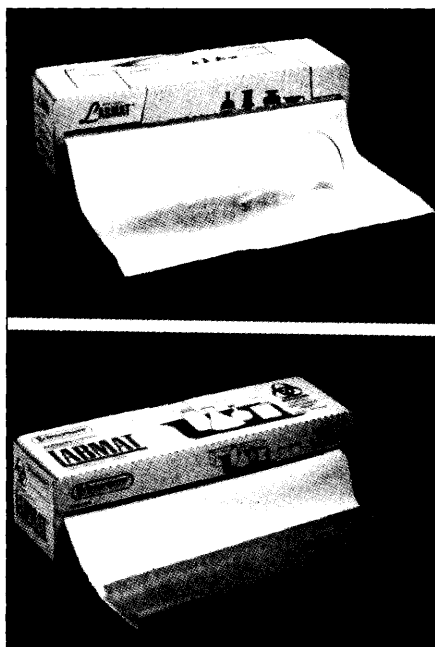
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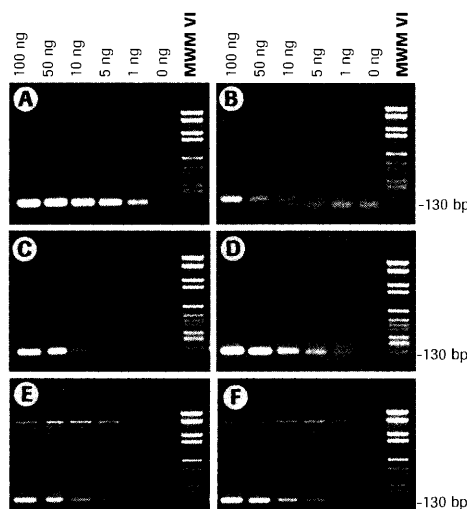
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**Figure 1: Specificity and sensitivity comparison in PCR using commercially available hot start systems.**

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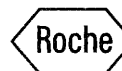
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# biotechnology EUROPE

LEVELING THE PLAYING FIELD

Biotechnology Europe: Leveling the Playing Field

Although Germany, the United Kingdom, and France still lead Europe in stimulating domestic biotechnology industries, other nations are racing hard to catch up. Here's a progress report. **by Peter Gwynne**

The business boom of the early 1980s that helped to create major biotechnology centers in the San Francisco Bay Area, Cambridge, Massachusetts, and other North American locations arrived late in Europe. But once it took root in the early to mid-1990s it began to prosper. The basic ingredients for a successful biotechnology industry — commercializable ideas from academic research laboratories, an entrepreneurial spirit among researchers, and access to venture capital — have now become well established throughout Europe. "The rate at which new companies are being created throughout Europe is astounding," states Ernst & Young in the recently published "Evolution," the consulting company's seventh annual report on European life sciences.

Three countries have led the way, establishing Europe as a force in global biotechnology. "Germany, the United Kingdom, and France dominate European biotechnology as far as revenue generation and product generation are concerned," says Carolyn Keenan, an executive in Ernst & Young's corporate finance and life science practices. However, they face increasingly stiff competition from other nations eager to build up strength in biotechnology through public and private initiatives. "Several smaller countries are doing well and are not far behind," says Børge Diderichsen, director of corporate research affairs for Danish pharmaceutical company Novo Nordisk A/S. "Denmark, Sweden, Finland, Holland, and Switzerland are all catching up." Even latecomers to the biotech party, such as Ireland and Austria, have shown signs of developing viable industries.

Biotechnology, by its nature, takes several years to produce tangible results from its R&D in the form of products, services, and revenues. So no one can predict with certainty how the new initiatives will eventually shake out. Very few European biotechnology companies have yet reached an optimal size, and even fewer have earned significant profits. However, the fact that the young industry has received funds from both governments and corporations suggests a healthy future for at least a good portion of Europe's commercial biotechnology sector.

continued >

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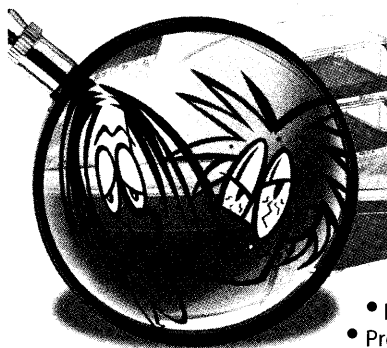
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**"Support... in the areas of pharmaceuticals and genetic testing remains high and does not appear to have been affected by the controversies over GM crops and foods."**

**Berge Diderichsen, Novo Nordisk A/S**

## Signs of Maturity

Several signs indicate that the industry is maturing. A few medical products of European biotechnology have entered the approval process of European and American regulatory agencies. European biotechnology companies have increasingly entered corporate alliances and cross-licensing agreements. And following a surge of mergers among companies of the same nationality, a few aggressive companies have started to bid for foreign firms. "Consolidation is on everyone's lips at the moment; that's the major theme we've seen in early to mid-2000," says Keenan. "CEOs realize that critical mass will be a crucial factor. We're going to see a lot of cross-border mergers and acquisitions." Keenan predicts that European biotechnology companies will soon start to reverse the established global order by joining the bidding for North American corporations.

One threat looms over the European industry: public opinion. The two-year-old controversy over the introduction of genetically modified organisms (GMOs) into agriculture still reverberates throughout the continent. The Austrian government has imposed a national moratorium on the introduction of GMOs. The government of The Netherlands has forbidden scientists to perform nuclear transfer, a process that produces transgenic animals. Supermarkets have pledged that they will identify GMO-originated foods on their shelves with appropriate labels. Access Genetics, a British company with strong interests in GMOs, has gone into administration, the first legal step toward protection from its creditors.

Other biotechnology firms are working hard to disassociate themselves from GMO science. Early this month Novartis A.G., a Swiss company with extensive interests in pharmaceutical and agricultural biotechnology, acknowledged that it had eliminated genetically engineered ingredients from all the foods its consumer health division sells.

Concern about GMOs won't disappear soon. "There's general agreement that it's an emotion-

al issue," says Diderichsen. However, he continues, "The controversy has had no effect on basic biotechnology beyond agriculture. I see no signs of resistance against using recombinant technology to develop new drugs and medications." A recent survey by the European Commission confirms that view. The Eurobarometer survey finds that public support for genetically modified crops has declined since 1996. However, it also reveals that "Support for medical applications of modern biotechnology in the areas of pharmaceuticals and genetic testing remains high and does not appear to have been affected by the controversies over GM crops and foods."

## Chasing the Front-Runners

Europe's early activity in biotechnology centered predominantly on the United Kingdom. Academic life scientists there revealed an enthusiastic entrepreneurialism similar to that of many of their peers in the United States, and venture capitalists readily provided the funds to encourage them. In 1996, Germany started to build its own biotechnology base. Rather than relying on individual entrepreneurs, the federal government created its own stimulus, in the form of a national competition. Several regions entered a contest to identify and award federal funds to the "BioRegios" that offered the best environments for commercial biotechnology. Although only three regions — based around Cologne, Heidelberg, and Munich — earned federal funding, other regions gained from the competition by proving their potential for attracting biotechnology start-ups and spinouts.

As a result of the activity, both the UK and Germany have close to 300 companies in biotechnology and related sectors. France, with more than 100 companies, occupies third place in Europe's biotech stakes. Behind it comes an array of nations eager to earn their biotech spurs.

Ready access to money has facilitated the new enthusiasm. Within the past year European governments and private organizations have shown their willingness to commit funds to biotechnol-

ogy ventures.

Biotechnology companies in Sweden and Denmark stand to benefit from both public and private funds. The two countries have joined in a unique cross-border enterprise. The "Medicon Valley" includes the Danish capital of Copenhagen and the southern Swedish cities Lund and Malmö, spanning the eight-mile-wide Øresund Sound that separates the two Scandinavian nations.

The region contains more than 60 percent of Swedish pharmaceutical and biotechnology companies and a significant percentage of Danish life science firms. One of those, Novo Nordisk, has established a holding company, Novo A/S, that will pursue investment opportunities in the Medicon Valley. Denmark's BankInvest is also plowing money into both the Valley and overseas biotechnology companies. And the Danish and Swedish national governments and municipal authorities will support biotechnology projects in the location by contributing \$80 million over the next three years.

## Public and Private Initiatives

Several European governments have set up initiatives to encourage the birth and growth of a commercial biotechnology sector. Last year, for example, The Netherlands Ministry of Economic Affairs instituted what it calls "an action plan" to stimulate start-ups of life science companies. Over the next four years the Ministry will provide a total of 100 million guilders (\$45 million) to subsidize the formation of small companies, particularly those specializing in biotechnology. "If we can reach what the government wants and and we want, we can come up with 15 start-ups per year, which would really mean something," says Eduard Klasen, acting director of the country's National Research Council.

The government of Ireland announced its own plan to stimulate biotechnology last month. It will set up Science Foundation Ireland, a fund that will spend 560 million punts (that is, Irish pounds, equivalent to \$650 million) between now and

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Several European governments have set up initiatives to encourage the birth and growth of a commercial biotechnology sector.

2006 for investments in research on biotechnology and communications. Between 1994 and 1998 public funding of those activities amounted to no more than 7 million punts (\$8.1 million), notes Sinead Canning, communications manager of BioResearch Ireland (BRI).

Governmental organizations in Austria have concentrated on providing both funding and infrastructure for biotechnology. The national government has decided to pump 2.5 percent of the country's gross domestic product into research over the next five years. The funding will go largely to collaborations between academic researchers and industry. In addition, public authorities have started to take action on a problem that has held back the development of biotechnology: a lack of laboratory space. Initiatives by the national, regional, and local governments "will make large amounts of lab space available," says Till Jelitto, a faculty member at the University of Vienna who is also director of corporate planning and scientific administration at biotechnology start-up Austrian Nordic AG. "Because of that the prices of the space are falling by 30 to 40 percent this year."

Swiss biotechnology companies can expect to benefit from the Novartis Venture Fund. Set up by the company created in 1996 through the merger of Basel-based Ciba and Sandoz, this fund invests mainly in life science research projects in Switzerland and elsewhere. It also aims to foster entrepreneurship through symposia and lectures. One beneficiary of the fund is the "Biovalley," a trilateral grouping of life science companies in the triangular region that includes Basel, Freiburg, Germany, and Mulhouse, France. A spin-off from the original fund has a more parochial objective. It will spend 100 million Swiss francs (\$59 million) to help spin out companies based on research projects undertaken by Novartis scientists.

At the highest level of government, the European Union has played a significant role in stimulating the growth of the European biotechnology industry. The Union's Framework programs set

the tone. "The programs contained very explicit requirements for making good use of scientific results," explains Diderichsen, who holds the position of vice president of the European Federation of Biotechnology in addition to his corporate job. "They saw the need and helped to stimulate activities. Some small companies were formed as a result of the Framework programs."

More recently the EU's Biotechnology Program has supported research that will "reinforce basic biological knowledge as the common and integrated foundation for applications in agriculture, industry, health, and the environment. The program is also designed to find ways of assessing objective impacts and creating technical opportunities that are compatible with sustainable growth in Europe."

### Down in the Valley

The Medicon Valley represents perhaps the most outstanding example of the effect of well-organized and well-funded planning on a region's scientific fortunes. The Valley originally took scientific shape as a result of funds from the European Union, the Danish and Swedish governments, and individual companies with an interest in biotechnology and other forms of life science. Within the past three years it has grown into one of Europe's three largest regions for the practice of biotechnology and biomedicine. It has also expanded geographically. Originally conceived as a region consisting only of areas along the Øresund Sound (including greater Copenhagen and Sweden's southerly Skåne region), it has since grown along the coastlines to incorporate Aarhus, Denmark and Göteborg, Sweden.

One major stimulus for the growth of the Valley was the fact that pharmaceutical companies in Denmark and southern Sweden required basic services, including those made possible by biotechnology companies. Inhabitants of the Valley include Scandinavian pharmas NeuroSearch and Active Biotech, as well as branches of foreign companies Pfizer, Glaxo Wellcome, SmithKline Beecham, Eli Lilly, and Acadia Pharmaceuticals. It

also helps that the Valley contains 11 universities (most of which have strong life science departments) and 26 state-owned hospitals. Firms in the region therefore have a consistent source of trained scientists from which to recruit.

Having started successfully, the Valley community moved quickly to stimulate its own continued growth. Three years ago a group of universities, hospitals, and companies on both sides of the Øresund Sound created the Medicon Valley Academy. The MVA soon evolved into a kind of business club whose members can tap databases of researchers and research projects, organize collaborative projects, and help to establish standard working practices. "We now have 140 member institutions," says Diderichsen. "We feel a very strong sense of comradeship in the region."

### Significant Happenings

The MVA is just one example of Valley collaboration. The universities have their own version in the "Øresund University," which coordinates teaching and research and helps to oversee the

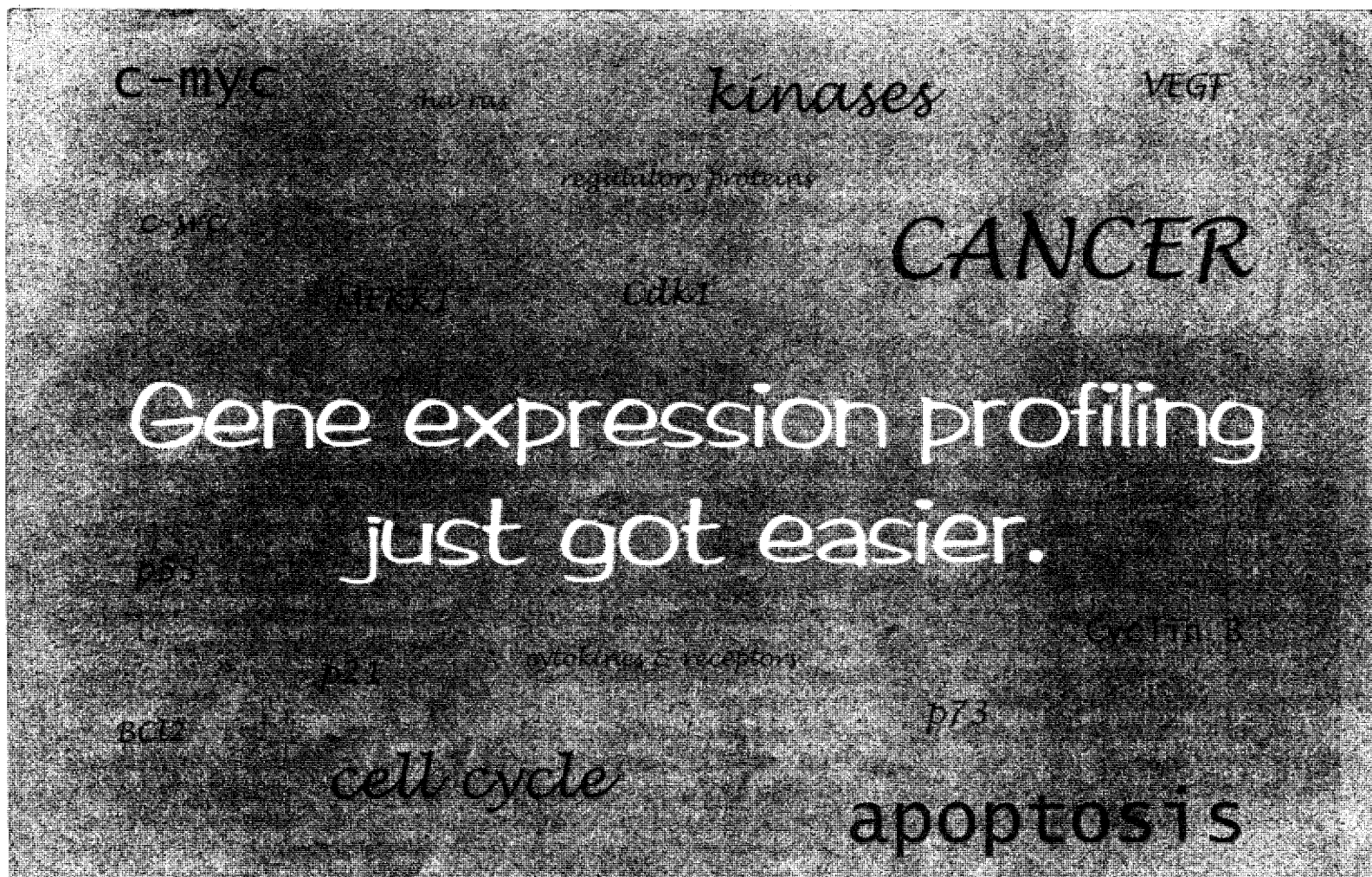
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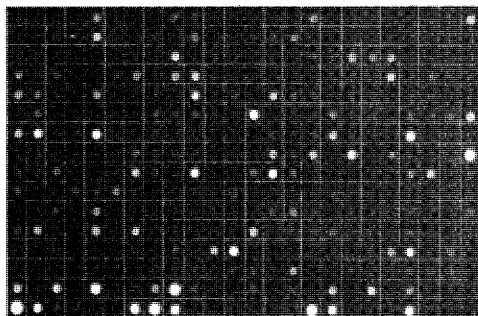
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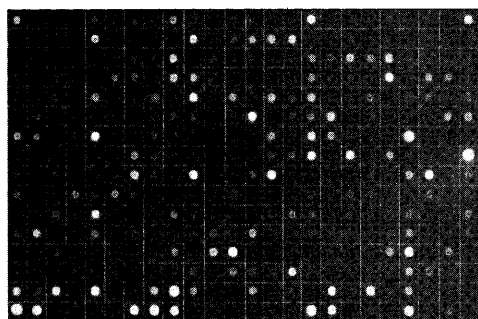
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**"Young scientists are now aware that if they are good enough and have the right experience, they can become millionaires within a year."**

**Børge Diderichsen, Novo Nordisk A/S**

creation of new research institutions in life science in the region. And early this year investors from the two countries separated by the Sound announced formation of the region's first venture capital company. Medicon Valley Capital started with \$48 million, which it plans to spend on encouraging the formation and growth of new companies in the biotechnology business and similar sectors.

Another significant event occurred last month when the Øresund Fixed Link, a combination of bridge and tunnel, opened for road and rail traffic across the Sound between Denmark and Sweden. The link facilitates travel of scientists of both nationalities between the two countries. The fact that individuals can cross the Sound in half an hour rather than the hour required by the traditional hovercraft gives firms on each side of the Sound a greater choice of scientists and lab technicians. Scientists and others have complained about the link's high tolls. Nevertheless, says Diderichsen, "We expect that the exchange of people will intensify."

The Valley is also experiencing the growth of corporate inhabitants. "A new biotechnology company or a spinout or an affiliate of an American company arrives about once a month," continues Diderichsen.

The most spectacular success of a venture in the Medicon Valley occurred in April. Maxygen, Inc., a California biotechnology company that specializes in molecular evolution technologies, spent a reported \$60 million to buy Copenhagen's ProFound Pharma A/S. Working with just 40 employees at the time of the sale, ProFound had been formed just a year before as a private company concentrating on protein pharmaceuticals. A group of researchers from Novo Nordisk created the company. "It was not a spinout but a jumpout," says Diderichsen.

The successful jump carried a message for other researchers in the region. "Young scientists are now aware that if they are good enough and have the right experience, they can become mil-

lionaires within a year," says Diderichsen. "I believe that this will give a significant boost to entrepreneurialism. Up to now, Scandinavian countries have been semisocialistic and suspicious about making money in this way."

### **Government Stimulation**

The Netherlands has faced a larger problem in its efforts to stimulate a biotechnology industry. Relatively few high school students choose to go into scientific research. And those who do so largely ignore the opportunity to branch out into the commercial world. "When young Dutch researchers start their careers in university, they never think about going into industry for research," says Klasen. "They think only about academic research."

The action plan advanced by the Ministry of Economic Affairs is designed to overcome that prejudice. The plan follows three main principles. It emphasizes new commercial activity in addition to more traditional academic research. It envisions the government playing the roles of both an initiator and an intermediary by bringing together major players and experts in commercial life science. And it calls for an integrated approach that will create a continuous mechanism for the launch of new enterprises in life science.

The plan itself has five major elements. It requires a life science platform, seed funding, incubators, funding of equipment, and funding of start-up capital. The platform will have perhaps the toughest challenge. It will need "to encourage an enterprise spirit among researchers and management of the research institutes," according to a government statement of its aims.

The plan does not start *de novo*. According to government estimates, the country already has almost 300 established companies in life science, including biotechnology, and more than 50 newly launched firms. "We have a middling position in Europe in that respect," say Klasen. "But we should be able to do better than that."

The Netherlands' neighbor, Belgium, is spark-

ing a biotechnology sector that focuses mainly on pharmaceuticals and diagnostics. According to the Belgian Bioindustries Association (BBA), the country now has 52 companies active in biotechnology working on everything from orphan drugs to testing drug resistance to food technology. "Belgium's bioindustry is maturing in much the same way as other European countries while maintaining our specific characteristic of university-industry collaboration," says BBA chairman Alain Scarso.

The government of Finland, meanwhile, has decided to build up a biotechnology industry based on existing strengths. The country has a small number of pharmaceutical companies. It also has an exceedingly strong communications industry, based in part on the need to use wireless communications in its sparsely inhabited northern regions. Thus, having decided to invest in biotechnology, the government focuses narrowly on technologies that combine life science and communications. "It's a wonderful example of a country that has made dedicated efforts in investment in science and technology," comments Diderichsen.

Finland has one other strength. The town of Espoo is the home of Helsinki University of Technology, the Technical Research Center of Finland, and what it describes as "the largest technology center in northern Europe." Espoo has become the focus of much Finnish research and development in biotechnology.

### **Building on Tradition**

Two nations at the extreme geographic ends of the European Union have only recently started to stimulate biotechnology industries. The late starts imply no lack of enthusiasm. Both Ireland and Austria have traditions in science. But until recently they have applied those traditions in areas apart from biotech.

BioResearch Ireland has a long history. The Irish government and a group of universities created it in 1988 as a partnership to facilitate

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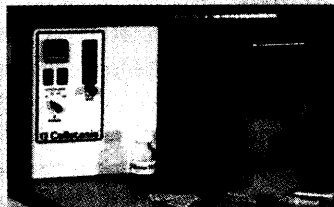
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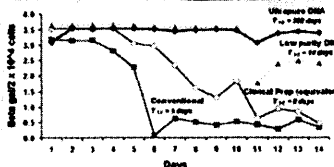
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the commercialization of opportunities arising from academic research relevant to biotechnology. "Essentially," says Canning, "we established five university research centers, as we had a strong research base. We concentrated on technology transfer for the first 10 years." Most of that transferred technology ended up outside Ireland. Even though several foreign pharma and health care companies set up European beachheads in the country, they focused largely on manufacturing rather than the development work required for early-stage biotechnology firms. Bright life science graduates typically emigrated to the Britain, other European countries, or the United States.

That began to change in 1997 with the formation of the Irish Bioindustries Association. The following year saw the creation of the state agency Enterprise Ireland, charged with supporting the growth of Irish industry. Since then, says Canning, "We have focused on keeping the technology here by licensing preferentially to Irish companies or by starting companies from scratch. We've spun off five companies so far." The government has also started to attract corporate investment in biotechnology from overseas. In May, for example, the Wyeth division of American Home Products announced that it would spend \$618 million over the next five years to set up a development facility in Dublin.

Facilities such as those should ensure that life science graduates remain in the country of their birth. Indeed, says Canning, "A big focus of the Science Foundation Ireland has been to attract scientists back and to get more of a world-class focus." BRI director Jim Ryan predicts that by the year 2010 more than 40,000 jobs in Ireland will have a biotechnology component, and that 6,200 of those jobs will be in Irish-owned companies.

To help reach those goals, BRI focuses on business savvy as well as scientific skills. "We try to facilitate training courses," continues Canning. "We're involved in a business master class run in conjunction with the Netherlands' de Baak Management Institute, Ireland's National Institute of Technology Management, University College, Dublin, and other key collaborators, helped by the European Union. We want to give an intensive course over six months in biobusiness that will include tips on financing and starting up a biotechnology company."

### Coming From Behind

Like Ireland, Austria has a strong tradition of academic life science. Only recently, however, has the country started to stimulate the growth of a biotechnology industry. The stimulation has taken the form of encouraging academic-industry collaborations and providing working space as well as delivering cold cash.

Thus the Innovations Agency, funded by the Federal Ministries of Economic Affairs and Science, has set up an Impulse Program in Biotechnology that provides grants for researchers interested in forming their own companies. The program helps scientists to apply for patents and to find licensing partners once their patents are granted. The City of Vienna has created what it calls a Biocenter. Consisting of a research institute and seven university life science departments, it is building an incubator for small biotechnology firms. The Biocenter has the ultimate goal of creating a cluster of life science companies based on the models pioneered by the United States, the United Kingdom, and Germany.

The plan has produced impressive results so far. "New biotechnology companies are springing up," says Jelitto. "As a guesstimate I would say that two are being formed each month." Biotechnology collaborations among government, industry, and academe are also emerging. "In the past couple of months we've seen a pioneering spirit in the industry," Jelitto continues. "Industry and university people have just formed the Life Science Circle to lobby for biotechnology and to help save each other money."

Collaborative efforts have started to solve the problem of sparse and expensive laboratory space. Intercell, for example, a relatively large biotechnology company with 60 employees, is about to move from very tight quarters into a new laboratory built to order by the City of Vienna. "Other companies are eagerly awaiting Intercell's departure to claim some of its space," Jelitto comments.

He sees another form of collaboration as likely to safeguard the future of Austrian biotechnology. "I think the biotechnology business will combine with Austria's tradition in civil engineering and building machines," he says. "A small focus is developing in the technology of filtering; companies are working on artificial livers, membrane filters, and beads that absorb toxins from the blood. This involves not just biotechnology but also a strong background in engineering. I could see Austria taking the lead in this segment."

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The Foundation has decided to support a small number of outstanding researchers and their teams. These researchers, selected by international peer review, will be offered SFI Principal Investigator Awards. The awards of up to £1 million (€1.3m, US\$1.2m) per annum will cover the cost of teams, possibly up to 12 people, over a three to five year period.

The SFI Principal Investigator and his/her team will function within a Research Body in Ireland: either in an Irish University, Institute of Technology or Public Research Organisation.

The areas covered in this Call for Proposals are:

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Multidisciplinary proposals in Biotechnology/ICT will be welcomed.

Proposals are invited from researchers who have made an outstanding contribution at an international level in basic research fundamental to the advancement of science in Biotechnology or ICT. The programme of research proposed must demonstrate the potential to make further major contributions to science in the area selected.

The full details of the call are available on our website at [www.sfi.ie](http://www.sfi.ie). Further assistance can be obtained by contacting our information desk at

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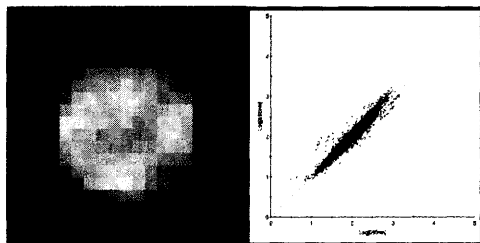
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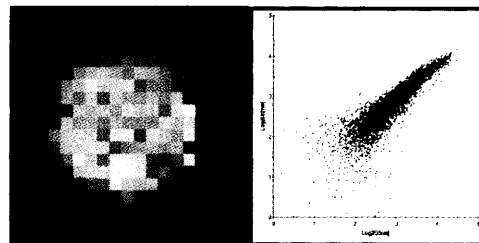
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## The Force of Public Opinion

Austria may be in the midst of a surge of biotechnology growth, but it is also in the forefront of a reaction against one manifestation of biotech. In April it became the first and only European nation to ban the introduction of GMOs. Technically the ban defies the regulations of the European Union, of which Austria is a member. However, the country has not yet been taken to court over the issue, and the ban has proved popular among the population.

"The resistance to GMOs is particularly strong in Austria, probably because Austrians are very earthbound and oriented to natural products," argues Jelitto. "People are very much bound to the ground. They grow a lot of their own food. They discuss food at work. Austrians are also 'change-o-phobes.' The older generation, at least, likes things to stay as they are. They have no need of more and different foods; they have enough naturally present."

Austrians aren't the only members of the European Union to express deep concern about genetically modified crops and other foods. According to the fourth Eurobarometer 2000 survey organized by the European Commission, "Food production is regarded as the application of biotechnology carrying the greatest risk... The majority of respondents do not give significant support to genetically modified food, with two-thirds not willing to buy GM fruit even if it has a better taste and over half willing to pay more for non-GM food. Only 2 percent would be willing to buy cooking oil containing a little genetically modified soya. Only 33 percent of those interviewed would be happy to eat sugar from GM sugar cane if all traces of genetic modification were eliminated and only 19 percent would be willing to eat the eggs of hens fed GM maize."

Executives in Europe's biotechnology industry regard the problem of public reluctance to sample GM foods as stemming in large part from the stealthy way in which those foods were introduced rather than their modified nature. "The main point of the consumer groups that have complained about the foods is that consumers should have a choice," says Diderichsen.

Whatever its cause, the issue won't go away soon. "The European Commission has stated that any moratorium imposed on GMOs is illegal," explains Keenan. "That could ultimately lead to companies taking the EU to court. If the European Commission proposes to stop the bans, it could

cause the issue to be revisited."

The good news for the biotechnology industry is that the continuing controversy over genetically modified foods has shown no sign of spilling over to other aspects of biotechnology. "Support for medical applications of modern biotechnology in the areas of pharmaceuticals and genetic testing remains high and does not appear to have been affected by the controversies over GM crops

and foods," states the Eurobarometer report. "Even the potentially controversial use of cloning techniques for human cells and tissues attracts moderate support. Hence the lower expectations for the future regarding biotechnology is as a result of attitudes towards particular applications and not to gene technology as a whole."

Peter Gwynne is a freelance science writer based on Cape Cod, Massachusetts, U.S.A.

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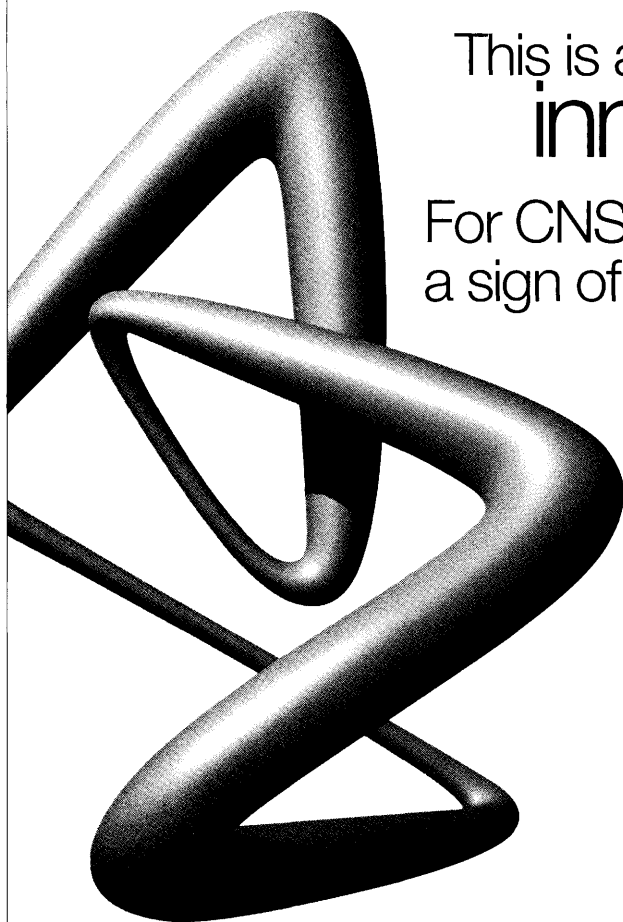
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This department provides the knowledge and expertise in neuroscience, which is critical in delivering high quality drug candidates for progression into development. Moreover, our strength in neurology and understanding of the pathophysiology of disease processes is a major factor in the identification, validation and selection of drug targets in CNS disorders.

**Neuroscientist** - Develop and apply in vitro models of neurodegeneration to the evaluation of potential therapeutics for acute and chronic neurodegenerative diseases. Respond to Req. #3841.

**Behavioral Pharmacologist** - Use various behavioral assessment techniques for concept testing and project support in such areas as anxiety, depression, schizophrenia and Alzheimer's disease. Respond to Req. #NE/BP.

**Senior Pharmacologist** - Provide expertise in the pharmacology of peripheral autonomic activity and an understanding of in vivo models designed to assess drug effects on the central nervous system. Respond to Req. #NE/SP.

### **LEAD DISCOVERY**

Leading edge in vitro technologies are essential for the rapid discovery and profiling of novel drug candidates. We are establishing a state-of-the-art high throughput screening (HTS) facility specifically focused on neurological disease targets, and expanding our Cellular Biochemistry and Informatics groups.

**Team Leader, Assay Development/HTS** - Combine knowledge of target mechanism-of-action and assay miniaturization formats with expertise in robotic systems to achieve sophisticated, biologically relevant HTS assays. Ph.D. required. Respond to Req. #3908.

**Receptor Pharmacologist** - Exploit the molecular mechanisms of GPCR and ion channels to profile the biological properties and SAR of chemical leads derived from HTS. Ph.D. required. Respond to Req. #3939.

**Enzymologist** - Provide expertise in molecular mechanisms and automated assay technologies to characterize chemical leads for neuronal enzyme targets. Ph.D. required. Respond to Req. #3897.

**Cellular Biochemist** - Develop innovative homogeneous and cell-based assays to profile chemical leads on biomolecular targets. Ph.D. required. Respond to Req. #4147.

**Informatics Scientists** - Perform HTS and secondary data analysis/mining with computational chemistry/biology methods. Ph.D. required. Respond to Req. #4349.

### **Research Associates - B.S./M.S.**

- **Assay Development/HTS** - Set-up, validate and perform automated biochemical and cell-based HTS assays. Respond to Req. #4249.

- **In Vitro Assay Automation** - Develop, optimize and implement automated homogeneous and cell-based assays to assess potency, selectivity and mechanism-of-action of lead compounds. Respond to Req. #4148.

- **Compound Management** - Participate in automated inventory and distribution of dry and liquid compounds, including an HTS plate library of 1 million samples. Respond to Req. #PC/RACM

AstraZeneca offers outstanding rewards to those who can help us help others. Please submit your resume, indicating Req. # of interest, online at: **[www.astrazenecacareers.com/science](http://www.astrazenecacareers.com/science)** or send to: **AstraZeneca, Human Resources, Indicate Req. # of interest, 1800 Concord Pike OW3, P. O. Box 15437, Wilmington, DE 19850-5437. Fax (302) 886-7124.** AstraZeneca is proud to be an equal opportunity employer.

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**University of Massachusetts Medical School  
Department of Biochemistry and Molecular Pharmacology**

A key element in the unprecedented research expansion taking place at the University of Massachusetts Medical School, the newly-formed Department of Biochemistry and Molecular Pharmacology under the leadership of Professor C. Robert Matthews is pleased to announce a major expansion of its faculty and facilities. Over the next several years, **ten new tenure-track faculty positions** will be filled in areas that complement existing programs and enhance the development of a chemical biology/biophysical perspective toward biological problems. Areas of interest include the assembly of multisubunit protein complexes, signal transduction mechanisms, membrane/protein interactions, the control of DNA expression, receptor/hormone interactions and small molecule interactions with proteins, DNA and RNA. Experimental and computational approaches that elucidate the sequence/structure/function relationships in these complex systems are encouraged. Candidates with a problem-oriented approach to the application of NMR spectroscopy to biology and those who plan to integrate synthetic chemistry into their programs are especially encouraged to apply. Faculty will occupy two floors in a new ten-floor 350,000 square foot research building that will be completed by September of 2001. Salaries and start-up packages will be competitive and commensurate with accomplishment for both junior and senior applicants. Successful candidates are expected to develop cutting-edge research programs that attract substantial external funding and that provide training opportunities for graduate students and postdoctoral fellows.

Junior applicants should send a cover letter explaining their interest in the department and a curriculum vitae that includes honors, publications and a brief research plan. Senior applicants should also include a brief description of current and future research activities and information on current grant support. Applicants should also provide the names and addresses of three individuals who are familiar with their work and potential for success. Materials should be sent to:



**Professor Anthony Carruthers, Chair Faculty Search Committee  
Department of Biochemistry and Molecular Pharmacology  
The University of Massachusetts Medical School  
55 Lake Avenue North  
Worcester, MA 01655**

Web site ([www.umassmed.edu](http://www.umassmed.edu))

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**Faculty Positions in Bioinformatics and  
Molecular Biology**

**Department of Biochemistry and Biophysics  
Texas A&M University**

The Department of Biochemistry and Biophysics at Texas A&M University invites applications for three tenure-track positions. **Bioinformatics** (1 position) - Research with a substantial component involving application of computational methods to modern molecular life sciences. Applications should be sent to Chair, Bioinformatics Search Committee. **Molecular Biology** (2 positions) - Research that addresses fundamental problems in any area of Molecular Biology or Molecular Genetics. Applications should be sent to Chair, Molecular Biology Search Committee. Candidates whose expertise fits into both of these areas may be considered by both search committees.

The appointments are likely to be at the Assistant Professor level, but inquiries from more senior candidates are encouraged. Successful candidates will be expected to establish an active research program and to participate in the teaching missions of the department. These positions offer a chance to join a Department with an energetic and interdisciplinary faculty, an excellent graduate program, and ample opportunities for collaborations with enthusiastic colleagues in this and other departments. With a student population of over 40,000, Texas A&M is an outstanding university centrally located between Dallas, Austin and Houston. For more information about the Department, see <http://www.tamu.edu/biobio/>.

Applicants should send a curriculum vitae, reprints of significant publications, statement of research interests and arrange to have three letters of reference sent to:

**Dept. of Biochemistry and Biophysics  
Texas A&M University  
2128 TAMU  
College Station TX 77843-2128**

Review of applications will begin October 15, 2000, and continue until the positions are filled. *Texas A&M University is an Affirmative Action/Equal Opportunity Employer committed to diversity.*

**Drug Discovery/Head of Department**

The University of Georgia College of Pharmacy invites applications for the position of Professor and Head of the Department of Pharmaceutical & Biomedical Sciences. The Department currently has twenty-five faculty members with more than sixty graduate students. The ideal candidate will have an outstanding scientific background with an established record of extramural support in the area of drug discovery related sciences. Also required are a demonstrated leadership ability and talent for administration together with a commitment to and proven ability to foster an interdisciplinary approach to research consonant with intent to take the College to the next level of biomedical research. The College and the University are planning major biomedical research initiatives, in which the candidate will be expected to play a major role.

Please send an application and/or nomination with a letter addressing candidate qualifications, complete CV and three names of references by October 2, 2000 by mail, e-mail, or fax to: **Professor David C. K. Chu, Chair, Search Committee, College of Pharmacy, University of Georgia, Athens, GA 30602**, E-mail: [dchu@rx.uga.edu](mailto:dchu@rx.uga.edu), or Fax: 706-542-5381.



**The University of Georgia**

The University of Georgia is an equal Employment Opportunity/Affirmative Action Employer. Applications from qualified women and/or minority candidates are strongly encouraged.

# Lilly's HISTORY of innovation

Lilly is a premier biotechnology company and a world leader in the production of therapeutic proteins. Our Research Technologies and Product Development division is leading the way in the race to identify drug targets and develop therapeutic proteins. We are continuing to expand our biotechnological expertise and are seeking the best and the brightest to join the scientific leaders of today and the future. Lilly has been driven by a commitment to excellence and the pursuit of innovative technologies to discover and develop novel pharmaceutical-based therapies for the world. For more than a century, Lilly has continually provided pharmaceutical solutions to provide longer, healthier and more active lives. Join our team and help lead the race for innovative science in the next century.

## BS/MS CELL BIOLOGIST - CELL CULTURE TECHNOLOGIES

A Research Associate position is available in the Cell Culture Research Facility located at the Lilly Corporate Center. This facility is part of the Research Technologies and Protein Product division and functions to provide non-GMP cell culture support to therapeutic area research, high through-put screening and lead optimization, and protein discovery and optimization. The responsibilities of the position include the culturing of mammalian and insect cell lines utilizing spinner, shake flask, and roller bottle technologies, cell harvesting, cell banking, performing cell transfections and viral transductions, preparing culture medium and related reagents, maintaining equipment and laboratory supplies, and running routine assays for cell growth/expression optimization. Other duties will include maintaining records in notebook form, generating computer spread sheets, and organizing and coordinating multiple projects.

This position requires a BS/MS degree in the Biological Sciences with 3+ years of applied cell culture experience. The ideal candidate will have worked with both adherent and suspension cell lines and have some experience in large scale cell culture operations. In addition, the candidate must possess good interpersonal and communication skills, be able to work flexible hours and work independently as well as part of a team. For confidential consideration, please send your resume and cover letter to: Dr. Don McClure (dbm@lilly.com) Eli Lilly and Company, LCC, DC# 0434, Indianapolis, IN 46285. Please reference source code: ADSCMR20.

## BS/MS SCIENTISTS - BIOCHEMICAL TECHNOLOGIES

We are seeking several highly qualified individuals with BS/MS degrees in biochemistry or related fields who are interested in working in the protein purification area. Proteins produced by recombinant DNA techniques will be purified at the multiple milligram level using standard purification techniques as well as using specific purification handles. The proteins will be purified in a high-throughput fashion but must be of high purity and endotoxin free. Expertise in protein purification and characterization including HPLC, column chromatography, SDS-PAGE, western blotting, protein sequencing, and mass spectrometry is highly desirable. For confidential consideration, please send your resume and cover letter to: Dr. Gerald Becker (gwb@lilly.com) Eli Lilly and Company, LCC, DC# 0403, Indianapolis, IN 46285. Please reference source code: ADSCMR21.

## PHD MOLECULAR/CELL BIOLOGIST - GENE EXPRESSION TECHNOLOGIES

We are seeking a highly motivated and innovative individual to join a team of molecular/cellular biologists.

This exciting position offers the candidate the opportunity to partake in the identification and functional characterization of drug targets and therapeutic proteins derived from genomics research. The candidate must have broad expertise in molecular biology/ cell biology, protein expression technologies and be willing to actively pursue, teach and apply new technologies in order to drive prioritized projects. The successful candidate must have a Ph.D. degree in the biological sciences, a minimum of 3 years of postdoctoral research experience and a track record for independent thinking. An additional 1-2 years of industrial experience will be a plus. (Contact Dr. Bernard Amegadzie; e-mail: amegadzie@lilly.com). For confidential consideration, please send your resume and cover letter to: Dr. Bernard Amegadzie (amegadzie@lilly.com) Eli Lilly and Company, LCC, DC# 0444, Indianapolis, IN 46285. Please reference source code: ADSCMR22.

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## BS/MS BIOLOGISTS- THERAPEUTIC ANTIBODY DEVELOPMENT

We are seeking highly motivated scientists who enjoy working in a collaborative environment to join a group of investigators involved in the development and characterization of antibodies as therapeutic agents. Qualified individuals will have a

B. S. or M. S. degree in biology or related fields with a background in immunology, cell biology, or a related discipline. Experience in the development of cell-based and biochemical assays is essential. Excellent communication skills (verbal and written), time management skills, and problem solving skills are required. For confidential consideration, please send your resume and cover letter to: Dr. Stuart Kuhstoss (sk@lilly.com) Eli Lilly and Company, LCC, DC# 1523, Indianapolis, IN 46285. Please reference Source Code ADSCMR24.

## PHD AND/OR MD IN VIVO BIOLOGIST - ANIMAL MODELS

We are seeking individuals with broad experience in the development and characterization of small animal models of disease. Candidates will have a minimum of 2 years postdoctoral experience in a laboratory recognized for its development and utilization of animal models of human disease. The primary interest is in rodent models of inflammatory and autoimmune diseases such as rheumatoid- and osteo-arthritis, inflammatory bowel disease and multiple sclerosis. Candidates with experience in models of fibrotic disease will also be considered. Excellent leadership and communication skills will be required to establish an in vivo biology group that will interact with scientists of broad discipline allowing the evaluation of an emerging pipeline of innovative bioproducts. For confidential consideration, please send your resume and cover letter to: Dr. Joseph Jakubowski (joseph@lilly.com) Eli Lilly and Company, LCC, DC# 0444, Indianapolis, IN 46285. Please reference Source Code ADSCMR23.

## BS/MS BIOCHEMIST - PROTEIN/BIOPHYSICAL CHEMICAL TECHNOLOGIES

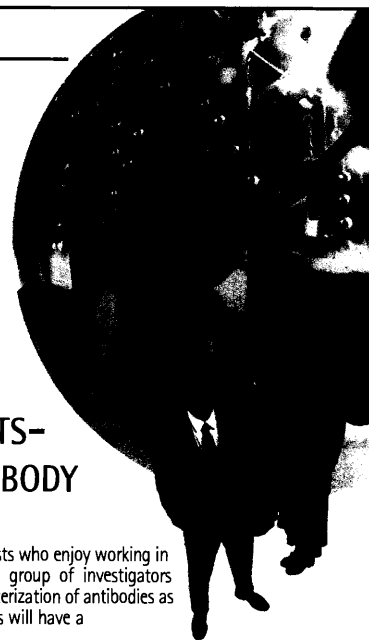
We are seeking highly motivated and dedicated scientists to join a dynamic group of investigators involved in addressing issues pertaining to the physicochemical properties of potential protein therapeutic agents through the use of biophysical techniques. Qualified candidates must have a Bachelors or Masters degree in Chemistry, Biochemistry or Biophysics, and a minimum of two years of laboratory experience in biophysical methods including spectroscopic techniques (e.g. Circular Dichroism and Fluorescence), and analytical chromatography. Experience in calorimetry, light-scattering, analytical ultracentrifugation, or plasmon resonance techniques is also preferable. Excellent communication (verbal and written), organization, and problem-solving skills are required. For confidential consideration, please send your resume and cover letter to: Dr. Bryan E. Jones (bejones@lilly.com) Eli Lilly and Company, LCC, DC# 1505, Indianapolis, IN 46285. Please reference Source Code ADSCMR25.

We provide the salary, compensation and advancement opportunities you would expect from an industry leader. For other positions and resume submittal, please visit [www.lilly.com](http://www.lilly.com)

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**Yale** UNIVERSITY

## Junior Faculty Positions in Ecology and Evolutionary Biology

### Biological Diversity/Systematics

The Department of Ecology and Evolutionary Biology at Yale University invites applications for a junior faculty (assistant professor) position in the area of biodiversity/systematics. We are broadly interested in individuals with research programs focused on biological diversity, including specialists on the phylogeny of any group of organisms and/or problems in character evolution, biogeography, disparity, diversification, etc. The Department of Ecology and Evolutionary Biology is a new and expanding department with excellent programs in molecular evolution and theoretical biology. Yale's Peabody Museum of Natural History provides access to outstanding systematics collections and the opportunity for a curatorial appointment.

Interested candidates should submit a CV, three relevant reprints or manuscripts, a brief research and teaching statement, and the names and addresses of four potential evaluators by October 15, 2000. Send all materials to: **Michael J. Donoghue, Chair, Biodiversity Search Committee, Yale University, Department of Ecology and Evolutionary Biology, P. O. Box 208106, New Haven, CT 06520-8106, E-mail: michael.donoghue@yale.edu.**

### Ecology

The Department of Ecology and Evolutionary Biology at Yale University invites applications for a junior faculty (assistant professor) position in ecology. We are broadly interested in individuals doing research on populations, communities, or ecosystems. A record of achievement and a promising research program are more important than the specific research area. The Department of Ecology and Evolutionary Biology is a new and expanding department with excellent programs in molecular evolution and theoretical biology.

Interested candidates should submit a CV, three relevant reprints or manuscripts, a brief research and teaching statement, and the names and addresses of four potential evaluators by October 15, 2000. Send all materials to: **Stephen C. Stearns, Chair, Ecology Search Committee, Yale University, Department of Ecology and Evolutionary Biology, P.O. Box 208106, New Haven, CT 06520-8106. E-mail: stephen.stearns@yale.edu.**

*Yale is an affirmative action, equal opportunity employer.*



**Signal Pharmaceuticals, Inc.**, a growing successful biotech company, has the following career opportunities available in the Cell Signaling and Target Discovery Group.

### Scientist/Sr. Scientist

(two positions available)

Qualified candidates will have a Ph.D. in Cell Biology or Biochemistry and at least 1-3 years of postdoctoral or industrial-pharmaceutical experience. The successful individuals should possess good interpersonal skills and have a desire to work in interdisciplinary project teams.

Qualified candidates will have a strong background in the analysis of ubiquitin-mediated protein degradation and cell cycle progression. Expertise in cancer or inflammation preferred. **Code: SSWX**

Qualified candidates will have a strong background in cell biology and signal transduction. A deep understanding of cancer and inflammation pathophysiology and relevant in vitro models is required. **Code: SSJW**

Positions are commensurate with the experience level of the candidates.

Signal offers a competitive compensation package that includes equity participation. Please send resume, indicating Job Code to: **Signal Pharmaceuticals, Attn: L. Cain, 5555**

**Oberlin Dr., San Diego, CA 92121**

or E-mail at [lcain@signalpharm.com](mailto:lcain@signalpharm.com)

See our website at

[www.signalpharm.com](http://www.signalpharm.com) EOE

**SIGNAL**  
PHARMACEUTICALS, INC.



**Mississippi State**  
UNIVERSITY

### DIRECTOR, LIFE SCIENCES AND BIOTECHNOLOGY INSTITUTE

Mississippi State University seeks a director who will help establish a new Life Sciences and Biotechnology Institute (LSBI). The successful candidate will be an accomplished, internationally recognized scientist with a record of leadership in academe, industry, or government. The director will communicate the purpose, programs, impacts, and accomplishments of the LSBI within the university and to key state and national leaders.

The LSBI is being established following a 24-month strategic analysis sponsored by a private foundation and carried out by a team of nationally recognized experts and will include four research focus areas: genetic modification and value addition, diagnostics and detection, environmental quality and waste remediation, and computational biology. The institute will build on the university's existing strengths in the agricultural and biological sciences to include faculty from six academic colleges as well as the NSF Engineering Research Center for Computational Field Simulation; the Remote Sensing Technologies Center; the College of Veterinary Medicine; the Forest and Wildlife Research Center; the MS Agricultural and Forestry Experiment Station; and the MSU Extension Service.

MSU ranked eighth in the nation in FY 1998 in research expenditures for agriculture and life sciences, as reported by NSF. MSU also ranked 49<sup>th</sup> in engineering research expenditures and 59<sup>th</sup> among public universities in overall science and engineering research expenditures.

Salary will be competitive and commensurate with qualifications and experience. Professorial rank and tenure may be conferred on the basis of academic credentials. Minimum acceptable qualifications include: a Ph. D or equivalent in a field related to life sciences and biotechnology, at least 5 years experience conducting a nationally recognized research program, comprehensive knowledge of the process of commercializing technology, excellent oral and written communication skills, and the ability to communicate programs to a broad audience including the university community, the commercial sector, and state and federal policymakers. Submit applications with a letter of interest, a current curriculum vitae, a statement of qualifications and vision for the LSBI, and three references to: **J. Charles Lee, Vice President for Agriculture, Forestry and Veterinary Medicine, Box 9800, Mississippi State University, Mississippi State, MS 39762.** Review of applications will begin September 11, 2000. AA/EOE. For more details on LSBI see <http://www.mafes.msstate.edu/biotech/>.

# Research Opportunities in Reproductive Biology



As the world's premier biotechnology company in Reproductive Health, we are committed to the discovery of new, innovative medicines for treating infertility and reproductive illness. To ensure a strong science base, we are also dedicated to support exploratory research with the goal of publishing high-quality papers. To lay the foundation of our future growth in these areas, we currently have the following exciting drug discovery and basic research opportunities.

With recombinant molecules in the areas of Reproductive Health, Growth, Wasting, Multiple Sclerosis and Immunology/Oncology under current development, Serono ranks today among the world's leading Biotech companies. With sales of \$1 billion in

1999 and an annual R&D investment exceeding \$200 million, Serono can offer its employees financial stability, entrepreneurial spirit, an innovative product line, and a unique, fully integrated biotech operation.

Be part of Serono's future.



Serono's future 200,000 sq. ft. suburban Boston campus.

## Director of Scientific Computing

We are looking for a senior bioinformatics/cheminformatics scientist to lead and manage our scientific computing group. Responsibilities include supporting our genomics projects through implementing essential bioinformatics analysis and database mining tools, supervising our cheminformatics activities in support of our high-throughput screening and chemistry department as well as interfacing with key members of the SRBI biology and lead discovery project teams. Close and effective communication with our sister institute in Geneva (SPRI) is essential. Requires a Ph.D. in Molecular Biology, Computer Science, Mathematics or Physics along with 5 years' experience in bioinformatics including 3 years' leadership or management experience. Excellent communication skills required.

## Formulation Scientist

The successful candidate will join multidisciplinary teams involved in small molecule drug discovery. In this position, you will design and execute studies aimed at developing pre-formulations and delivery systems for establishing "proof of concept" of early lead candidates. This position requires close interactions with medicinal chemistry, analytical chemistry and *in vivo* pharmacology groups. We are seeking a talented individual with a Ph.D. in Chemistry, Pharmaceuticals or equivalent and at least 2-3 years' postdoctoral experience in analytical chemistry or pre-formulations. Strong written and oral communication skills and the ability to work in a multidisciplinary team environment are essential.

## In vivo Pharmacokineticist

We are seeking an experimental pharmacokineticist with a Ph.D. or equivalent and proven experience with *in vivo* animal pharmacokinetic models. This position will work as a member of a multidisciplinary team in conducting pharmacokinetic and metabolism experiments to support early evaluation and selection of lead candidates. An excellent understanding of current pharmacokinetic techniques as well as experimental drug formulations and delivery systems is essential.

## In vivo Pharmacologist

Utilizing your proven experience with *in vivo* animal pharmacology models (preferably models related to reproduction or cancer), you will work as a member of a multidisciplinary team in developing animal models of male/female fertility to support early proof of concept studies of lead candidates. Requires a Ph.D. or equivalent coupled with an excellent understanding of current molecular pharmacological techniques. Experience in the pharmaceutical or biotechnology industry is desirable.

## In vitro Pharmacologist

In this role, you will work as a member of a multidisciplinary team to support early pharmacological evaluation of lead candidates in the area of reproduction and cancer. Requires an experienced pharmacologist with a proven track record in bioassay development and early drug candidate evaluation. Excellent communication skills and the aptitude to work in a highly collaborative environment is essential. Requires a Ph.D. in a pharmaceutical/biological science and 3 - 5 years' relevant postdoctoral experience in drug discovery or pharmaceutical research.

## Protein Chemist

We are seeking a protein chemist to perform biophysical analysis, purification and characterization of proteins on both small scale (<1 L) and large scale (5 to >20L). This position requires training in one or more of the following areas of expertise: biochemical kinetics, membrane proteins, drug target validation, purification process development, therapeutic protein formulation and analysis. Must have MS or Ph.D. in Chemistry, Biochemistry, Biophysics or Chemical Engineering along with excellent computer skills. Experience with surface plasmon resonance is a plus.

## System and Database Administrator

We are seeking a dynamic computer scientist to administer a small network of scientific UNIX workstation and servers. In-depth knowledge of system administration on different UNIX platforms required. Experience in Oracle database administration, programming (Perl, CGI, Java, C) and a passion for science a plus. Extensive training opportunities will be available for candidates with excellent potential.

## Research Associates

Research associate positions available for individuals with a BS/MS in Biological Sciences with 1-3 years' experience in molecular biology, cell biology, biochemistry or cellular signaling. Successful candidates will work as a member of a multidisciplinary team in our new exploratory biology group focused on the identification and validation of new drug targets in cancer and reproduction. Experience in signal transduction desired.

**Serono Reproductive Biology Institute, Inc.**

Attn: Human Resources

280 Pond Street, Randolph, MA 02368

Fax: (781) 986-7873

E-mail: [resumes.srbi@serono.com](mailto:resumes.srbi@serono.com)

For a closer look at Serono, please visit us at:

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Princeton University

# **TENURED FACULTY POSITION in the PLASMA PHYSICS PROGRAM, DEPARTMENT OF ASTROPHYSICAL SCIENCES**

Princeton University seeks a distinguished senior plasma physicist for full-time tenured faculty appointment in the Department of Astrophysical Sciences with joint responsibilities at the Princeton Plasma Physics Laboratory. The primary criterion for selection will be demonstrated outstanding capability for original research in theoretical plasma physics and high-temperature fusion plasmas. Excellence is required in both research and teaching.

Applicants should forward two (2) resumes, bibliography, research statement and other relevant material to **Employment Manager, Princeton Plasma Physics Laboratory, James Forrestal Campus, P.O. Box 451, Princeton, NJ 08543-0451. Fax (609) 243-2050. E-mail resume to careers@pppl.gov.** Please arrange to have three knowledgeable scientists send letters of recommendation. Consideration of applications will begin immediately. Women and minorities are encouraged to apply. Princeton is an equal opportunity, affirmative action employer

## **UNIVERSITY OF MINNESOTA**

Twin Cities

### **Department of Genetics, Cell Biology, and Development Tenure-Track Faculty Positions**

The Department of Genetics, Cell Biology, and Development seeks candidates for two new tenure-track positions at the Assistant or Associate Professor level in the disciplines of Cell Biology and/or Genetics. The Department serves as a focal point for the University of Minnesota's \$123 million initiative in Molecular and Cellular Biology and will be housed largely in the new MCB building to be occupied April 2002. Research strengths in the Department include structure/function of the cytoskeleton, transposon biology and genome manipulation, human and cancer genetics, and developmental genetics of model organisms (including fungi, worms, flies, zebrafish and mice). Candidates working in all areas of Cell Biology or in Genetics will be considered, but specific areas of research expertise sought in Cell Biology include signal transduction, membrane trafficking, cell interactions, nuclear-cytoplasmic interactions, growth control and the cell cycle. Those sought in Genetics include gene expression, genomics (including whole-genome approaches), gene interactions and regulatory pathways, and chromosome organization and function.

Candidates must have a Ph.D. and/or M.D. degree, at least two years of postdoctoral experience, and a strong publication record. Successful candidates will be expected to develop independent, externally funded research programs. The ability to interact collaboratively among a variety of disciplines will be encouraged and participation in the undergraduate, graduate and/or professional teaching programs of the Department will be expected. Successful candidates must be U.S. citizens or be able to secure permanent resident status. Successful candidates will receive starting salaries commensurate with education and experience and substantial start-up packages. For additional information on the Department, and the University, see <http://www.gcd.med.umn.edu>.

Please send a curriculum vitae, statement of research interests, and three letters of recommendation that consider both research and teaching potential to: **GCD Faculty Search Committee, c/o Mary Muwahid, University of Minnesota, Department of Genetics, Cell Biology, and Development, 6-160 Jackson Hall, 321 Church Street SE, Minneapolis, MN 55455.** Review of applications will begin October 15, 2000 and will continue until the positions are filled.

*The University of Minnesota is an equal opportunity educator and employer.*

## **PURDUE UNIVERSITY, DEPARTMENT OF BIOCHEMISTRY Faculty Position, Biochemistry and Molecular Biology**

Applications are invited for a tenure-track faculty position in the Department of Biochemistry at the rank of Assistant Professor. We are interested in individuals who employ genomic information to approach important biochemical problems. Examples include novel strategies for assigning function to proteins identified through genomic analyses, large scale characterization of protein expression and modification (proteomics), combinatorial chemistry to elucidate protein function, or the directed modification of metabolism through *in vivo* genome manipulations. The research program may focus upon any model organisms for which adequate genomic resources are available. A strong record of research accomplishments at the post-doctoral level is essential. It is expected that the candidate will be prepared to lead a vigorous, extramurally-funded research program.

Purdue is actively recruiting a strong core of young faculty in genomic and post-genomic biology through the Purdue Genomics Initiative which has committed more than twelve positions in the past two years to this research area. Collegial support for this position is excellent.

The successful candidate will be an active participant in the teaching programs of the department, which include undergraduate, graduate, and medical curricula. A significant part of the evaluation of faculty candidates will be the perceived effectiveness of the candidate as a teacher.

Competitive start up funds and excellent laboratory space will be provided. University-wide support facilities include state-of-the-art genomic analysis instrumentation, protein and peptide sequencing and synthesis, modern mass spectrometers, high field NMR equipment, X-ray crystallography, and computational facilities.

Curriculum vitae, the names and addresses of three individuals who can supply letters of reference, a two-page summary of research interests, and a statement of the candidate's teaching approach and philosophy are required for an application. The screening of applications will commence immediately and will continue until the position is filled. **Biochemistry Search Committee, Department of Biochemistry, Purdue University, West Lafayette, IN 47907-1153 USA**

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too great to resist!*

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We have an ongoing need for Research Associates/Scientists, Chemists and Chemical Engineers in the following areas:

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**HIGH THROUGHPUT  
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**MICROBIOLOGY**

**BIOCHEMISTRY**

**FUNGAL GENOMICS**

*These exceptional career opportunities are supported by a competitive salary and excellent benefits. If you're an energetic, motivated professional, please mail your resume to Microcide Pharmaceuticals, Inc., Attn: Human Resources, 850 Maude Avenue, Mountain View, CA 94043. Fax to (650) 428-3566. E-mail to [hr@microcide.com](mailto:hr@microcide.com). EOE*

For more information on these and other opportunities, visit our website at

[www.microcide.com](http://www.microcide.com)



**MICROCIDE**  
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# Found it.

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If you are challenged by the possibilities of changing the world with great care...inspired by the opportunities of this challenge...desire to be part of an innovative premier healthcare company that celebrates your successes as well as our own...then, you have **found it at Bayer.**

Right now, we have the following exceptional opportunities available with **The Bayer Center for Biotechnology in Berkeley, CA.** We are responsible for the discovery, production, and preclinical development of novel biopharmaceuticals that address highly unmet medical needs. These agents are developed together with the worldwide Bayer organization, offering you the opportunity to join a global team whose values are linked directly to our patients and to the lives of future generations.

### **Director, Preclinical Development**

As part of Bayer's Center for Biotechnology, you will manage three key biopharmaceutical development areas: Pharmacokinetics/Analytical, Toxicology, and the Vivarium, requiring a high level of team collaboration across the global organization. Your department of approximately 30+ staff members will play one of the most important roles in bringing new protein products into clinical testing and the market. You will be expected to create high-quality preclinical strategies for candidate proteins in order to efficiently achieve their development milestones.

You will also be responsible for the operations of the Vivarium in accordance with AAALAC and USDA standards. Expanding our state-of-the-art animal husbandry standards will require managerial experience in this type of facility and with the regulations governing animal care/use.

Your 8+ years' experience in biopharmaceutical drug development, preferably with a toxicology-based technical background, will reflect a significant record of achievement and demonstrated management experience. Excellent communication skills to collaborate on cross-functional teams are essential. A solid background in contract labs is required. Preference will be given to those candidates with US, EU and Japan development experience. Job Code SF0003

### **Sr Staff Scientist, Cell Biologist**

With an eye toward improving our cell banking technology, you will be responsible for preparing cell banks for production cell lines. In addition, you will utilize your strong analytical and documentation skills to develop and conduct cell-based assays for the analysis of candidate protein products.

Requires a PhD with 8+ years' experience, encompassing GMP cell banking, regulatory issues, and a high degree of technical expertise in the areas of molecular and cellular biology. Your expertise should include PCR techniques to detect adventitious agents, large-scale mammalian cell culture techniques, transfection/selection/amplification of cells, cloning, and fermentation. Your significant scientific contributions will be exemplified through publications and technical presentations. Must have strong communication skills to work within a team of diverse technical abilities. Job Code SW0950

### **Staff Scientist, Analytics and Formulation**

The successful candidate will direct the laboratory responsible for structural characterization of recombinant proteins using HPLC, SDS-PAGE, amino acid analysis, protein sequencing and mass spectrometry. In addition, you will develop characterization plans for protein therapeutics and take major responsibility for writing characterization documents for regulatory submissions. Requires a PhD with 6+ years of proven experience in protein structural analysis and peptide mapping, protein sequencing and mass spectrometry. At least 3 years of supervisory background in an industry setting will round out your qualifications. Job Code SW0624

Find it for yourself. Apply today. Please forward your resume, indicating Job Code of interest, to: Bayer Corporation, Pharmaceutical Division, P.O. Box 3238, Scranton, PA 18505-0238. Fax: (888) 805-7474. E-mail [bayerpharma@alexus.com](mailto:bayerpharma@alexus.com) Please indicate Job Code of interest on all correspondence. For information on career opportunities at Bayer, visit our Web site at [www.bayerpharma-na.com](http://www.bayerpharma-na.com) An Equal Opportunity Employer M/F/D/V.

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**Pharmaceutical  
Division**

# Leading the Genomic Revolution

On the leading edge of genomic-based drug discovery, Isis Pharmaceuticals is focused on RNA. We've created important new drug discovery technology platforms to identify the function of genes and their importance in drug discovery, and to design highly specific drugs that are less toxic for patients. Our technologies have the potential to improve the productivity of the pharmaceutical industry and are already generating an exciting and renewable product pipeline for Isis. Through advances of this caliber, we seek to change the landscape of disease treatment and patient quality of life.

## Associate Director/Director Functional Genomics

Isis Pharmaceutical's functional genomics division, GeneTrove, is seeking a senior-level leader to head a group responsible for developing high throughput cell culture based assays. The candidate will work closely with a multi-disciplinary team responsible for defining the function of novel gene products and validating novel genes as potential drug targets. The candidate should have experience with automating high throughput cellular-based drug screens. Experience with engineering robotic systems, VisualBasic and Linux based programming and mammalian signal transduction pathways is highly desirable. The candidate should have a Ph.D. or M.D. degree with at least six years' post-degree experience and a proven track record of providing leadership in an industrial setting. (Code 379)

## Histologist/Laboratory Manager

We are seeking a Histologist/Laboratory Manager for the Department of Pharmacology. Supervisory experience and extensive knowledge of tissue morphology and immunohistochemical techniques in multiple animal models is necessary. Requires a thorough understanding of routine histological techniques, including embedding, paraffin sectioning, routine and special stains and frozen sectioning. The ability to communicate with others, independently troubleshoot and solve technical issues is critical. Must thrive in a fast-paced, deadline-oriented, creative research environment. Experience with photo-microscopy techniques, video capturing and editing is needed. Requires B.Sc. or Ph.D., with a minimum of 5 years' relevant experience. HT or HTL (ASCP) certification preferred. (Code 380)

Isis offers competitive salaries and excellent benefits. Please send resumes to: **Isis Pharmaceuticals, Code 379, 2292 Faraday Ave., Carlsbad, CA 92008; Fax: (760) 603-2700; E-mail: [hr@isisph.com](mailto:hr@isisph.com)** Principals only No phone calls please. EOE.

**ISIS PHARMACEUTICALS**



## POSTDOCTORAL RESEARCHER/ SENIOR POSTDOCTORAL RESEARCHER

(one or more positions)

**Biological Computation and  
Visualization Center,  
College of Basic Sciences**

**Louisiana State University and  
Agricultural and Mechanical College,  
Baton Rouge**

**Louisiana State University Health  
Sciences Center, New Orleans**

Several postdoctoral researcher/senior postdoctoral researcher positions are available at the newly created Biological Computation and Visualization Center (College of Basic Sciences/BCVC) at Louisiana State University Agricultural and Mechanical College (LSU A&M) in Baton Rouge and the LSU Health Sciences Center (LSUHSC) in New Orleans. The BCVC comprises: A vision research group consisting of Roger Beuerman and Hilary Thompson at the LSUHSC and Charles Harlow in biomedical engineering at LSU A&M; The comparative and functional genomics group consisting of Mark Batzer and Prescott Deininger at LSUHSC and Tulane University Medical Center, respectively, and David Pollock in biological sciences at LSU A&M; A radiobiology group consisting of Mark Williams and Erno Sajo at LSU A&M and physicians at Our Lady of the Lake and Woman's Hospital in Baton Rouge; A 3D imaging group consisting of biologists (Evanna Gleason, John Lynn, and Harold Silverman), a chemist (Leslie Butler), and a physicist (Richard Kurtz); A group of computational scientists (Sumanta Acharya, Rajiv Kalia, and Priya Vashishta) and computer scientists (Sitharama Iyengar and Aiichiro Nakano).

Research activities at the BCVC focus on modeling/simulation, data mining, and advanced scientific visualization supporting experimental and clinical studies in vision, genomics, and tissue architecture. The BCVC research groups are involved in the integration of mathematical modeling/simulation, data mining, and 3D immersive and interactive visualization with anatomical and physiological data to describe 1) genome wide biology with emphasis on predicting the function of unknown genes, human genetic variation and its biological consequences, and the sequence organization of the human genome; 2) fluid movement out of the eye related to glaucoma and multi-spectral analysis of the eye using real-time confocal microscopy to study retinal development and for non-invasive diagnoses of diabetic retinopathy; 3) fluid dynamics of cilia/particle interactions; 4) spectral and fluorescent analyses of intercellular processes; and 5) targeted radiation research important for localized tumor treatment.

Applicants must possess a Ph.D. and/or an M.D. in the physical, biological or computer sciences, or one of the engineering disciplines. Salary and title will be commensurate with education and experience. Application deadline is September 8, 2000, or until candidate is selected. Please submit a cover letter, CV including bibliography, and contact information for at least 3 references to: **Rajiv Kalia, Concurrent Computing Laboratory, Department of Physics and Astronomy, Nicholson Hall, Louisiana State University, Ref: Log #0179, Baton Rouge, LA 70803-4001. LSU is an Equal Opportunity/Equal Access Employer.**

**PENNSTATE**

**The Milton S. Hershey Medical Center  
The College of Medicine**

## BIOMEDICAL ENGINEERING FACULTY POSITION

The Biomedical Engineering Institute and the Department of Surgery at The Pennsylvania State University College of Medicine invites applications from individuals pursuing challenging and exciting research and teaching opportunities in artificial organs, biomaterials development and evaluation, or related areas. This tenure-track position provides the opportunity for an interdisciplinary interaction and approach to the development of future artificial organs. The successful candidate will develop an independent research program aligned with the goal of developing artificial organs. The applicant should have a demonstrated record of research activity in a biomedical engineering area pertinent to artificial organs development. The candidate must also demonstrate a commitment to teaching in the Bioengineering graduate program. A joint academic appointment will include a primary appointment in the College of Medicine (Surgery) and a secondary appointment in the College of Engineering (Bioengineering).

*Please send a curriculum vitae including a list of publications, names of at least three references, and an abstract of research and teaching interests immediately to:*

**William J. Weiss, Ph.D., Chair  
Faculty Search Committee  
Biomedical Engineering Institute  
The Pennsylvania State University  
College of Medicine**

**M.C. H-151, P.O. Box 850, Hershey, PA 17033-0850**

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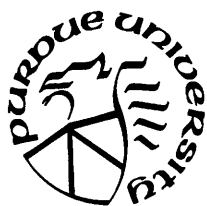
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# PURDUE UNIVERSITY

## AGRICULTURAL GENOMICS INITIATIVE

The Purdue University School of Agriculture, building on its strengths in the plant sciences, established the Agricultural Genomics Initiative in 1998 and added seven positions in 1999. We are now pleased to announce five additional new faculty positions in functional genomics and proteomics.

The current searches are focused on value-added agricultural traits, as well as the application of functional genomics to basic biological problems. We seek creative individuals who will have an impact on agriculture and the environment through outstanding research and education programs related to agricultural genomics and biotechnology, and who are interested in fostering an atmosphere that encourages commercial applications of biotechnology. Successful candidates will be appointed in appropriate academic departments within the School of Agriculture. They will be expected to develop and sustain internationally recognized and externally funded research programs, contribute to the teaching of both undergraduates and graduate students, and develop strong working relations with clientele groups, including government and industry.

Successful candidates will join a thriving community of scientists, many of whom are housed in Whistler Agricultural Research Building, which features 60,000-ft<sup>2</sup> of state-of-the-art facilities devoted to genomic-based approaches in agricultural sciences. Recent investments by the state (\$37M) and NSF (\$500K) have brought over 50,000-ft<sup>2</sup> of modern plant growth facilities to the Purdue School of Agriculture campus. Agricultural genomics research programs are supported by a new NSF-Genomics Core Facility, which includes high throughput DNA sequencing and micro-array technology. Core facilities in protein sequencing, plant transformation, transgenic animals, and microscopy and image analysis are also available. A strong interdisciplinary atmosphere is fostered at Purdue University through a number of graduate training programs, including Plant Biology, Genetics, and Biochemistry and Molecular Biology.

### **Assistant Professor-Maize Genetics**

Department of Agronomy. Successful applicant will conduct genetic and germplasm research to improve the value of maize. Focus could include nutritional and/or quality attributes of maize. Scientists using large-scale genomic approaches such as positional cloning, EST databasing, and/or gene expression profiling are encouraged to apply. Interaction with physiologists, biochemists, and food scientists is encouraged. *Contact* Dr. William W. McFee, Head, Department of Agronomy <wmcfee@purdue.edu>, (765) 494-4774.

### **Assistant Professor-Soybean Genetics**

Department of Agronomy. Successful applicant will conduct a research program focused on enhancing the economic value of soybeans, utilizing traits from soybean or other target species. Experimental approaches could include genomics, plant breeding, crop evolution, and biochemistry/molecular biology of plant traits. Collaboration with scientists in a broad range of disciplines at Purdue and other institutions is encouraged. *Contact* Dr. William W. McFee, Head, Department of Agronomy <wmcfee@purdue.edu>, (765) 494-4774.

### **Assistant Professor-Plant Biochemical and Molecular Genetics**

Department of Horticulture and Landscape Architecture. Successful applicant will pursue a vigorous research and teaching program directed towards increasing the value of horticultural crops. Research area is flexible but could include studies on the nutritional, medicinal, industrial, or aesthetic properties of horticultural crops, or on other traits with potential to increase horticultural crop value. *Contact* Dr. Edward N. Ashworth, Head, Department of Horticulture and Landscape Architecture, <ashworth@hort.purdue.edu>, (765) 494-1306.

### **Assistant Professor-Biochemistry and Molecular Biology**

Department of Biochemistry. Successful applicant will employ genomic approaches to important biochemical problems. Focus could include novel strategies for assigning function to proteins (proteomics), combinatorial chemistry, and metabolic engineering. Researchers who utilize model organisms with sequenced genomes are encouraged to apply. *Contact* Dr. Mark Hermodson, Head, Department of Biochemistry, <hermodson@aclcb.purdue.edu>, (765) 494-1636.

### **Assistant Professor-Carbohydrate Chemistry**

Department of Food Science, Whistler Center for Carbohydrate Research. Successful applicant will be a carbohydrate polymer chemist whose focus is on the structural biology of complex carbohydrates from plants, including starches, cell wall materials, and novel polysaccharides. Collaboration with plant molecular biologists, utilizing genomics and biotechnology to modify plants for value-added traits is expected. *Contact* Dr. Phil Nelson, Head, Department of Food Science <nelsonpe@foodsci.purdue.edu>, (765) 494-8257.



Purdue University  
School of Agriculture  
1140 Agricultural Administration  
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We are seeking Ph.D.s with experience in *in vivo* neuropharmacology/neurophysiology and a minimum of 2-4 years' relevant postdoctoral or industrial experience to join an expanding multidisciplinary team studying basic mechanisms and novel therapeutic approaches in the areas of analgesia, migraine, neurodegeneration and psychotherapeutics. Leadership and demonstrated expertise in the establishment and use of behavioral animal models, particularly those relevant to analgesia, as well as *in vivo* neuroelectrophysiological recording experience are highly desired.

We offer an excellent salary and comprehensive benefits program, including tuition reimbursement and one of the best 401(k) plans in the nation, as well as opportunities for personal growth. Please submit your resume, official transcript, the names of 3 references, and a cover letter indicating salary requirements and your position of interest, to: **Merck Positions, PAF Code: XHXMRS MKH08250, P.O. Box 92164, Los Angeles, CA 90009-2164. E-mail: merck@resume.isearch.com Fax: (310) 337-3393.** Only candidates considered for interviews will receive responses. No phone or agency calls please.



We are an equal opportunity employer, m/f/d/v.

## **Research Scientist**

The USDA Forest Service invites applications for a permanent position (GS-13/14 level, salary range \$59,623 to \$70,457) as a research scientist in the Forest Ecosystems Team of the Pacific Northwest Research Station. The successful applicant will serve as a leader of the Andrews Forest Long-Term Ecological Research Program focused on forest and stream ecology and watershed sciences, develop his/her own research program, advise graduate students, and work cooperatively with forest land managers. The position requires demonstrated science leadership in one or more of the following: watershed processes, ecosystem ecology, landscape ecology, disturbance ecology, or related research areas, preferably at landscape to regional scales. She/he will be an employee of the USDA Forest Service and expected to meet the qualifications of an associate or full professor at Oregon State University, Corvallis, Oregon. When the position is formally announced, a copy of the vacancy announcement with information about application procedures will be sent to you upon request. Interested individuals should send name, address, e-mail address, and telephone number to **Fred Swanson, Forestry Sciences Laboratory, 3200 SW Jefferson Way, Corvallis, OR 97331 by September 25, 2000.** The vacancy announcement will also be available at [www.usajobs.opm.gov](http://www.usajobs.opm.gov). For information about the position, please contact Fred Swanson at (541) 750-7355 or at e-mail [fswanson@fs.fed.us](mailto:fswanson@fs.fed.us). *USDA is an equal opportunity employer.*



## **The University of Texas at Austin**

### **Faculty Position in Signal Transduction Molecular Cell and Developmental Biology The Institute for Cellular and Molecular Biology**

A faculty position is open for an outstanding scientist studying signal transduction in an animal, fungal or plant system. While we are primarily interested in candidates at the Assistant Professor level, exceptional candidates at any level will be considered. The successful candidate will be expected to build a vigorous and well-funded research program and to contribute to the school's teaching mission. A competitive start-up package and salary are available. The Institute for Cellular and Molecular Biology provides state-of-the-art facilities for cell and molecular biology.

The molecular biology community at The University of Texas at Austin is in an exciting phase of rapid growth with recent hires in the areas of developmental biology, plant biology, neurobiology, genomics, virology, biochemistry and structural biology. Austin, located on the edge of the Texas Hill Country, is widely recognized as one of America's most attractive and liveable cities.

Applications will be considered from October 15 until the time the position is filled. To apply please send curriculum vitae, a brief statement of research interests and representative publications, and have at least three letters of recommendation sent to:

**Dr. Klaus Kalthoff**  
Chairman, Section of Molecular Cell and Developmental Biology  
BIO 311  
The University of Texas at Austin  
Austin, TX 78712-1095

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

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## POST-DOCTORAL FELLOWSHIP IN CANCER BIOLOGY

### MAYO CLINIC AND FOUNDATION, ROCHESTER, MINNESOTA

A post-doctoral fellowship is available effective immediately, to study the structure and function of a novel immediate early gene and its role in cutaneous carcinogenesis. Work will be conducted in the laboratories of Dr. Rajiv Kumar and Dr. Mark Pittelkow at Mayo Foundation.

Please send a curriculum vitae and bibliography, and the names and addresses of three individuals from whom letters of reference may be obtained to: **Dr. Rajiv Kumar, Ruth and Vernon Taylor Professor, 911A Guggenheim, Mayo Clinic and Foundation, 200 First Street SW, Rochester, MN 55905;** e-mail [rkumar@mayo.edu](mailto:rkumar@mayo.edu), fax 507-266-4710, or to: **Dr. Mark Pittelkow, Professor, Department of Dermatology, 411B Guggenheim, Mayo Clinic and Foundation, 200 First Street, SW, Rochester, MN 55905;** e-mail [pittelkow.mark@mayo.edu](mailto:pittelkow.mark@mayo.edu), fax 507-284-1086.

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**shell:** (shĕl), *n.* outer part of an operating system that provides access to internal software.



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## New York University

### SENIOR FACULTY POSITION EXPERIMENTAL BIOORGANIC/ORGANIC/ BIOPHYSICAL/PHYSICAL CHEMISTRY DEPARTMENT OF CHEMISTRY

The Department of Chemistry in the Faculty of Arts and Science at New York University has an opening, pending final administrative and budgetary approval, for a senior faculty position at the Associate or Full Professor level. Applications are invited from outstanding scholars with a proven track record of publications, grant support, and teaching. The Department is undergoing a major development effort that includes multiple faculty appointments within the next few years, as well as major improvements in laboratory and instrumentation facilities. Newly hired faculty members will be expected to participate in these efforts. Senior candidates should submit a CV, a list of representative publications, and a description of current and future research programs and directions. The Search Committee will begin reviewing applications in early Fall. To guarantee early consideration, application materials should be received by **October 15, 2000** and addressed to: **Search Committee (Senior Position), Chemistry Department, New York University, 100 Washington Square East, New York, NY 10003. Website: <http://www.nyu.edu/pages/chemistry/>**

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## Director, National Severe Storms Laboratory (NSSL)

(A Senior Executive Service Position in the Federal Government)

Office of Oceanic and Atmospheric Research  
National Oceanic and Atmospheric Administration  
Norman, Oklahoma

\$113,400 - 130,200 annually • NOAA#00-08

The candidate selected for this position is responsible for planning, organizing, directing, coordinating and evaluating the National Severe Storms Laboratory's severe storms research and applications projects and activities and must possess the following:

1. Broad understanding of the theory and application of atmospheric science within various sub-disciplines (e.g., synoptic and mesoscale meteorology, weather observations and forecasting, remote sensing, modeling, field observations, radar and its applications, data analysis, processing and archival) in order to design, direct and evaluate theoretical and experimental weather research efforts and apply the results of scientific findings directly towards improving weather services.
2. Knowledge of and skill in the physical and engineering sciences sufficient to perceive complex weather research problems in broad perspective; to coach and infuse new ideas or approaches; and to participate meaningfully in discussions and evaluations of programs in atmospheric science and related applications to weather sciences.
3. Ability to provide the scientific, technical, and organizational leadership required to maintain a long-term research program in atmospheric science while balancing needs for short-term application projects.
4. Broad understanding of atmospheric research programs and knowledge of climate and ocean/coastal programs at the international, national, state and/or local levels.
5. Ability to translate knowledge of OAR's atmospheric research, climate and ocean/coastal programs into policy recommendations and initiatives to better integrate programs within OAR, across NOAA, and beyond.

Please contact **301/713-0530 x106 (301/713-0973[TDD])**  
(Internet: address: [dede.epstein@hmo.noaa.gov](mailto:dede.epstein@hmo.noaa.gov)) for an announcement package, including mailing instructions—referring to the announcement number -OR- you may access the entire full-text vacancy from NOAA's Executive Resources Homepage (see below).  
Incomplete applications will not be considered.  
<http://www.rdc.noaa.gov/~hmo/er-home.htm>

This vacancy will close on **October 1, 2000**

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## POSITIONS OPEN

### TWO ASSISTANT PROFESSORSHIPS BIOTECHNOLOGY

Biology Department, York University, Canada

Two tenure-track positions are available July 1, 2001 (one subject to budgetary approval). Biotechnology is defined broadly and may include work in plant, animal, and microbial areas as well as protein engineering, genomics, proteomics, and bioinformatics. Candidates should have an excellent research record and a keen interest in both undergraduate and graduate teaching. Two new undergraduate tracks in biotechnology are being developed. The Department has excellent research facilities and strengths in cell, molecular, and structural biology; genetics; physiology; ecology; evolution; and population biology to complement this biotechnology initiative. Please send curriculum vitae, outline of future research plans, teaching interests/philosophy, and names and e-mail addresses of three references by November 1, 2000, to: **Dr. D. Goring, Department of Biology, York University, 4700 Keele Street, Toronto, Ontario M3J 1P3 Canada. FAX: 416-736-5698; e-mail: dgoring@yorku.ca.**

For many years, York University has had a policy of Employment Equity including Affirmative Action for women faculty and librarians. Recently, York has included racial/visible minorities, persons with disabilities, and aboriginal peoples in its Affirmative Action program. Persons who are members of one or more of these three groups are encouraged to self-identify during the selection process. Please note that candidates from these three groups will be considered within the priorities of the Affirmative Action program only if they self-identify. The Biology Department welcomes applications from women, racial/visible minorities, persons with disabilities, and aboriginal peoples. The Affirmative Action program can be found on York's website: [www.yorku.ca](http://www.yorku.ca), or a copy can be obtained by calling the Affirmative Action office at Telephone: 416-736-5713. Canadian citizens and permanent residents will be considered first for this position.

### FACULTY POSITION BIOPHYSICAL CHEMISTRY Boston University

The Department of Chemistry invites applications for a tenure-track **ASSISTANT PROFESSORSHIP** in experimental biophysical chemistry. The successful candidate will be expected to establish a vigorous and innovative research program at the interface of physical and biological chemistry and to participate in the undergraduate and graduate teaching activities of the Department. This position is part of a campuswide initiative to develop interdisciplinary research and teaching in key areas of biological importance and will commence September 2001. Candidates should submit curriculum vitae, a description of proposed research, and arrange for three letters of recommendation to be sent to: **Professor Tom Tullius, Chair, Department of Chemistry, Boston University, 590 Commonwealth Avenue, Boston, MA 02215-2521.** The deadline for receipt of applications is October 15, 2000. Boston University is an Equal Opportunity/Affirmative Action Employer.

### FACULTY POSITIONS IN IMMUNOLOGY DUKE UNIVERSITY MEDICAL CENTER

The Department of Immunology invites applications for **TENURE-TRACK FACULTY POSITIONS** at all levels. Candidates working in molecular and cellular immunology, cancer immunobiology, lymphocyte signal transduction and development, and animal models of human diseases are encouraged to apply. Interested individuals should send curriculum vitae, a statement of research interest, and the names of three references to:

**Dr. Thomas F. Tedder**  
Department of Immunology  
P.O. Box 3010

Duke University Medical Center  
Durham, NC 27710

Website: [www.duke.edu/~immune/](http://www.duke.edu/~immune/)

Duke University Medical Center is an Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### TWO FACULTY POSITIONS UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Division of Medicinal Chemistry  
and Natural Products

The Division of Medicinal Chemistry and Natural Products invites applications for two **TENURE-TRACK POSITIONS** available fall 2001. Applications at all levels are encouraged to apply. Candidates for **ASSISTANT PROFESSOR** must have a Ph.D. degree and postdoctoral experience is desirable. The positions require development of internationally recognized programs of scholarly research and the demonstration of commitment to excellence in teaching at the professional and graduate levels. Programs in all areas of medicinal chemistry will be considered, but preference is given to studies that focus on drug discovery and design and the function of molecular targets as well as functional genomics and proteomics pertinent to medicinal chemistry. Applicants should submit curriculum vitae, publication list, a concise description of proposed research, and arrange for four letters of recommendation to be sent to: **Professor Harold Kohn, Chair, Division of Medicinal Chemistry and Natural Products, School of Pharmacy, University of North Carolina at Chapel Hill, CB# 7360, Beard Hall, Chapel Hill, NC 27599-7360.** Applications will be reviewed beginning October 10, 2000, and continue until the positions are filled. The University of North Carolina at Chapel Hill is an Equal Opportunity Employer. Women and members of minority groups are encouraged to apply.

### FACULTY POSITION ANALYTICAL CHEMISTRY DEPARTMENT OF CHEMISTRY University of Louisville

**ASSISTANT PROFESSOR:** The Department of Chemistry at the University of Louisville invites applications for a tenure-track Assistant Professor position in analytical chemistry starting in fall 2001. Applicants must have a Ph.D. degree and should have postdoctoral or other experience. Teaching duties for the position will include courses in graduate and undergraduate analytical chemistry with emphasis on instrumental analysis. The candidate is expected to develop a vigorous research program in areas of bioanalytical chemistry complementary to the interests of the chemistry faculty. Applicants should send a letter of introduction, curriculum vitae, list of publications, graduate transcripts, a summary of research plans, and arrange to have three letters of recommendation sent to: **Dr. Robert M. Buchanan, Analytical Search Committee, Department of Chemistry, University of Louisville, Louisville, KY 40292.** Review of applications will begin October 20, 2000. The University of Louisville is an Affirmative Action/Equal Opportunity Employer. Applications from women and from minority candidates are strongly encouraged.

### MYCOLOGY FACULTY POSITION DEPARTMENT OF BIOLOGICAL SCIENCES Humboldt State University

A full-time, tenure-track position is available for fall 2001. Requires Ph.D. in biological sciences with specialty in mycology. Emphases in macrofungi, microfungi, and plant or forest pathology are preferred. Primary teaching responsibilities will include macrofungi, microfungi, forest pathology, and introductory botany. Other duties will include advising undergraduate students and Master's degree candidates. Recent teaching experience is essential. Research is expected. Send résumé, three letters of recommendation, and undergraduate and graduate transcripts to: **Chair, Mycology Search Committee, Department of Biological Sciences, Humboldt State University, Arcata, CA 95521. Telephone: 707-826-4166; FAX: 707-826-3201; e-mail: [turner@humboldt.edu](mailto:turner@humboldt.edu).** Completed application materials must be postmarked by November 1, 2000. FAXed or e-mailed applications are not acceptable. Equal Opportunity/Affirmative Action Employer. Women, persons with disabilities, and minorities are encouraged to apply.

## POSITIONS OPEN

Two **ASSISTANT PROFESSORSHIPS**, Department of Chemistry, The University of Montana. The Department of Chemistry invites applications for two tenure-track faculty positions at the level of Assistant Professor. The first of the two positions is targeted to physical chemistry; the area of specialization for the second position is unrestricted. Candidates whose interests complement and enhance our Departmental strengths in biological and environmental chemistry are desired. A Ph.D. in chemistry or a related field is required, as is postdoctoral experience. The successful candidate will be expected to develop externally funded research programs, contribute to lower-division chemistry teaching, and develop upper-division and graduate courses in their specialty areas. It is anticipated that the appointments will be made at the Assistant Professor level, but applications from highly qualified individuals at a more senior level will also be considered.

Applications, including complete curriculum vitae and a full description of research plans, should be sent to: **Nigel D. Priestley, Chair, Search Committee, Department of Chemistry, The University of Montana, Missoula, MT 59812-1656.** Applicants should arrange for three letters of recommendation to be sent to the above address. Information about the Department can be accessed from our website: [www.cas.umt.edu/chem](http://www.cas.umt.edu/chem). Review of applications will begin on October 15, 2000, and continue until the position is filled. The University of Montana is an Equal Opportunity/Affirmative Action Employer and encourages applications from women, minorities, veterans, and persons with disabilities. Position eligible for veterans' preference in accordance with state law.

**FACULTY POSITION** in experimental physical chemistry, Boston College. Applications are invited for a tenure-track position effective September 2001. The area of the position is defined broadly to include traditional physical chemistry and chemical physics, materials science, biophysics, physical inorganic, and physical organic chemistry. The Department is housed in an award-winning research facility in Boston and includes nearly 100 doctoral students and an internationally recognized faculty. The successful applicant is expected to maintain a prominent, externally funded research program. Applicants are sought at the entry **ASSISTANT PROFESSOR** level, although outstanding applications at more senior levels are also welcome. Applicants at the beginning Assistant Professor level should send a résumé, a summary of research plans, and should arrange to have four letters of reference transmitted. Established Investigators should send a letter of application and appropriate supporting materials. All materials should be sent to: **Chair, Physical Chemistry Faculty Search, Department of Chemistry, Boston College, Chestnut Hill, MA 02467.** Only applications completed by November 1, 2000, will be considered. Website: <http://chemserv.bc.edu>; FAX: 617-552-2705. Boston College, a university of 14 schools and colleges, is an Equal Opportunity Employer and supports Affirmative Action.

The School of Chemistry and Biochemistry of the Georgia Institute of Technology seeks to fill several **TENURE-TRACK FACULTY** positions. Exceptional candidates in all areas are encouraged to apply. Particular needs exist in the areas of analytical/bioanalytical chemistry, inorganic, and bioorganic chemistry. Outstanding candidates for advanced-rank positions are encouraged. Interdisciplinary candidates will be considered for joint appointments with other departments. Further information is available on our website: [www.chemistry.gatech.edu](http://www.chemistry.gatech.edu). Candidates at the entry level should send an application letter, curriculum vitae, a summary of research plans, and should request three letters of reference. Advanced candidates should send curriculum vitae and the names of three references. All materials and requests for information should be directed to: **Chair, School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA 30332-0400.** Applications will be considered beginning October 15, 2000, but applications past that date will be considered until the positions are filled. Georgia Tech is an Equal Education/Employment Opportunity Institution.

## DISCOVER THE POWER OF PROTEIN ENGINEERING

Applied Molecular Evolution (AME) is a rapidly growing company with a proven track record in developing biopharmaceuticals using directed evolution technologies.

AME seeks senior scientists with demonstrated experience in successful project management. AME provides a high level of responsibility in a dynamic working environment with opportunity to develop and implement leading-edge protein engineering technologies. Additionally, AME scientists receive excellent benefits and compensation, including equity participation and generous performance-linked incentives.

Our strategic growth has created an immediate need for Associate Directors of Protein Engineering with the following qualifications:

- Ability to manage multiple therapeutic protein projects as demonstrated by:
  - Team leadership of Ph.D.'s and research associates
  - Success in maintaining timelines and achieving milestones
  - Effective budgeting and resource allocation
  - Well developed presentation skills



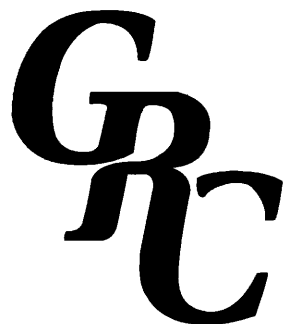
Send cover letter and resume to:

HR Department

Applied Molecular Evolution, Inc.

3520 Dunhill Street, San Diego, CA 92121

careers@AMEvolution.com



## GORDON RESEARCH CONFERENCES

Conferences at the Frontiers of the Biological, Chemical and Physical Sciences

- The 2001 Winter and Spring GRC programs will appear in the October 6, 2000 issue of **SCIENCE**.
- The preliminary 2001 Summer GRC programs will appear in the November 24, 2000 issue of **SCIENCE**.

visit the *frontiers of science* at:

**WWW.GRC.URI.EDU**

Our web site contains the complete schedule of current and upcoming Conferences. Apply directly from the web! Check it out now, Conferences fill up fast!

## POSITIONS OPEN

### TENURE-TRACK POSITION BIOCHEMISTRY UNIVERSITY OF DENVER

The Department of Chemistry and Biochemistry at the University of Denver invites applications and nominations for a tenure-track faculty position at the **ASSISTANT PROFESSOR** level. This is a nine-month appointment with primary teaching responsibilities in undergraduate and graduate biochemistry courses. The successful candidate will be expected to develop an externally funded research program in biochemistry, supervise both undergraduate and graduate research students, and teach in one other area of chemistry. Candidates must have completed a Ph.D. in biochemistry or a related field. A detailed description of the Department, its faculty, programs, and facilities may be found at our website: [www.du.edu/chemistry](http://www.du.edu/chemistry).

Applications, nominations, or inquiries concerning this position should be sent to: **Barbara Beckman, Assistant to the Chair, Department of Chemistry and Biochemistry, University of Denver, Denver, CO 80208**. Applicants should send curriculum vitae, a statement of research plans and teaching interests, and have letters from three professional references sent to: **Ms. Beckman**. Review of applications will begin on October 16, 2000, and continue until the position is filled.

*The University of Denver is committed to enhancing the diversity of its faculty and staff and encourages applications from women, persons of color, persons with disabilities, and veterans.*

### FACULTY POSITIONS

#### The Department of Molecular and Cellular Biology and the Arizona Cancer Center University of Arizona

The Department of Molecular and Cellular Biology and the Arizona Cancer Center are seeking two joint tenure-track **ASSISTANT PROFESSORS** for appointment in 2001. Applicant's research should have relevance to cancer biology, but otherwise research interests may be in any area of molecular, cellular, developmental, or computational biology; individuals working with model organisms are encouraged to apply. A successful candidate will be expected to establish a competitive research program and to teach at both the undergraduate and graduate levels. Send curriculum vitae, a one-to-two page statement of research interests, and have at least three supporting letters sent to: **Danny Brower, Head, Department of Molecular and Cellular Biology, Life Sciences South Building, Room 444, University of Arizona, Tucson, AZ 85721 U.S.A.** To ensure consideration, applications should be received by November 1, 2000, although applications will be accepted until the position is filled. *The University of Arizona is an Equal Opportunity/Affirmative Action Employer; Minorities/Women/Disabled/Veterans.*

**ASSISTANT PROFESSOR:** eukaryotic genetic control. The School of Biological Sciences invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level. Qualifications include at least two years of postdoctoral experience. Preference will be given to candidates with expertise in the study of genetic control of metabolic regulation in any organism model except warm-blooded vertebrates. Bioinformatics expertise highly desirable. The successful candidate is expected to develop an independent, extramurally funded research program in this field and to participate in teaching at the graduate and undergraduate levels in courses adopted by the School.

We offer competitive salary and start-up packages as well as state-of-the-art facilities (see website: <http://sgi.bls.umkc.edu>). Applications for this position are due by November 3, 2000, but will be considered until the position is filled. Send curriculum vitae, statement of future research, and three letters of recommendation to: **Search Committee, Position EGC, School of Biological Sciences, University of Missouri-Kansas City, 5007 Rockhill Road, Room 114 BSB, Kansas City, MO 64110**. *An Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### DEAN'S SEARCH SCHOOL OF MEDICINE

Tulane University announces a search for **DEAN OF THE SCHOOL OF MEDICINE**. Tulane seeks an exceptional individual to direct and lead the school. The Dean will be accountable for advancing the missions of teaching, research, and service as well as planning, developing, and directing policies and programs consistent with these missions. Maintaining an excellent faculty and recruiting Chairs and Program Directors as needed are important responsibilities.

The successful candidate will have a distinguished record of scholarly and professional achievement, a commitment to excellence, and experience in strategic planning. A demonstrated record of successful administrative leadership in an academic setting is required.

Interested applicants should forward a letter of intent and curriculum vitae to: **John B. Stockwell, Executive Director for Planning and Administration, Tulane University Health Sciences Center**. The address is as follows:

**John B. Stockwell  
1430 Tulane Avenue, SL 76  
New Orleans, LA 70112**

**E-mail: [jstockw@tmcpop.tmc.tulane.edu](mailto:jstockw@tmcpop.tmc.tulane.edu)**

Letters of inquiry and nominations can also be sent to the address above.

The Search Committee is being assisted by **John H. Moxley, M.D.**, Managing Director, Physician Executive Practice, Korn/Ferry International.

*Tulane University, as an Equal Opportunity Employer, encourages the application of women, minorities, and veterans.*

### TENURE-TRACK ASSISTANT/ASSOCIATE PROFESSOR OF GENETICS

As part of a Universitywide programmatic expansion in genetics and genomics, the Department of Genetics at Louisiana State University Health Sciences Center in New Orleans invites applications for two tenure-track faculty positions at the Assistant or Associate Professor level. Applicants must hold a Ph.D. and/or M.D. degree with postdoctoral experience in human genetics, genomics, or computational biology and must have demonstrated the ability to obtain extramural support and develop an independent research program. The successful candidate will be a member of the Molecular and Human Genetics Center and will enjoy excellent space and state-of-the-art equipment. Contributing to the graduate and medical teaching of the Department is expected. Please send curriculum vitae, description of research interests, and at least three letters of reference to: **Bronya Keats, Ph.D., Department of Genetics, Louisiana State University Health Sciences Center, 533 Bolivar Street, Room 6P24, New Orleans, LA 70112**. *Louisiana State University Health Sciences Center is an Equal Opportunity/Affirmative Action Employer. Drug test is required.*

The Department of Chemistry and Biochemistry of Duquesne University invites applications for a tenure-track faculty position in biochemistry, broadly defined, at the **ASSISTANT PROFESSOR** level. Creative and energetic candidates who have a Ph.D., who show exceptional promise or accomplishment in biologically related research, and are able to teach biochemistry at the undergraduate and graduate levels are specifically sought. Higher-level appointments are possible, and applications from experienced scholars with outstanding records of accomplishments are welcome. Deadline for receipt of applications is October 2, 2000, with the position being filled during the 2001 calendar year. Please send applications, including résumé, statement of proposed research, teaching philosophy, and three letters of recommendation, to:

**Jeffery D. Madura, Chair  
Department of Chemistry and Biochemistry  
Duquesne University  
Pittsburgh, PA 15282  
E-mail: [madura@duq.edu](mailto:madura@duq.edu)**

*Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### ASSISTANT/ASSOCIATE PROFESSOR CONTROLLED ENVIRONMENT AGRICULTURE

This tenure-track position (80% research and 20% teaching) is available at the Assistant or Associate level on or after January 2, 2001. The successful candidate will be a member of the Department of Plant Sciences and located at the Campus Agricultural Center in Tucson, Arizona. The individual is expected to conduct an independent research program that will contribute to the improvement of production systems of horticultural crops in controlled environment agriculture, especially as related to hydroponic/soilless crop production. Areas of study may include crop physiology and production, nutrient delivery systems, bioregenerative life support systems, transplant production, and plant health management. Opportunities exist for cooperation with interdisciplinary faculty involved in the new Controlled Environment Agriculture program and for participation in international programs.

Research-based extension activities are also expected in this position. The position requires a Ph.D. in any of the plant sciences and experience in controlled environments, including practical skills in greenhouse crop production. Candidates must have demonstrated excellence in applied research and the communication skills necessary to be effective in teaching. The individual must have the ability to attract extramural grant funding. The salary will depend upon qualifications and experience. Review of applications begins September 8, 2000, and continues until the position is filled. Send letter of application including statement of research, teaching, and extension interests; résumé; and names of three references to: **Ursula Schuch, Department of Plant Sciences, The University of Arizona, Tucson, AZ 85721**. Telephone: 520-621-1060; e-mail: [ukschuch@ag.arizona.edu](mailto:ukschuch@ag.arizona.edu). *The University of Arizona is an Equal Employment Opportunity/Affirmative Action/Americans With Disabilities Act Employer.*

### JILA

JILA (operated jointly by the National Institute of Standards and Technology and the University of Colorado) is devoted to research and applications in the fields of laser technology, optoelectronics, precision measurement, surface science and semiconductors, information and image processing, materials and process science, as well as basic research in atomic, molecular, and optical physics; precision measurement; gravitational physics; chemical physics; astrophysics; and geophysical measurement. Additionally, at JILA there is interest in fostering further interaction with industry research efforts in order to identify new industrially relevant applications of the technologies developed. Applications are invited for two programs: (1) **RESEARCH ASSOCIATESHIPS** for advanced research by recent Ph.D.s. Applications are accepted and considered anytime throughout the year. (2) **VISITING FELLOWSHIPS** for advanced research by senior Scientists. Deadline for completed applications is November 1, 2000.

Further information may be obtained from: **Secretary, Visiting Scientists Program, JILA, Box 440, University of Colorado, Boulder, CO 80309-0440**. E-mail: [jilavf@jila.colorado.edu](mailto:jilavf@jila.colorado.edu); website: <http://jilawww.colorado.edu>.

*The University of Colorado at Boulder is committed to Diversity and Equality in Education and Employment.*

**POSTDOCTORAL FELLOWSHIP** immediately available for studies on skeletal muscle development. The focus is on early expression of genes associated with establishing myogenesis, the signaling molecules involved, and the commitment of mesodermal cells to a myogenic fate and patterning. Position open to United States citizens or permanent residents. Send curriculum vitae and letters of reference to:

**Frank E. Stockdale, M.D., Ph.D.  
Stanford University School of Medicine  
CCSR Building, Room 115  
269 Campus Drive  
Stanford, CA 94305-5151**



**MAYO CLINIC  
MAYO CANCER CENTER  
AND  
GASTROENTEROLOGY  
RESEARCH UNIT**

**Postdoctoral positions in Pancreatic Development and Pancreatic Cancer** are immediately available for outstanding individuals to participate in an intensive collaborative effort among cell biologists, biochemists, molecular biologists, and structural biologists to understand molecular mechanism underlying the control of pancreatic cell morphogenesis and its alterations during pancreatic cancer development. Projects will use *in vitro* studies, transgenic and knock out animal models for pancreatic morphogenesis and transformation as well as molecular studies using human pancreatic cancer tissue. The research environment at the GI Research Unit and Mayo Cancer Center offers an excellent opportunity for training and career development in basic science linked to a unique clinical setting for disease-oriented translational research. Strong experience in biochemistry, molecular, and/or structural biology is required.

Specific projects include:

1. Role of pancreatic transcription factors in gene expression, morphogenesis, and neoplastic transformation.
2. Structural biology and molecular modeling approaches for characterizing the DNA binding and transcriptional repressor activities of novel Sp1-like transcription factors.
3. Animal models for molecular studies on pancreatic development and cancer.
4. Expression and mutational profiling of pre-neoplastic lesions in human pancreatic cancer.

Please forward a curriculum vitae, a description of research experience and three references to:

**Raul Urrutia, M.D.**  
GI Research Unit, Alfred 2-435  
Mayo Clinic  
200 First Street SW  
Rochester, MN 55905  
Fax: 507-255-6318  
E-mail: [urrutia.raul@mayo.edu](mailto:urrutia.raul@mayo.edu)

*Mayo Foundation is an Affirmative  
Action and Equal Opportunity Employer  
and Educator.*

**Epicyte Pharmaceutical Inc.**, located in San Diego, CA, is developing antibodies from transgenic plants for the treatment or prevention of infectious diseases. We are currently seeking qualified applicants who have a demonstrated record of scientific excellence and pharmaceutical/biotechnology product development.

Position RD00-P3:

**Transgenic Plant Molecular Biology Group Leader**

A Ph.D. in Plant Molecular Biology or related field is required as is managerial experience of both projects and personnel. Must have extensive experience with standard molecular biological techniques in plants including gene isolation, cloning, sequence analysis, PCR, southern and northern blotting, and *in situ* hybridization. Candidates with extensive industrial experience in the production and analysis of transgenic crop plants are preferred.

Position RD00-P4:

**Transgenic Plant Biochemistry Group Leader**

A Ph.D. in Immunology, Biochemistry or related field is required as is managerial experience of both projects and personnel. Must have extensive experience with immunological and biochemical techniques. Candidates with extensive industrial experience in the production and analysis of transgenic crop plants are preferred.

Position RD00-P5:

**Plant Transformation Group Leader**

A Ph.D. in Cell Biology, Plant Physiology, or a related field is required as is managerial experience of both projects and personnel. Must have extensive experience with transgenic corn production technologies. Prior experience in setting up and running a commercial plant transformation lab is preferred. Candidates with extensive industrial experience in the production and analysis of transgenic crop plants are preferred.

Position RD00-P7:

**Research Scientist, GMP Analytical Chemist**

A Ph.D. in biochemistry, chemistry or related field plus 3 to 5 years of relevant industrial experience or a M.S. with 7 to 10 years experience is required. Experience in developing the analytical techniques for human protein therapeutic products is essential, and knowledge of antibody techniques in particular is highly desirable. The successful candidate will have extensive experience in: protein analytical techniques utilized in the drug development process; method development and validation; preparing CMC sections for FDA IND/NDA submissions; GMP systems; antibody/protein characterization; product stability studies; establishing product specifications; and technology transfer to QC. Excellent oral and written communication skills are essential.

Position RD00-P8:

**Research Scientist, Antibody biochemist**

A Ph.D. in biochemistry, chemistry or related field plus 3 to 5 years of relevant experience is required. The ideal candidate shall possess expertise in protein chemistry and conjugation, antibody engineering and expression, techniques for discovering and isolating antibodies, knowledge of the use, structure, and function of antibodies. The position has primarily self-directed hands-on laboratory responsibilities, but must have the skills necessary to operate successfully in a team environment. Excellent oral and written communication skills are essential.

Please send your resume or CV and cover letter to:



**EPICYTE**  
THE PLANTIBODIES COMPANY

**Epicyte Pharmaceutical, Inc.**  
Attn: Human Resources  
5810 Nancy Ridge Dr., Suite 150  
San Diego, CA 92121  
Fax: 858-554-0288  
Email: [ddemello@epicyte.com](mailto:ddemello@epicyte.com)

**Please reference the position  
number in your cover letter.**

Epicyte offers competitive compensation in addition to a generous benefits package.

*Epicyte is an equal opportunity employer and promotes diversity throughout its workforce. Applications are considered for all positions without regard to race, color, religion, sex, national origin, age, marital or veteran status, sexual orientation, or the presence of medical condition or disability.*



## POSITIONS OPEN

### ASSISTANT PROFESSOR BIOINFORMATICS/COMPUTATIONAL BIOLOGY

The Ohio State University

The Division of Human Cancer Genetics has an immediate opening for a tenure-track position at the **ASSISTANT PROFESSOR** level. Candidates should have a strong commitment to research, a background in bioinformatics/computational science, and interest in developing their own bioinformatics research group. Priority will be given to those candidates with an interest in developing novel tools for the analysis of complex data sets including gene expression, DNA microarrays, and expression and methylation data generated by genomewide scans using Genechip®, cDNA, or custom DNA arrays and RLGS. A highly competitive recruiting package is available, which includes an attractive salary, new office space, and substantial start-up funds.

The Human Cancer Genetics Program is rapidly expanding under the leadership of **Dr. Albert de la Chapelle** and contains both basic and clinical components. The program is affiliated with the Comprehensive Cancer Center and the Arthur G. James Cancer Hospital and Solove Research Institute and the Department of Medical Microbiology and Immunology. The Ohio State University campus includes an NIH-funded comprehensive cancer center, the College of Medicine and Public Health, the nearby College of Biological Sciences, and other colleges with comprehensive undergraduate and graduate programs.

Applications should include detailed curriculum vitae, a description of research experience, and a statement concerning the nature of the planned independent research program. Information about the University and the Division of Human Cancer Genetics can be obtained by contacting our websites: <http://www.osu.edu> or <http://www.cancergenetics.med.ohio-state.edu>. Informal inquiries may be directed to: **Dr. Christoph Plass**; Telephone: 614-292-6505. Application material should be sent to: **Brad Harris, 646 Medical Research Facility, 420 West 12th Avenue, Columbus, OH 43210**.

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

### MOLECULAR BIOLOGIST

Baylor University, a private, comprehensive university of 13,000 students, seeks a Molecular Biologist for a tenure-track position at the **ASSISTANT PROFESSOR** level beginning fall 2001. Outstanding candidates at the **ASSOCIATE PROFESSOR** level will also be considered. Applicants must have a Ph.D. and use current molecular approaches to examine biological processes. Position responsibilities: (1) Teach an upper-level course using molecular biology in organismal, cellular, or microbial biology (developmental biology preferred); (2) teach introductory biology for majors; (3) establish a research program involving undergraduate and graduate students; and (4) participate in departmental and university service activities. Baylor is renowned for excellence in teaching balanced with quality faculty and student research. To ensure full consideration, a complete application should be received by October 1, 2000, when review of applications will begin. Applications will be accepted until the position is filled. A complete application consists of (1) application letter, (2) statement of teaching philosophy, (3) statement of research interests, (4) curriculum vitae, (5) graduate and undergraduate transcripts, and (6) three reference letters. Send application materials to: **Dr. Ben Pierce, Search Committee Chair, Department of Biology, Baylor University, Waco, TX 76798-7388. Telephone: 254-710-2911; FAX: 254-710-2969; e-mail: Ben\_Pierce@baylor.edu; website: <http://www.baylor.edu>**. Baylor University is a Baptist university affiliated with the Baptist General Convention of Texas. As an Affirmative Action/Equal Employment Opportunity Employer, Baylor encourages minorities, women, veterans, and persons with disabilities to apply.

## POSITIONS OPEN

### WAYNE STATE UNIVERSITY

The Department of Chemistry at Wayne State University is seeking a dynamic individual to serve as **DEPARTMENTAL CHAIR** during a period of anticipated growth that will include an aggressive faculty hiring program, infrastructure enhancements, and participation in several universitywide initiatives including Michigan's Life Sciences Corridor. The successful candidate would be expected to join the Department in summer 2001. All applicants must have a Ph.D. degree in chemistry and must have a demonstrated record of excellence in funded research and teaching appropriate to an appointment at the **FULL PROFESSOR** level with tenure. There are no restrictions as to the research area of the successful candidate. Further information about the Department may be found at website: <http://www.chem.wayne.edu>. An application letter, curriculum vitae, and the names of at least three references should be sent to: **Chair, Search Committee, 125 Chemistry, Wayne State University, Detroit, MI 48202-3489**. Review of applications will begin October 1, 2000, and continue until the position is filled. *Wayne State University is an Affirmative Action/Equal Opportunity Employer. Women and members of minority groups are encouraged to apply.*

### FACULTY POSITION IN CELL BIOLOGY University of Texas Southwestern Medical Center at Dallas

The Department of Cell Biology at The University of Texas Southwestern Medical Center at Dallas is seeking to extend its research excellence by recruiting several exceptional Scientists at the **ASSISTANT PROFESSOR** (tenure-track) level who are specialists in the use of modern imaging techniques. The preferred candidates should have a Ph.D. or M.D. and a special interest in the application of such imaging techniques as cryoEM, multiphoton fluorescence microscopy, and vital methods for detecting molecular and ionic interactions within specific microenvironments of living cells. The successful candidates will join an internationally recognized cell biology faculty at a top-rated medical institution and receive both a competitive salary and an attractive start-up package. In addition, the candidates will be able to design their own laboratory space. Applicants should submit curriculum vitae, the names of three references, and a brief description of their research goals to: **Dr. Richard G. W. Anderson, The University of Texas Southwestern Medical Center, Department of Cell Biology, 5323 Harry Hines Boulevard, Dallas, TX 75390-9039. Website: [http://www.swmed.edu/home\\_pages/cellbio/dw/index.html](http://www.swmed.edu/home_pages/cellbio/dw/index.html)**.

*The University of Texas Southwestern Medical Center is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION IN CHEMISTRY DEPARTMENT OF CHEMISTRY University of California at Berkeley

The Chemistry Department at the University of California at Berkeley solicits applications for a faculty position as **ASSISTANT PROFESSOR** of chemistry or **PROFESSOR** of chemistry beginning in the fall of 2001. Creative and energetic candidates who show exceptional promise or accomplishment in research and teaching are specifically sought in the fields of biochemistry/biophysical or synthetic/organic or materials/physical chemistry, although truly outstanding candidates in any area of chemistry will be considered. Appointment may be at the junior or senior level according to the qualifications of the candidate. Applicants should send curriculum vitae, a proposed research program, and arrange to have three letters of recommendation sent to: **Chair, Faculty Recruiting Committee (#466), Department of Chemistry, University of California, Berkeley, CA 94720-1460**. The deadline for receipt of applications is November 1, 2000; applications will be reviewed beginning September 1, 2000. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### DEPARTMENTS OF BIOLOGY AND CHEMISTRY THE UNIVERSITY OF TEXAS AT TYLER

The University of Texas at Tyler Departments of Biology and Chemistry seek a qualified microbiologist/biochemist for a tenure-track position at the level of **ASSISTANT PROFESSOR**. The appointment is 75% in the Department of Biology and 25% in the Department of Chemistry. The successful candidate will have a strong background in microbiology and biochemistry, and experience in molecular systematics is desirable. Browse websites: <http://www.uttyler.edu/sciencemath/biology/Biology.html> and <http://chemistry.uttyler.edu> for Departmental information. Official transcripts will be required of applicants selected for interviews. In addition, the successful candidate for this position will have a recent record of outstanding teaching in both classroom and laboratory and provide evidence of potential to develop a research program that will involve both undergraduates and Master's level graduate students. It is expected that the new faculty member will be committed to developing a productive career through teaching, advising, research, and service. Position will begin spring semester 2001.

A letter of application; statement of teaching philosophy; summary of research interests; curriculum vitae; undergraduate and graduate transcripts; and names, telephone numbers, and addresses of three references should be sent to: **Microbiology/Biochemistry Search, Department of Biology, The University of Texas at Tyler, 3900 University Boulevard, Tyler, TX 75799**. Applications will be reviewed until position is filled.

*The University of Texas at Tyler is an Affirmative Action/Equal Opportunity Employer.*

### BIOCHEMIST

The Department of Chemistry at Hope College invites applications for a tenure-track position in biochemistry at the **ASSISTANT PROFESSOR** level to begin fall 2001. The successful candidate will have a Ph.D. in biochemistry, and applicants with postdoctoral experience will be given preference. Teaching responsibilities include biochemistry with laboratory and other introductory chemistry courses. The development of a strong, externally funded biochemistry research program involving undergraduate students is expected. Start-up funds will be provided. Hope College is a coeducational liberal arts college ([website: www.hope.edu](http://www.hope.edu)) affiliated with the Reformed Church in America. Applicants should arrange to have curriculum vitae, transcripts, descriptions of research plans, a statement of teaching philosophy/competencies, and three letters of recommendation sent to: **Dr. Joanne L. Stewart, Chairperson, Chemistry Search Committee, Hope College, 35 East 12th Street, Holland, MI 49422-9000. E-mail: [stewart@hope.edu](mailto:stewart@hope.edu)**. Review of applications will begin October 15, 2000. *Hope College complies with all legal requirements prohibiting discrimination in employment and actively seeks diversity in its applicant pool. Women and persons of color are strongly encouraged to apply. Position availability is subject to final administrative approval.*

### FACULTY POSITION IN MICROBIOLOGY

Western University of Health Sciences invites applications for a tenure-track position in microbiology at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level beginning fall 2001. A Ph.D. is required. The candidate is expected to teach medical microbiology to first- and second-year osteopathic medical students. Major emphasis is on teaching and service to the University, but research is encouraged.

Applicants should submit curriculum vitae, transcripts, three letters of recommendation, and a statement of teaching philosophy and career objectives no later than December 1, 2000, to: **Dr. Jeffrey Felton, Western University of Health Sciences, College of Osteopathic Medicine of the Pacific, 309 East Second Street, Pomona, CA 91766**. *Western University of Health Sciences is an Equal Opportunity/Affirmative Action Employer.*

# Director, National Eye Institute (NEI) National Institutes of Health (NIH)

## The Position

The Director, NEI, provides leadership and direction to the national research program relative to vision, visual diseases and disorders. The Director develops Institute goals, priorities, policies, and program activities, and provides overall leadership and guidance. Through NEI's intramural laboratories and the extramural scientific community, the Institute supports laboratory and clinical investigations and training of scientists with particular interest in the biomedical and behavioral sciences for research careers in the visual health sciences. The Director, NEI serves as the principal advisor to the Director, NIH on research and scientific policy related to vision research. The NEI has a FY 2000 budget of \$450 million to support nearly 1600 research projects. In addition to the leadership and managerial/administrative responsibilities described, the incumbent may carry out his/her own research program. Resources commensurate with the proposed program will be provided.

## The Qualifications Required

Senior-level research experience and knowledge of research programs in one or more areas of vision research. Demonstrated leadership of a research program involving dealings with outside groups and extensive planning, program assessment, and analysis of program objectives, the development of plans for the resolution of major operational problems and issues; and management of financial and human resources, including selecting, management, and motivating staff using fair and equitable staffing/recruitment practices. Applicants must possess a M.D., O.D., and/or Ph.D. degree.

## The Challenge

To provide strong and effective leadership to an organization dedicated to protecting and improving the visual health of the Nation through the support and performance of the highest quality laboratory and clinical research aimed at increasing our understanding of the eye and visual system in health and disease and developing the most appropriate and effective means of prevention, treatment, and rehabilitation, and through the timely dissemination of research findings and information that will promote visual health. Inherent in this challenge is the investigation of normal tissue and normal visual processes, so that a more complete understanding may be gained of the abnormal processes that lead to diseases of the eye and disorders of vision. These investigations are conducted in hundreds of extramural laboratories and clinics throughout the United States and in the NEI's own intramural facilities in Bethesda, Maryland.

## Salary

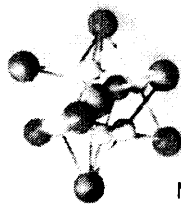
The Director, NEI, will be appointed at a salary commensurate with his/her qualifications and experience.

## How to Apply

Applicants must submit a current Curriculum Vitae and bibliography to: Ms. Carmen Garcia, Division of Senior and Scientific Employment National Institutes of Health, Building 31, Room B3C08 31 Center Drive MSC2203, Bethesda, MD 20892-2203 Applications may also be sent via E-Mail to: [garcia@od.nih.gov](mailto:garcia@od.nih.gov)

Applications must be postmarked by September 15, 2000

NIH is an Equal Opportunity Employer



## RESEARCH PROJECT MANAGER

### SEATTLE

ZymoGenetics, Inc. is a biotechnology company located in Seattle's historic Lake Union Steam Plant. As a subsidiary of NOVO NORDISK, the world's largest producer of industrial enzymes, ZymoGenetic's mission is to identify protein therapeutic opportunities and to take selected projects as far as clinical proof of concept studies.

Our Research Department is seeking a Research Project Manager reporting to the Senior Vice-President of Research. The main focus of this position will be coordinating project plans, acting as liaison between project leaders and teams, identifying critical path timelines and facilitating high priority projects in accordance with company goals. The ideal candidate will have a minimum of 3 years experience in a pharmaceutical or biotechnology environment with specific focus in developing project plans and timelines for pre-clinical and research stage projects. The successful candidate will also possess proven interpersonal and communication skills. Excellent leadership and organization skills are required. Educational requirements: BA/BS degree in Sciences, MS degree preferred.

We offer intellectual challenge, state-of-the-art facilities and a generous benefits package. For confidential consideration, forward your resume and cover letter to ZymoGenetics, Human Resources, Job Reference #31N200, 1201 Eastlake Avenue East, Seattle, WA 98102. Fax: (206) 442-6658. E-mail: [jobs@zgi.com](mailto:jobs@zgi.com). We are an equal opportunity employer and encourage applications from women and minorities.

# ZYMO GENETICS



## SCIENTIST II

Selective Genetics is developing site-specific gene therapeutics and DNA devices for soft and hard tissue repair and regeneration.

We have an opportunity for a scientist to develop and evaluate gene therapy formulations for enhancing tissue repair processes such as wound healing, angiogenesis and bone repair using *in vitro* assays and *in vivo* animal models. The selected candidate will contribute both technical skills and scientific expertise to a multidisciplinary team aimed at drug discovery and development. Candidates must have a Ph.D. in biological science, 4+ years' relevant experience, and strong skills in the *in vitro* and *in vivo* modeling of complex physiologic processes. Background in assay and model development, gene therapy, and tissue repair highly desirable.

Selective Genetics offers excellent benefits and a friendly, collaborative work environment. Please email your resume referencing Code: SCI/SCI2 to: [info@selectivegenetics.com](mailto:info@selectivegenetics.com), or mail/fax resume to: Selective Genetics, 11035 Roselle Street, San Diego, CA 92121, Fax: 858-625-0050.



**SelectiveGenetics**  
GENE THERAPEUTICS

## POSITIONS OPEN

### ASSISTANT OR ASSOCIATE PROFESSOR THE OHIO STATE UNIVERSITY

The Division of Human Cancer Genetics has an immediate opening for a tenure-track position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. Candidates should have a Ph.D. and/or M.D. degree, postdoctoral experience, and a strong commitment to cancer genetic research. Experience and background in cancer genetics, cancer predisposition, and/or animal models will be important. The individual will be responsible for the support and maintenance of an independent research program in cancer genetics as well as cooperative research with other principal Investigators engaged in several aspects of human genetics with an emphasis on cancer.

The Human Cancer Genetics Program is rapidly expanding under the leadership of **Dr. Albert de la Chapelle** and contains both basic and clinical components. The program is affiliated with the Comprehensive Cancer Center and the Arthur G. James Cancer Hospital and Solove Research Institute and the Department of Molecular Virology, Immunology, and Medical Genetics. The Ohio State University campus includes an NIH-funded comprehensive cancer center, the College of Medicine and Public Health, the nearby College of Biological Sciences, and other colleges with comprehensive undergraduate and graduate programs.

Applications should include detailed curriculum vitae, a description of research experience, and a statement concerning the nature of the planned independent research program. Information about the University and the Division of Human Cancer Genetics can be obtained by contacting our websites: <http://www.osu.edu> and <http://www.cancergenetics.med.ohio-state.edu>. Application material should be sent to: **Brad Harris, 646 Medical Research Facility, 420 West 12th Avenue, Columbus, OH 43210.**

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

### DIVISION DIRECTOR NATURAL RESOURCES AND ENVIRONMENT

The United States Department of Agriculture, Cooperative State Research, Education, and Extension Service (CSREES), seeks a qualified candidate to serve as Division Director for the National Research Initiative Competitive Grants Program, Natural Resources and Environment Division. Candidates must have an advanced degree with major study in a natural resources-related discipline such as natural resource management, forestry, ecology, ecosystem science, environmental sciences related to agriculture, etc. Applicants also should have supervisory experience. Candidates must be U.S. citizens and it is preferable that they have a Ph.D. degree or equivalent experience.

Closing date is October 12, 2000. Applicants must address the Quality Ranking Factors listed in the vacancy announcement. Contact: **Dr. Sally Rockey; Telephone: 202-401-1761; e-mail: srockey@reusda.gov** for more information. Application procedures and forms are available from: **The Human Resources Division; Telephone: 202-720-6130; website: <http://www.reusda.gov/hrd/SOM-1023.htm>.** USDA is an Equal Opportunity Employer.

Several **POSTDOCTORAL POSITIONS** in functional genomics are available immediately. Particular emphasis will be given to the large-scale analysis of signaling networks, gene functional profiling, and peptide aptamers. Candidates should have a Ph.D. in molecular biology, biochemistry, or genetics. The laboratory has state-of-the-art instruments including a microarray. Send research interests, curriculum vitae, and three references to: **C. Wilson Xu, Ph.D., Sloan-Kettering Institute and Graduate School of Medical Sciences of Cornell University, 1275 York Avenue, New York, NY 10021. FAX: 212-794-4342; e-mail: w-xu@ski.mskcc.org.**

## POSITIONS OPEN



### FACULTY POSITION AT MIT Department of Biology

MIT is seeking an outstanding Scientist for a tenure-track position as an **ASSISTANT PROFESSOR**. We are interested in candidates with important research contributions, the ability to develop a significant and independent research program, and a commitment to excellence in undergraduate and graduate education.

The applicant's research program may involve any area of modern biology. We are particularly interested in candidates pursuing research in the areas of chemical biology, genomics/bioinformatics, infectious disease, and neurodevelopment.

Applicants should submit curriculum vitae, a summary of current and proposed research programs, and should arrange for three letters of recommendation to be sent to:

**Biology Search Committee  
Attention: Stephen P. Bell  
MIT, Room 68-132  
Cambridge, MA 02139**

Consideration of completed applications will begin on October 1, 2000.

*MIT is an Affirmative Action/Equal Opportunity Employer. Qualified women and minority candidates are especially encouraged to apply.*

**BIOLOGY INSTRUCTOR:** The Biology Department at the University of South Florida invites applications from broadly trained individuals for a full-time, nontenure-track **VISITING INSTRUCTOR** (nine-month appointment) to begin spring of 2001. Appointments will be for an initial one-year period with the possibility of renewal. There is also potential for summer appointment. Applicants must have a Ph.D. in biology or one of its subdisciplines at the time of appointment. Each position will be responsible for teaching in at least two of the following subjects: human anatomy and physiology, cell biology, genetics, microbiology, or ecology. Duties will also include supervision of graduate teaching assistants in the introductory biology laboratories and revision of laboratory exercises. Interested candidates should send a letter of application, curriculum vitae, evidence of teaching effectiveness, and arrange to have three letters of reference sent to: **Chair, Instructor Search Committee, Department of Biology, SCA 110, University of South Florida, 4202 East Fowler Avenue, Tampa, FL 33620-5200. E-mail: [gauthier@chumal.cas.usf.edu](mailto:gauthier@chumal.cas.usf.edu).** Closing date: October 1, 2000. *University of South Florida is an Affirmative Action/Equal Opportunity/Equal Access Institution. For disability accommodations, please Telephone: 813-974-3250.*

**Immunologist: POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE** wanted for studies on the effect of microwaves on the immune system. Experience in NK cells and other immunological assays desirable. Salary commensurate with experience. Send curriculum vitae to:

**Mahendra Logani, Ph.D.  
Biomedical Physics  
Temple University Medical School  
3420 North Broad Street  
Philadelphia, PA 19140**

**POSTDOCTORAL POSITION** is available to study the interaction of Toll-like receptors with iron transport proteins (Nramp1, Nramp2, and HFE) in macrophage-mediated resistance to mycobacterial diseases. Candidates must have a Ph.D. with expertise in immunology, cellular and molecular biology, and cell signaling pathways. Please send curriculum vitae and names of three references to: **Dr. Bruce S. Zwilling, Department of Microbiology, The Ohio State University, 484 West 12th Avenue, Columbus, OH 43210. E-mail: [zwilling.1@osu.edu](mailto:zwilling.1@osu.edu).**

## POSITIONS OPEN

### POSITION IN FISHERIES BIOLOGY UNIVERSITY OF ALBERTA

The Department of Biological Sciences in the faculty of science is a broadly based biology department with strong research groups in ecology and environmental biology. We invite applications for a tenure-track position at the **ASSISTANT PROFESSOR** level in freshwater fisheries biology. Applicants should have a broad range of research expertise addressing questions of fundamental biological importance including human impacts and have outstanding potential for excellence in teaching. The research of our 75 faculty members and 260 graduate students is supported by excellent facilities including extensive aquatic biology and chemistry facilities, a molecular biology service unit, and a fully equipped microscopy unit. For additional information about the Department, see website: <http://www.biology.ualberta.ca/>. Candidates should forward curriculum vitae, list of publications, reprints of their three most significant publications, a brief research plan, and statement of teaching interests to: **Dr. G.J. Taylor, Chair, Department of Biological Sciences, CW 405 Biological Sciences Building, University of Alberta, Edmonton, Alberta T6G 2E9 Canada.** Applicants must also arrange for three letters of reference to be sent to the Chair. Closing date: October 16, 2000. This appointment will be made under the auspices of the Canada Research Chairs Program. The effective date of employment will be July 1, 2001.

*The records arising from this competition will be managed in accordance with provisions of the Alberta Freedom of Information and Protection of Privacy Act (FOIPPA). In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. If suitable Canadian citizens and permanent residents cannot be found, other individuals will be considered. The University of Alberta hires on the basis of merit. We are committed to the principle of Equity in Employment. We welcome diversity and encourage applications from all qualified women and men, including persons with disabilities, members of visible minorities, and aboriginal persons.*

**ASSISTANT PROFESSOR OF MEDICINAL CHEMISTRY.** The Department of Medicinal Chemistry in the College of Pharmacy at the University of Utah seeks to fill a tenure-track faculty position for fall 2001. We seek individuals with research interests that encompass applications of chemistry (e.g., synthetic, computational, bioorganic, biophysical, or physiological) aimed at the identification of new drug targets and in development of novel therapeutic agents. The successful candidate would participate in professional pharmacy and graduate student education and would develop a vigorous research program in a supportive and strongly interdisciplinary environment that includes the Huntsman Cancer Institute and the School of Medicine. Applications should include curriculum vitae, statement of research interests, and the names of at least three references. We will evaluate applications beginning in October 2000 and continue until the positions are filled. Please submit materials to: **Professor James A. McCloskey, Chair, Medicinal Chemistry Search Committee, College of Pharmacy, The University of Utah, 30 South 2000 East, Salt Lake City, UT 84112-5820. Website: <http://hnu.pharm.utah.edu/medchem/>.** *The University of Utah is an Affirmative Action/Equal Opportunity Employer and encourages applications and nominations from women and minorities and provides reasonable accommodation to the known disabilities of applicants and employees.*

The Department of Ophthalmology at the University of Alabama at Birmingham (UAB) School of Medicine invites applications for a faculty position at the rank of **ASSISTANT PROFESSOR**. This is a nontenure position. Successful candidates are expected to conduct productive independent research programs dealing with age-related visual impairment and eye disease. Send curriculum vitae and statement of research interests to: **Lanning B. Kline, M.D., Chairman, UAB Department of Ophthalmology, 700 South 18th Street, Suite 601, Birmingham, AL 35233.** *An Affirmative Action/Equal Opportunity Employer.*

**Ecology  
University of Minnesota**

The Department of Ecology, Evolution and Behavior invites applications for a tenure-track Assistant Professorship in global ecology. This position will address ecological processes and mechanisms relevant to global scales or the impacts of global processes at local scales. Biogeochemistry, invasion ecology, biogeography, biodiversity, habitat fragmentation, extinction, and climate change are examples of appropriate research areas. The successful candidate will be expected to maintain an extramurally funded research program addressing basic questions in global ecology and to contribute to the department's teaching mission. For a full position description, see <http://www.cbs.umn.edu/eeb/Positions.html>. Application review will begin on October 9, 2000. To apply please submit 1) a letter providing a statement of research and teaching interests; 2) a CV; and 3) reprints. In addition, the applicant should arrange to have three letters of reference sent to:

**Global Ecology Search  
Ecology, Evolution and Behavior  
University of Minnesota  
1987 Upper Buford Circle  
St. Paul, MN 55108**

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

**Tenure/Tenure Track Position  
National Institute of Allergy and Infectious Diseases (NIAID)**

The Laboratory of Intracellular Parasites (LICP), at the National Institute of Allergy and Infectious Diseases, National Institutes of Health, Rocky Mountain Laboratories (RML) is recruiting for a tenure/tenure track scientist to develop an independent research program to explore fundamental molecular and biological processes of *Chlamydia pneumoniae* or *C. trachomatis* host cell interactions. Individuals using contemporary molecular genetics, genomics, and proteomics to investigate host-parasite interactions in the context of persistent infection are especially sought. Individuals will be expected to build a dynamic and productive research group. Applicants who have documented evidence of sustained independent research accomplishments and have an international reputation in their research area may be considered for a tenured position. Salary, start-up funds, and laboratory facilities are competitive with premier academic institutions. The RML is located in the scenic Bitterroot Valley in Hamilton, Montana and is currently undergoing significant scientific expansion and facility renovations. Facilities are available for state-of-the-art genomic analysis including high-throughput DNA sequencing and DNA microarray capabilities, imaging, and biosafety level-3 pathogen related research including a vivarium with non-human primate research capabilities. Applicants can direct programmatic inquiries to Dr. Harlan D. Caldwell, Chief, LICP by email: [hcaldwell@niaid.nih.gov](mailto:hcaldwell@niaid.nih.gov).

**Application Process:** Applicants must be U.S. citizens, resident aliens, or nonresident aliens with or eligible to obtain a valid employment authorized visa. Salary depends on degree and qualifications. Salary up to \$157,000 per annum. Other incentives may be available. A curriculum vitae, bibliography, three letters of reference, a statement of research interests, and selected publications must be submitted by October 1, 2000 to Ms. Kim Tran, Office of Human Resources Management, NIAID, Bldg. 31, Room 7A27, 31 Center Drive, MSC 2520, Bethesda, Maryland, 20892-2520. Applicants interested in applying must submit a complete package and cite vacancy announcement number NIAID-00-149 on the package. All information provided by applicants will remain confidential and will only be viewed by authorized officials of the NIAID.

*The NIH is an Equal Opportunity Employer*



**MAYO CLINIC  
DEPARTMENT OF PHYSIOLOGY  
AND BIOPHYSICS**

A Mayo Clinic postdoctoral research position is available to study the molecular and physiological properties of peripheral autonomic ganglion neurons with special emphasis on sympathetic prevertebral ganglion neurons. Patch clamp recordings, sharp microelectrode recordings, laser scanning confocal microscopy and 3-D volume reconstruction are some of the approaches emphasized. Candidates with experience in the above mentioned methods are preferred. Candidates must have an MD or PhD degree. Please send curriculum vitae and the names of three references to:

**J.H. Szurszewski, Ph.D.  
Department of Physiology and Biophysics  
Mayo Clinic  
200 First Street, SW  
Rochester, MN 55905, USA  
e-mail: [gjoe@mayo.edu](mailto:gjoe@mayo.edu)**

*Mayo Foundation is an Affirmative Action and Equal Opportunity Employer and Educator*



**NATIONAL INSTITUTES OF HEALTH  
Website Project Manager**

The National Institute of Neurological Disorders and Stroke (NINDS), part of the National Institutes of Health, is seeking an energetic team player to serve in its Director's office as the NINDS Website Project Manager. This is a unique opportunity to manage ongoing strategic development of cutting-edge websites as tools for communication, collaboration, and coordination. The selected candidate will assist NINDS in developing and maintaining its public website and intranet to support its mission elements. Key responsibilities will include overseeing the continuing development of NINDS websites in a manner consistent with its vision and strategy; interacting with technical, scientific, and managerial staff, as well as outside researchers and the general public, to ensure that content is fresh and relevant to website audiences; coordinating development of new guidelines and standards for the website; promoting a user driven approach in website development; and managing contacts. Applicants should have demonstrated project management and communication skills, strategic vision, and ability to persuade/negotiate. Understanding of biomedicine and/or research cultures and organizations is a plus. Salary range \$60,890 to \$93,537, depending of qualifications. US citizenship required.

**For application by fax call (800) 728-JOBS, request FAX# 5003. To obtain by mail, call NINDS Personnel Office (301) 496-6334.**

*Applications must be postmarked by September 18, 2000*

**NINDS is an Equal Opportunity Employer**

## POSITIONS OPEN

### PRESIDENT THE CHILDREN'S MEMORIAL INSTITUTE FOR EDUCATION AND RESEARCH

The Children's Memorial Institute for Education and Research (CMIER) at Children's Memorial Medical Center (CMMC) in Chicago, Illinois, announces a search for President. CMMC, the only free-standing pediatric hospital in Chicago, is a full-service medical facility treating children of all ages, offering high-quality programs in virtually every known pediatric specialty. All of the hospital's approximately 250 in-house physicians and many of those community-based are faculty members at Northwestern University Medical School. The President of CMIER will be responsible for perpetuating the vision of making CMIER a world-class pediatric research institute and will direct research and the acquisition of new sources of research support. The President will have both academic and management responsibilities and will serve as **ASSOCIATE DEAN FOR RESEARCH** at Northwestern University Medical School. Candidate qualifications include an M.D. and/or Ph.D. degree required (pediatric specialization preferred), scientific credibility with a strong track record of NIH funding, a record of recruiting accomplished scientists, and the academic qualifications to receive a senior academic appointment. Also required is the ability to support and advance all missions of CMIER: education, research, and clinical care. Please send curriculum vitae to: **John H. Moxley, M.D., Korn/Ferry International, 1800 Century Park East, Suite 900, Los Angeles, CA 90067 (e-mail: moxleyj@kornferry.com) or Mr. Thomas J. Giella, Sears Tower, 233 South Wacker Drive, Suite 3300, Chicago, IL 60606 (e-mail: giellat@kornferry.com).** CMMC is an Affirmative Action/Equal Opportunity Employer.

### ASSISTANT PROFESSOR HEMATOPOIETIC STEM CELL BIOLOGY

The Division of Stem Cell Transplantation and the Department of Radiation Oncology of the University of Pittsburgh Cancer Institute (UPCI) are seeking a Scientist with published expertise and interest in the fields of human and experimental animal hematopoietic stem cell biology to establish an independent laboratory and to collaborate in research projects within the UPCI involving single hematopoietic stem cell (HSC) isolation and expansion; isolation and characterization of multilineage stem cells from nonhematopoietic organs of the adult; HSC molecular biologic responses to ionizing irradiation; and effects of total body irradiation on HSC trafficking, dose responses, DNA repair, and alterations in signal transduction.

Applicants should send a letter of interest and curriculum vitae to: **Andrew Yeager, M.D., and Joel S. Greenberger, M.D., c/o Andrew Yeager, M.D., Professor and Director, Hematopoietic Stem Cell Transplantation Biology Program, University of Pittsburgh Cancer Institute, 200 Lothrop Street, MUH N755.8, Pittsburgh, PA 15213. E-mail: yeager@msx.upmc.edu.**

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

### PROJECT DIRECTOR SCIENCE EDUCATION

**SCIENTIST** with experience/interest in K-12 science education sought to direct all aspects of an innovative middle school science education project designed to introduce teachers and students to scientific research concepts. Ideal candidate has five years of scientific research experience in a laboratory or field setting plus teaching experience, particularly at the middle school level. Excellent organizational, communications, and computer skills required. Grant writing experience a plus.

Excellent salary/benefits package. Send résumé and letter giving salary requirement to:

**Director, Human Resources  
New York Academy of Sciences  
2 East 63rd Street, New York, NY 10021  
FAX: 212-838-5810  
E-mail: skennedy@nyas.org  
Website: www.nyas.org**

## POSITIONS OPEN



UroCor, Inc. seeks a **SENIOR SCIENTIST** for urological disease research and development. The successful candidate should possess a Ph.D. with three to five years of post-doctoral experience in biotechnology with an emphasis in biochemistry and immunology. Candidate must possess good communication skills and be capable of managing several diagnostic product development projects as well as possessing documented technical scientific writing skills applicable to grantsmanship and publishing. Candidates should send curriculum vitae and cover letter with references to: **UroCor, Inc., Human Resources, 840 Research Parkway, Oklahoma City, OK 73104. FAX: 405-290-4413; e-mail: hr@urocor.com.**

### ASSISTANT PROFESSOR POPULATION GENETICIST THE OHIO STATE UNIVERSITY

The Division of Human Cancer Genetics has an immediate opening for a tenure-track position at the **ASSISTANT PROFESSOR** level. Candidates should have a Ph.D. and/or M.D. degree, postdoctoral experience, and a strong commitment to cancer genetic research. Experience and background in epidemiology associated with genetic variation will be important. The individual will be responsible for the support and maintenance of an independent research program in population genetics as well as cooperative research with other principal Investigators engaged in several aspects of human genetics with an emphasis on cancer.

The Human Cancer Genetics Program is rapidly expanding under the leadership of **Dr. Albert de la Chapelle** and contains both basic and clinical components. The program is affiliated with the Comprehensive Cancer Center and the Arthur G. James Cancer Hospital and Solove Research Institute and the Department of Molecular Virology, Immunology, and Medical Genetics. The Ohio State University campus includes an NIH-funded comprehensive cancer center, the College of Medicine and Public Health, the nearby College of Biological Sciences, and other colleges with comprehensive undergraduate and graduate programs.

Applications should include detailed curriculum vitae, a description of research experience, and a statement concerning the nature of the planned independent research program. Information about the University and the Division of Human Cancer Genetics can be obtained by contacting our websites: <http://www.osu.edu> and <http://www.cancergenetics.med.ohio-state.edu>. Application material should be sent to: **Brad Harris, 646 Medical Research Facility, 420 West 12th Avenue, Columbus, OH 43210.**

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

**RESEARCH SCIENTIST:** position available at The Molecular Cardiology Institute (small, independent, not-for-profit laboratory). Experienced, energetic, and productive Ph.D. Excellent communication and writing skills to develop new lines of research in molecular and biochemical mechanism/gene expression of cardiovascular and neuromuscular systems growth, aging, and failure. Current research in our laboratory deals with mitochondria. *Applicant must be U.S. citizen or permanent resident.* Send résumé and references to:

**José Marín, M.D., Director  
75 Raritan Avenue  
Highland Park, NJ 08904  
E-mail: tmci@worldnet.att.net**

## POSITIONS OPEN

### THERAPEUTICS TARGETED AT SIGNAL TRANSDUCTION IN TUMOR CELLS OR IMMUNE EFFECTOR CELLS Center for Cancer Drug Discovery and Development Taussig Cancer Center Lerner Research Institute Cleveland Clinic Foundation

The Center for Cancer Drug Discovery and Development and the Department of Cancer Biology are seeking a Ph.D. or M.D. to develop a research program in therapeutics modulating signal transduction. This individual will focus his/her research activities on the substantial progress made in understanding control of tumor cell growth and immune effector cell function on a molecular level. The **INVESTIGATOR** will develop a research program focused on therapeutics targeted at receptors, kinases, gene transcription, or other aspects of control of protein expression. The focus may either be at a specific target or with a family of potential therapeutic molecules and could involve organic molecules or biologicals such as cytokines or monoclonal antibodies. The successful candidate will be expected to develop collaborative interactions with Investigators in related areas within the Taussig Cancer Center and the Lerner Research Institute. The Cleveland Clinic Foundation is committed to recruiting an outstanding investigator at the **ASSISTANT** or **ASSOCIATE STAFF** level. The successful applicant would have joint appointments in the Center for Cancer Drug Discovery and Development and a basic science department of the Lerner Research Institute. The appointment would be accompanied by an attractive recruitment package of institutional resources and funding reflective of the academic level of the appointment.

Applicants should send curriculum vitae, statement of research interests, and three letters of reference to:

**Ernest C. Borden, M.D.  
The Cleveland Clinic Foundation, Desk R-40  
9500 Euclid Avenue  
Cleveland, OH 44195**

*The Cleveland Clinic Foundation is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION MOLECULAR AND CELLULAR PHARMACOLOGY School of Medicine University of Miami

The Department of Molecular and Cellular Pharmacology at the University of Miami School of Medicine is seeking applications for a **TENURE-TRACK FACULTY POSITION** (rank open). The position will be available in 2001; rank and salary will be commensurate with experience. Excellent laboratory space and start-up funds are available. Candidates must have a Ph.D. and/or M.D. degree and have an established record of research excellence. Applicants from all areas of molecular/cellular biology and biomedical research are welcome. The new faculty member will complement existing research efforts in the Department, which include regulation of cardiac and skeletal muscle function, ion channels, receptors and signal transduction, function and development of the nervous system, and steroid hormone action.

Applicants should send curriculum vitae, description of current and future research interests, and the names and addresses of three references to: **Dr. James D. Potter, Chairman, Department of Molecular and Cellular Pharmacology, University of Miami School of Medicine, P.O. Box 016189, Miami, FL 33101.** *An Equal Opportunity/Affirmative Action Employer.*

### MEDICAL COLLEGE OF WISCONSIN

**POSTDOCTORAL POSITION** available for study of coronary circulation, myocardial ischemia, and pharmacology of anesthetic drugs in NIH-funded program. Send curriculum vitae and three references to: **David C. Warltier, M.D., Ph.D., Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226. E-mail: cknapp@mcw.edu.** *The Medical College of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*



## ANNOUNCEMENTS



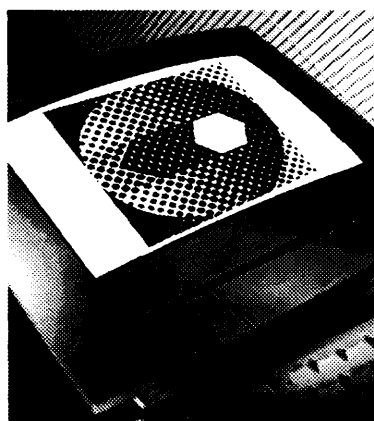
### FUNDING AVAILABLE

CaP CURE, the Association for the Cure of Cancer of the Prostate, is soliciting proposals for its 2000-2001 funding year. The organization's goal is to find a cure for advanced prostate cancer.

Applications are competitive and accepted from individuals with or without institutional affiliation. Awards range from \$50,000 – \$250,000 for one year. Applications (3-5 pages) can be for clinical investigations, basic research or a combination and must be relevant to the treatment of advanced prostate cancer. We encourage interdisciplinary collaborations between basic scientists and clinicians. For-profit companies are not eligible. Applications will be accepted August 14, 2000 through September 30, 2000. Notification of awards is expected by December 31, 2000.

*For consideration, request application guidelines:*

**CaP CURE**  
1250 Fourth Street, Suite 360  
Santa Monica, CA 90401  
Phone: (310) 458-2873 Fax: (310) 458-8074  
[www.capcure.org](http://www.capcure.org)



**Our technology  
is accelerating  
the pace of  
drug discovery.**

And from our subsidiaries to our employees, we're moving fast. Pharmacopeia is a world leader in drug discovery, integrating three platform technologies: simulation and informatics, small molecule combinatorial chemistry and high-throughput screening. The Drug Discovery Services business provides Lead Discovery, Lead Optimization and Collaborative Drug Discovery programs to the pharmaceutical industry.

## Drug Discovery

### Biology Group • Two Ph.D positions

The successful candidates will have a strong fundamental background in bioscience (biology, biochemistry or biomedical sciences) with a Ph.D. in molecular biology, cell biology or biochemistry. The two positions require a Ph.D. with over 2 years relevant post-doctoral training or 1 to 3 years industrial experience. Responsibilities include developing and implementing novel molecular and cellular assays for high throughput screens and evaluating and implementing new uHTS technologies, including assay miniaturization, assay automation, advanced detection and fluid handling technologies.

Strong communication skills and demonstrated ability to interact across biological, chemical, engineering disciplines is essential.

We offer a competitive benefits package, including stock options, 401 (k) and tuition reimbursement, as well as an exciting atmosphere conducive to professional growth. Please submit your resume and cover letter, including salary history to: Pharmacopeia, Inc., CN-5350, Princeton, NJ 08543-5350; Fax (609) 452-3671; E-Mail: [hbranham@pharmacop.com](mailto:hbranham@pharmacop.com)  
We are an Equal Opportunity Employer



**PHARMACOPEIA**

## ANNOUNCEMENTS

### Call for Papers

**The First International Congress  
On Petroleum Contaminated  
Soils, Sediments & Water**



**AUGUST 2001, LONDON, U.K.**


### Topics of Interest

*Contributed Papers & Posters are invited for presentation in the following areas:*

- Analytical methodologies
- Clean-up technologies
- Compensatory determination for spills
- Ecological impact & risk assessment
- Environmental fate & modeling
- Environmental forensics
- Environmental issues for production water
- Fuel additives and oxygenates
- GIS application
- Human risk and health analysis
- Innovative technologies
- International comparison of contamination regulations and standards
- International laws and cooperation for monitoring and clean-up
- International clean-up technology transfer & issues
- Natural Resource Damage Assessment (NRDA)
- Pollution minimization & prevention techniques
- Remediation technologies
- Risk-based clean-ups (RBCA)
- Site assessment /field sampling
- Soil chemistry
- Sources of crude oil contamination
- Case studies of above related subjects

### Contacts

Email submissions are encouraged.  
Send to [terri@aehs.com](mailto:terri@aehs.com)  
For further information visit our website:  
[www.aehs.com](http://www.aehs.com) or contact Dr. Paul Kosteci  
or Terri Hwei-ling Greeney  
AEHS  
150 Fearing Street  
Amherst, MA 01002-1944 U.S.A.  
Tel: 1-413-549-5561 • Fax: 1-413-549-0579  
email: [paul@aehs.com](mailto:paul@aehs.com) or [terri@aehs.com](mailto:terri@aehs.com)

Congress presented by  
 **KFAS**  
Kuwait Foundation  
for the Advancement  
of Sciences

 **University of  
Massachusetts.**

 **AEHS**  
The Association  
for Environmental  
Health and Sciences

**Deadline for Submission November 17, 2000**

## AWARDS

**THE PETER GRUBER FOUNDATION  
INAUGURATES ITS FIRST PRIZE  
FOR COSMOLOGY TO  
TWO OUTSTANDING RECIPIENTS**



**PHILLIP J. E. PEEBLES  
ALLAN R. SANDAGE**

The Cosmology Prize, established in 2000 to recognize fundamental scientific advances that shape the way we see and comprehend our universe, this year recognizes the world's premier theoretical and observational cosmologists. Each will receive an inaugural prize of \$150,000. The awards will be conferred in formal ceremonies at the Pontifical Academy of Sciences at the Vatican on November 9, 2000. [www.gruberawards.org](http://www.gruberawards.org)

## POSITIONS OPEN

### ASSISTANT PROFESSOR UNIVERSITY OF WISCONSIN-PARKSIDE

The Biological Sciences Department is recruiting for a tenure-track Assistant Professor (9/01) who desires a balance of research and teaching. The successful candidate will have expertise in genetics and specialization in developmental biology or immunology. Experience in bioinformatics is desirable. Candidates must have (1) a Ph.D. with postdoctoral experience, (2) a commitment to excellence in teaching at the undergraduate and graduate levels, and (3) the ability to conduct significant and independent research as judged by peer-reviewed publications. Teaching assignments will include a core course in genetics and specialty courses for graduate students and upper-division undergraduates. The Department offers a B.S. degree in biological sciences, a B.S. in molecular biology/bioinformatics, and an M.S. in applied molecular biology. Applications will be reviewed starting November 15, 2000, and continue until the position is filled.

Applications should include curriculum vitae, reprints, description of future research interests, a statement of teaching philosophy, and the names and e-mail addresses of three references to: **Dr. Carmel Ruffolo, Chair, Search and Screen Committee, Department of Biological Sciences, University of Wisconsin-Parkside, Kenosha, WI 53141.** Additional information can be obtained by e-mail: [carmel.ruffolo@uwp.edu](mailto:carmel.ruffolo@uwp.edu) or Telephone: 262-595-2327 and at our website: <http://www.uwp.edu/academic/biology>. The University of Wisconsin-Parkside is an Affirmative Action/Equal Employment Opportunity Employer. Women, minorities, dual-career couples, veterans, and persons with disabilities are encouraged to apply.

### CHAIR, DEPARTMENT OF PEDIATRICS PHYSICIAN-IN-CHIEF CHILDREN'S HOSPITAL OF PHILADELPHIA School of Medicine University of Pennsylvania

The University of Pennsylvania School of Medicine and The Children's Hospital of Philadelphia seek outstanding candidates for the position of Chair of the Department of Pediatrics and Physician-in-Chief. The successful applicant will be of international stature in his/her field and will provide academic leadership in the broadly defined area of pediatrics. Applicants who have demonstrated qualifications in the administration of programs in education, research, or patient care will have priority. The academic rank will be at the PROFESSOR level in either the tenure or Clinician-Educator track.

Letters of interest, curriculum vitae, and names of three references should be sent to:

**N. Scott Adzick, M.D.**

Chair, Search Committee for the Chair of the Department of Pediatrics and Physician-in-Chief  
Surgeon-in-Chief, The Children's Hospital of Philadelphia

**C. Everett Koop Professor of Pediatric Surgery  
University of Pennsylvania School of Medicine  
The Children's Hospital of Philadelphia  
5112 Wood Building  
34th Street and Civic Center Boulevard  
Philadelphia, PA 19104-4399**

The University of Pennsylvania and Children's Hospital are Equal Opportunity/Affirmative Action Employers. Women, minority, and international candidates are encouraged to apply.

A POSTDOCTORAL POSITION is immediately available for studies of calcium signaling in *Drosophila*. Choice of several projects involving calcium regulation of development or behavior. Candidates must have a Ph.D. and strong background in molecular biology, *Drosophila* genetics, and/or calcium imaging. Send curriculum vitae and three references to: **Dr. Kate Beckingham, Department of Biochemistry and Cell Biology, Rice University, MS-140, P.O. Box 1892, Houston, TX 77251. FAX: 713-348-4016; e-mail: [kate@bioc.rice.edu](mailto:kate@bioc.rice.edu).**

## POSITIONS OPEN



United States Department of Agriculture

### RESEARCH CHEMIST, GS-1320-12/13/14 Insect Chemical Ecology Laboratory Plant Sciences Institute Agricultural Research Service

The U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Plant Sciences Institute, Insect Chemical Ecology Laboratory in Beltsville, Maryland is seeking applications for a Research Chemist, GS-1320-12/13/14. Salary is commensurate with experience (\$51,204 to \$93,537 per annum) plus benefits. *Candidates must be U.S. citizens.* The incumbent will be responsible for planning and conducting the complex chemical aspects of research directed at minimizing reliance on the use of insecticides.

Candidates must request a copy of the vacancy announcement (ARS-DOE-4092) by either calling Telephone: 301-504-1484 or by copying the full text announcement from the ARS website: [www.ars.usda.gov](http://www.ars.usda.gov). Candidates must submit specific information as outlined in the vacancy announcement. Applications must be postmarked by the closing date of September 5, 2000. USDA/ARS is an Equal Opportunity Provider and Employer.

### ASSISTANT PROFESSORSHIP TISSUE ENGINEERING

The Cardiology Research Laboratories of The Children's Hospital of Philadelphia (CHOP) seeks an individual with an interest in tissue engineering and a background in polymer chemistry, material science, orthopedic materials, controlled-release drug delivery, stem cells, and neuroregenerative therapies. Research experience should include success in competing for peer-reviewed funding. The position will involve basic investigations concerning tissue engineering and its clinical impact. The primary academic appointments will be ASSISTANT SCIENTIST, the Joseph Stokes Research Institute (CHOP), and ASSISTANT PROFESSOR, Research Track, University of Pennsylvania School of Medicine. Qualified individuals should send their curriculum vitae and three letters of recommendation to: **Robert J. Levy, M.D., Director, Cardiology Research Laboratories, The Children's Hospital of Philadelphia, Abramson Research Building, Suite 702, 3516 Civic Center Boulevard, Philadelphia, PA 19104-4318.** The Children's Hospital of Philadelphia, a University of Pennsylvania School of Medicine affiliate, is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

### FACULTY POSITION UNIVERSITY OF KENTUCKY COLLEGE OF PHARMACY

Pharmacogenomics/proteomics: The Division of Pharmaceutical Sciences in top-ranked College of Pharmacy seeks applicants. The position is a 12-month, tenure-track faculty line. Candidates should have a Ph.D. or equivalent degree and an active research program in genomics or proteomics relevant to drug discovery, development, or therapeutics. Applicants with expertise in bioinformatics, microarray, and/or high-throughput technologies are encouraged to apply. The successful candidate will contribute to the teaching missions of the professional program in Pharmacy and the graduate program in Pharmaceutical Sciences.

Applicants should send curriculum vitae, an outline of their current and future research plans and names of three references to: **Dr. Peter Wedlund, Chair, Search Committee, College of Pharmacy, University of Kentucky, Lexington, KY 40536-0082.** E-mail via website: <http://www.uky.edu/Pharmacy/ps/psfaculty.html>. Applications accepted until the position is filled. The University is an Equal Opportunity Employer.

## POSITIONS OPEN

### SCIENTIFIC DIRECTOR NATIONAL FOUNDATION FOR FUNCTIONAL BRAIN IMAGING

The National Foundation for Functional Brain Imaging seeks applications and nominations for the position of Director, the chief executive and scientific officer of the Foundation. The Foundation is a non-profit organization dedicated to advancing the understanding of mental illness through the development and application of advanced brain-imaging techniques. The Foundation supports clinical and basic research in the areas of mental illness, cognitive neuroscience, and cognitive disorders, as well as research and technology development in the areas of instrumentation, data analysis, and computational modeling for functional brain imaging. Headquartered in Albuquerque, the Foundation is a partnership of medical, scientific, and educational institutions in New Mexico (including the University of New Mexico, Albuquerque VA Medical Center, Los Alamos National Laboratory, and Sandia National Laboratories); Minnesota (University of Minnesota School of Medicine, Minneapolis VA Medical Center); and Massachusetts (Harvard University School of Medicine, Massachusetts General Hospital).

As chief executive and scientific officer, the Director is responsible to the Foundation Board of Directors for advancing the Foundation mission and providing leadership in all aspects of Foundation activities. These responsibilities include advancing the overall vision and strategic directions of the Foundation; leadership of the Foundation's scientific and programmatic activities (including the conduct of the incumbent's own research program); fostering productive relationships and collaborations among Foundation partner institutions; fostering strong interactions with Congress, federal science and mental health organizations, and other public and private funding sources; ensuring the effective investment and utilization of Foundation resources; and creating a strong and productive scientific environment for the Foundation's researchers and partner institutions.

Required education and experience: M.D. and/or Ph.D. in a field relevant to the Foundation mission; strong record of research accomplishment as evidenced by publications in leading scientific journals; positions on federal peer review and advisory committees, etc.; strong leadership skills as evidenced by positions of increasing leadership responsibility in medical or educational institutions; and ability to foster productive relationships among a number of leading research and educational institutions. The successful candidate must qualify for a SENIOR FACULTY position at the University of New Mexico or other partner institution.

Salary and benefits commensurate with the responsibilities of the position. Please send letters of application or nomination, together with complete curriculum vitae and names of five references, to: **Dr. Leonard Napolitano, Chairman, Board of Directors, National Foundation for Functional Brain Imaging, 801 University Boulevard S.E., Suite 200, Albuquerque, NM 87106.** Applications requested by October 16, 2000.

The Foundation is an Equal Opportunity Employer.

### WADE'S CENTER FOR HYDROCEPHALUS RESEARCH ORH HEALTH RESEARCH INSTITUTE Orlando, Florida

Seeks to recruit a SENIOR RESEARCH SCIENTIST to study molecular mechanisms of hydrocephalus. The successful candidate must have a Ph.D. degree and more than four years of postdoctoral neuroscience research experience, preferably in hydrocephalus research. Qualified candidates should have excellent oral and written communication skills and have demonstrated the abilities to lead and develop lines of independent, externally fundable research. Salary and benefits commensurate with experience and qualifications. Submit curriculum vitae and names of three references to: **Dr. Jogi Pattisapu, ORH Health Research Institute, 110 Bonnie Loch Court, Orlando, FL 32806.**



**New York University**

**ASSISTANT PROFESSOR IN  
EXPERIMENTAL CHEMISTRY  
DEPARTMENT OF CHEMISTRY**

The Department of Chemistry in the Faculty of Arts and Science at New York University invites applications for a tenure-track junior faculty position in all areas of experimental chemistry, especially physical/biophysical or organic/bioorganic chemistry, to begin September 1, 2001, pending final administrative and budgetary approval. The Department is undergoing a major development effort that includes multiple faculty appointments within the next two years, as well as major improvements in laboratory and instrumentation facilities. Newly hired faculty members will be able to participate in these efforts. Applicants should have a very strong research record and be committed to teaching. Candidates should submit applications including a CV, a list of publications, a statement of future research plans, and three letters of reference. The Search Committee will begin reviewing applications in early Fall. To guarantee early consideration, application materials should be received by **October 15, 2000** and addressed to: **Faculty Search Committee (Assistant Professor), Department of Chemistry, New York University, 100 Washington Square East, New York, NY 10003. Website: <http://www.nyu.edu/pages/chemistry/>**

NYU is an Equal Opportunity/Affirmative Action Employer.

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Science

St. Jude Medical, Inc., the leading designer and manufacturer of mechanical heart valves and other cardiovascular devices for the medical industry, currently offers an excellent opportunity to qualified candidates.

**PRINCIPAL RESEARCH SCIENTIST**

We seek a highly organized professional with substantial experience in project management to manage and direct an engineering research group developing a tissue engineered heart. You must be able to oversee professional staff in biomedical engineering, analyses, product development assessment and safety issues. Other duties include evaluating new technology, coordinating research contracts and acting as educational resource.

We require a Ph.D. in a biomedical field, material science, chemical engineering or other life science field (individuals with BS or MS plus ample experience will be considered). Proven project management experience in excess of 7 years, preferably in the medical device industry, and excellent communication skills are requisite.

St. Jude Medical offers a competitive salary and benefits package. Please send your resume to:



Attn: Human Resources  
One Lillehei Plaza  
St. Paul, MN 55117  
Fax: (651) 481-7708

[human.resources@sjm.com](mailto:human.resources@sjm.com)  
or for other opportunities  
check out our website at:  
[www.sjm.com](http://www.sjm.com)  
Equal Opportunity Employer

## EUROPEAN OPPORTUNITIES

### EUROPEAN SYNCHROTRON RADIATION FACILITY



in Grenoble, France

The ESRF is a multinational research institute, presently associating 16 participating countries. Operating a high-brilliance synchrotron radiation source in the X-ray range and a large variety of beamlines, it supports basic and applied research in physics, chemistry and life sciences. The ESRF is constituted as a French "*société civile*" (around FRF 420 million annual budget, approximately 500 staff and 3000 external users per year).

The ESRF wishes to recruit its:

- (a) **Machine Director** (from 1 January 2002)
- (b) **Director of Administration** (from 1 February 2002)
- (c) One of its two **Directors of Research** (from 1 June 2002).

The appointments are for periods of five years.

For the time being, the eight delegations to the ESRF Council are invited to nominate candidates. People interested in contributing to this phase, for example by suggesting candidates, are invited to contact one of the Heads of Delegation (for position (a) before mid September 2000, for positions (b) and (c) before mid November 2000).

The recruitment for these positions should be completed one year before the start of the appointments.

Further information on the ESRF, on the posts and on the procedure (notably the email addresses of the Heads of Delegation) can be found on the ESRF web site at <http://www.esrf.fr>

## POSITIONS OPEN

### EVOLUTIONARY BEHAVIORAL ECOLOGY (RANK OPEN)

The Department of Ecology and Evolution at the University of Chicago has an open position in evolutionary behavioral ecology. The appointment is expected to be at the **JUNIOR LEVEL**, but exceptional senior candidates will also be considered. We are particularly looking for candidates with both strong field and laboratory components to their research. Specific research areas and taxa are open and can include behavioral mechanisms and behavioral genetics with an evolutionary context. The ideal candidate will interact closely with a faculty with strong quantitative and theoretical interests and will be expected to maintain a vigorous research program, train graduate students, and participate in undergraduate teaching.

To apply, please send curriculum vitae, a statement of research interests, reprints, and have three letters of recommendation forwarded by October 1, 2000, to: **Animal Behavior Search Committee, Department of Ecology and Evolution, University of Chicago, 1101 East 57th Street, Chicago, IL 60637.** The University of Chicago is an Equal Opportunity/Affirmative Action Employer.

### THEORETICAL ECOLOGIST

The Department of Biological Sciences, with strong interactive programs in ecology and evolution, seeks applicants for a **TENURE-TRACK POSITION** in theoretical ecology/evolutionary biology. Candidates with an interest in developing and testing ecological or evolutionary theory using empirical data are strongly encouraged to apply. We are particularly interested in candidates with combined ecological and evolutionary interests. The successful candidate will be expected to establish an independent, externally funded research program and teach at the undergraduate and graduate levels. Applicants should submit curriculum vitae, statements of current and future research interests as well as teaching interests, copies of publications, and three letters of recommendation to: **Dr. Sarah A. Woodin, Chair, Search Committee, Department of Biological Sciences, University of South Carolina, Columbia, SC 29208.** Review of applications will begin October 15, 2000. Information on the Department can be found at website: <http://www.biol.sc.edu>. An Equal Opportunity/Affirmative Action Employer. Women and minority candidates are strongly encouraged to apply.

### ASSISTANT PROFESSOR OF NUCLEIC ACID BIOCHEMISTRY

The Department of Chemistry, California State University, Northridge invites applications for a tenure-track position in biochemistry effective August 2001. The successful candidate will have teaching responsibilities in biochemistry and lower-level chemistry courses and will be expected to develop a research program in nucleic acid biochemistry involving undergraduate and M.S. students. Preference will be given to candidates with a strong chemistry background and postdoctoral experience. Send curriculum vitae, brief description of research plans, and three letters of reference to: **Dr. Sandor Reichman, Chair, Department of Chemistry, California State University, Northridge, CA 91330-8262.** E-mail (inquiries only): [sandor.reichman@csun.edu](mailto:sandor.reichman@csun.edu). Applications must be received by November 15, 2000. California State University, Northridge, is an Equal Opportunity Employer committed to excellence through diversity.

**SENIOR RESEARCH ASSOCIATE (POSTDOCTORAL)** position available immediately to conduct cerebral vascular biology research. Experience in applying molecular and genetic techniques to gene expression studies is required. Application review will begin immediately and continue until the position is filled. Send résumé and names of three references to: **Dr. L. R. Drewes, Biochemistry and Molecular Biology, School of Medicine, University of Minnesota, 10 University Drive, Duluth, MN 55812.** FAX: 218-726-8014; e-mail: [ldrewes@d.umn.edu](mailto:ldrewes@d.umn.edu). Equal Opportunity Employer.

## POSITIONS OPEN

The Department of Chemistry and Biochemistry, University of Maryland at College Park has initiated an expansion of their biochemistry division concordant with the broader expansion of and investment in the life sciences on the campus. We invite applications for two tenure-track or tenured positions in biochemistry. Candidates will be considered at all levels (**ASSISTANT, ASSOCIATE, or FULL PROFESSOR**). Research interest can be in any area of biochemistry. Candidates will also have the opportunity to participate in the campuswide Molecular and Cell Biology Program, the campus initiative in computational biology, and the recently established Center for Biomolecular Structure and Organization. Submit curriculum vitae, a three-page description of research plans, and arrange for three letters of reference to be sent to: **Chair, Biochemistry Search Committee, Department of Chemistry and Biochemistry, University of Maryland, College Park, MD 20742-2021.** Applications will be considered until the positions are filled but for best consideration should be received by October 15, 2000. University of Maryland at College Park is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and members of minority groups.

### POSTDOCTORAL POSITION to Investigate Function and Dysfunction of the Human Oncoprotein MDM2

Applications are invited from recent graduates for a Postdoctoral position in a laboratory involved in understanding molecular biology of tumorigenesis and role of the human oncoprotein MDM2 in the etiology of cancer (see *EMBO J.* 17:2513, 1998). This position is to investigate the biochemical mechanism of human MDM2-mediated growth regulation in normal cells. Individuals with expertise in cDNA technology, DNA sequencing, mammalian cell culture systems, or expression analysis in transgenic mice are especially encouraged to apply. Salary is negotiable. Send complete curriculum vitae and arrange for three letters of reference to be sent directly to: **Swati Palit Deb, Ph.D., Associate Professor, Massey Cancer Center and Department of Biochemistry and Molecular Biophysics, Box 980614, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298.** FAX: 804-828-1473; e-mail: [spdeb@hsc.vcu.edu](mailto:spdeb@hsc.vcu.edu).

### WEB PROGRAMMER/DATABASE MANAGER JOB NUMBER 2000-08-024

The NSF-funded global paleobiology database initiative at the National Center for Ecological Analysis and Synthesis seeks a Database/Web Programmer. This five-year multi-institution collaborative project involves compiling and analyzing large data sets over the Web. Perl/CGI or PHP and UNIX are required, as is familiarity with SQL (e.g., MySQL). C/C++, Java, LINUX, quantitative skills, and an interest in relevant scientific issues also are desirable. Excellent location and benefits. Applications must be submitted by September 15, 2000. Please send University of California Santa Barbara application, cover letter, and résumé/curriculum vitae to: **University of California Santa Barbara, Human Resources SAASB, Santa Barbara, CA 93106.** Affirmative Action/Equal Opportunity Employer.

**ASSISTANT OR ASSOCIATE PROFESSOR:** Gittlen Cancer Research Institute. This tenure-track position is available within the Department of Pathology. Candidates should have a Ph.D. and/or M.D. degree with expertise in cancer research at the molecular level. Laboratory space and a generous start-up package are available. Applicants should submit their curriculum vitae, a description of research plans, and two letters of reference to: **Search Committee, c/o Gary A. Clawson, Ph.D., M.D., Director, Gittlen Cancer Research Institute, Position Number S-8529, H059, Hershey Medical Center, The Pennsylvania State University, 500 University Drive, Hershey, PA 17033.** Résumés accepted until position is filled. Affirmative Action/Equal Opportunity Employer.

## POSITIONS OPEN

### FOUR TENURE-TRACK POSITIONS CALIFORNIA STATE UNIVERSITY LONG BEACH

The Department of Biological Sciences invites applications for four positions at the **ASSISTANT or ASSOCIATE PROFESSOR** level starting August 2001: microbial genetics, marine microbial ecology, reproductive biology, and biological sciences/science education. Candidates must have a Ph.D. in the biological sciences with training and research in the specified field. Candidates must have a strong commitment to teaching at the undergraduate and M.S. levels and participate in introductory core courses in an ethnically and culturally diverse campus community. Must have a record of published research and show potential for developing and sustaining an independent, externally funded research program involving students. Postdoctoral or other professional research experience preferred. The biological sciences/science education position is a joint appointment with the Department of Science Education. Candidates for this position must have experience in science education or teacher preparation in addition to training and research in any area of the biological sciences. Submit a letter of application, curriculum vitae, a detailed statement of research and teaching interests, reprints of two relevant publications, and three letters of recommendation to: **Dr. Laura Kingsford, Chair, Attention (give name of search): Department of Biological Sciences, California State University, Long Beach, CA 90840-3702.** Telephone: 562-985-4807; e-mail: [ssuetsug@csulb.edu](mailto:ssuetsug@csulb.edu). Screening will commence October 15, 2000, for microbial genetics and November 1, 2000, for the other positions. Website: <http://www.csulb.edu/depts/biology/>. California State University, Long Beach is an Equal Opportunity Employer committed to excellence through diversity and takes pride in its multicultural environment. An Equal Employment Opportunity/Affirmative Action/Title IX Employer.

### BIOCHEMISTRY FACULTY POSITIONS

Cell and molecular biosciences have recently been selected as priority research areas at Auburn University. Consequently, two **TENURE-TRACK POSITIONS** in biochemistry within the Department of Chemistry are available starting fall 2001. For one position, we are especially interested in persons with expertise in biomacromolecular X-ray crystallography. The second position is open to individuals with research interests in any area of biochemistry; however, the successful candidate must have a strong chemical orientation. Candidates will be expected to develop vigorous externally funded research programs and will be required to teach primarily in the areas of biochemistry/metabolism at the undergraduate and graduate levels. A Ph.D. in biochemistry or chemistry and at least one year of postdoctoral experience are required. Applicants should submit curriculum vitae, statements of research plans and teaching philosophy, and have three letters of recommendation sent to: **J. H. Hargis, Department of Chemistry, Auburn University, Auburn, AL 36849-5312.** Review of applications will begin October 15, 2000, and continue until the positions are filled. Auburn University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

**A POSTDOCTORAL/RESEARCH ASSOCIATE** position is available immediately to study the impact of race and stage of disease on the differential expression of prostate cancer using cDNA microarray analysis. Candidates should have a Ph.D. degree and experience in techniques and molecular and cellular biology. Interested candidates should send curriculum vitae, a statement of research interests, and the names and addresses of three references to: **Walter Rayford, M.D., Ph.D., Department of Urology, Louisiana State University Health Sciences Center, 1542 Tulane Avenue, Room 535, New Orleans, LA 70112.** E-mail: [wrayfo@lsuhsc.edu](mailto:wrayfo@lsuhsc.edu). An Equal Opportunity Employer.

## Max-Planck-Institute of Psychiatry, Munich

The Max-Planck-Institute of Psychiatry has invites applications for a

### Group Leader in Proteome Biology

Applicants with a strong background in

- conducting differential protein analysis for pathway elucidation,
- target identification,
- and protein functional analysis

are invited to apply. The applicant should lead a team handling all aspects of proteome research like protein separation (2-D electrophoresis), image analysis (MALDI-MS) and implementation of new technologies in this fast growing field. This group will receive all the personnel and financial support needed to set up a competitive team.

The successful candidate will have the opportunity to build up his/ her own research group aimed at the discovery of proteins differentially expressed in animal models as well as in patients. This group will have strong interaction with teams active in functional genomics, behavioural genetics and clinical research.

Applications should include a curriculum vitae with the names and addresses of three referees and a list of publications. Salary is according to BAT.

Applications should be sent to:

**Personnel Office**  
Max-Planck-Institute of Psychiatry  
Kraepelinstr. 10  
80804 Munich, Germany

You will get further informations about our institute at our homepage:

<http://www.mpipsykl.de>

The University of Basel invites application for the position of a

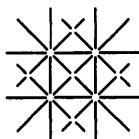
## Professor of Inorganic Chemistry

Participation in both undergraduate and graduate teaching in inorganic and general chemistry as well as a contribution to academic administration is expected. The candidate is expected to establish an active research programme within the departmental research focus on "Life Sciences and Catalysis".

We specifically encourage the application of women scientists.

Applications with a curriculum vitae and a list of publications are to be sent not later than **October 31, 2000** to:

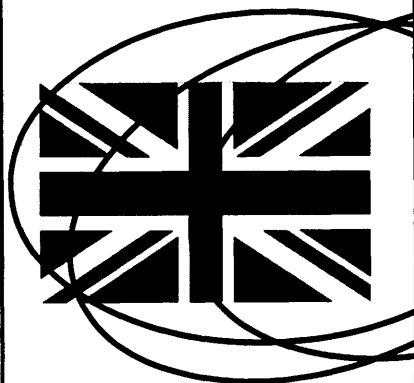
Prof. Andreas Zuberbühler  
Dekan der Philosophisch-Naturwissenschaftlichen  
Fakultät  
Klingelbergstrasse 50, CH 4056 Basel  
Switzerland  
e-mail: [andreas.zuberbuehler@unibas.ch](mailto:andreas.zuberbuehler@unibas.ch)



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# Science

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Vitamins

## Postdoctoral Positions

### Who we are

Roche's Vitamins and Fine Chemicals Division is the worldleading supplier of vitamins and other ingredients to the feed, food, pharmaceutical and cosmetic industries. The Division develops, produces and sells to the industry ingredients that play an important role in the nutrition, maintenance of health and prevention of disease in humans and animals.

### The positions

The department of Human Nutrition and Health seeks talented and enthusiastic scientists to participate in our research in the discovery of novel nutraceuticals and in the establishment of their efficacy in maintaining health and wellness. At present we have several openings for postdoctoral fellows in our department. The positions are associated with a lab leader and typically run for 2 years.

### Who you are

You have a degree in either biochemistry or molecular biology, and hands on experience in cell & molecular biology technologies. (interests in the areas of regulation of gene expression, HTS, human medicine & disease prevention by nutrition). Based in Basel and working for a multinational company, good collaboration and communication skills and a good command of English and German are prerequisites.

### Who to contact

Please forward your application and CV to: F. Hoffmann-La Roche Ltd, Susanne Kenel, VH, 241/703, CH-4070 Basel, quoting reference: Ke3497. For further information on the positions please contact Dr. Willi Hunziker, Head of Human Nutrition and Health, on 0041-61-688 62 26, or via e-mail: [willi.hunziker@roche.com](mailto:willi.hunziker@roche.com).



## POSITIONS OPEN

### POSTDOCTORAL RESEARCHER Veterinary Anatomy and Cell Biology

Required qualifications: Ph.D. or equivalent degree with major course work in biological and biomedical science; must have laboratory experience and background in molecular and cellular biology. Additional qualifications desired: background in dental research and oral biology. Responsibilities: Utilize molecular biology techniques to determine the molecular basis of tooth eruption; conduct reverse transcriptase polymerase chain reaction experiments, gel electrophoresis with ethidium bromide staining, Southern blots, ribonuclease protection assay, Northern blots, and *in situ* hybridization studies; isolate total RNA from cultures of dental follicle cells; establish cell cultures by extracting the soft tissues around the teeth and establishing primary cultures of the cells; utilize extensive biochemical/molecular biology skills to label oligonucleotide probes; conduct immunostaining studies; aid in design of molecular biology experiments; analyze data and publish in scientific journals. Salary will be commensurate with qualifications and experience. Application deadline is September 8, 2000, or until candidate is selected. Submit letter of application and résumé to: **Gary E. Wise, Ph.D., School of Veterinary Medicine, Department of Veterinary Anatomy and Cell Biology, South Stadium Drive, Louisiana State University, Reference Number 019352, Baton Rouge, LA 70808.** Louisiana State University is an Equal Opportunity/Equal Access Employer.

### EEB POSTDOCTORAL (ASSOCIATE) APPOINTMENTS (OR OPPORTUNITIES) Ecology, Evolution, and Behavior University of Minnesota

We announce the first-time competition for EEB Postdoctoral [Associate] appointments/opportunities. Those selected will receive one-year appointments, with potential for a one-year renewal (total of two years). The starting date must be during calendar year 2001. These Postdoctoral appointments will provide salary, health care benefits, and a modest research and travel allowance. In addition to their research, appointees will teach one graduate or undergraduate seminar. Applications are sought from individuals whose research interests complement the Department. Applicants must have at least one EEB faculty sponsor(s) (for a list of faculty, see [website: http://www.cbs.umn.edu/eeb/faculty/index.html](http://www.cbs.umn.edu/eeb/faculty/index.html)). To apply, send curriculum vitae, copies of publications, a statement of research and teaching interests (including a one-paragraph description of desired activities at the University of Minnesota), and names of three individuals who can be solicited for recommendation letters to: **EEB Postdoctoral Selection Committee, 100 Ecology, 1987 Upper Buford Circle, St. Paul, MN 55108.** Deadline: November 1, 2000.

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

### ILLINOIS STATE MUSEUM Vascular Plant Systematist

Illinois State Museum seeks Vascular Plant Systematist to serve as **CURATOR OF BOTANY**. Responsibilities: curation and expansion of herbarium, research and publication, and participation in interdisciplinary landscape history and educational programs. Required: Ph.D. in botany or related discipline; research experience in vascular plant taxonomy, biogeography, and ecology; five years of experience in museum or university; strong publication and grant-supported research record; knowledge of Holocene fauna of Midwestern United States. Desirable: research interest in Midwest and experience with taxonomic databases and GIS. Salary commensurate with experience. Starting date as early as March 1, 2001. Send cover letter, curriculum vitae, and names of three references by October 1, 2000, to: **Human Resource Manager, Illinois State Museum, Spring and Edwards Streets, Springfield, IL 62706-5000.** Queries to: **Dr. Bonnie Styles; e-mail: styles@museum.state.il.us.** Affirmative Action/Equal Employment Opportunity.

## POSITIONS OPEN

### NATIONAL JEWISH Medical and Research Center Global Leader in Lung, Allergic and Immune Diseases

#### POSTDOCTORAL POSITION

A Postdoctoral position is available to study the regulation of inflammatory diseases by oxidative stress with an emphasis on the antioxidant enzymes, the superoxide dismutases. Experience in molecular biology techniques and background in cell biology or biochemistry desirable. Submit curriculum vitae and references to: **Dr. Ling-Yi Chang, Department of Medicine, 1400 Jackson Street, B121, Denver, CO 80206.** FAX: 303-398-1775; e-mail: [mccollum1@njc.org](mailto:mccollum1@njc.org). Affirmative Action/Equal Employment Opportunity.

#### MCP HAHNEMANN UNIVERSITY

Applications are invited for the Edward Jekkal Muscular Dystrophy Association Fellowship. This award is targeted at **SENIOR POSTDOCTORAL FELLOWS** about to move into faculty positions or **JUNIOR RESEARCH FACULTY MEMBERS** (including Physician Scientists) interested in carrying out neuromuscular disease research at MCP Hahnemann University. The Fellowship funding is for two years with an annual stipend of \$35,000 plus fringe benefits and a research expense fund up to \$20,000.

Applicants will identify a sponsor from within the training faculty at MCP Hahnemann University and prepare the application with the sponsor. Junior research faculty at MCP Hahnemann can submit an independent application. The research project should be in an area consistent with the objectives of the Muscular Dystrophy Association.

Contact: **Dr. Itzhak Fischer, Professor and Interim Chair, Neurobiology and Anatomy, MCP Hahnemann University, 2900 Queen Lane, Philadelphia, PA 19129** for application and descriptions of the training faculty. Deadline is October 15, 2000.

**POSTDOCTORAL POSITIONS** are available to study transcriptional and posttranscriptional regulation of gene expression in hepatocytes. Two grant-funded projects focus on (1) cyclic nucleotide regulation of Type-1 plasminogen activator inhibitor (PAI-1) mRNA degradation (*J. Biol. Chem.* **274**:1172, 1999) and (2) molecular mechanisms of the cross-talk between glucocorticoid and TGF- $\beta$  signaling (*PNAS* **96**:11776, 1999). Experience in molecular biology and biochemistry is required. Contact: **Thomas Gelehrter, M.S., Chair, Department of Human Genetics, Box 0618, University of Michigan Medical School, Ann Arbor, MI 48109-0618.** E-mail: [tdgum@umich.edu](mailto:tdgum@umich.edu). An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION** available in molecular toxicology. The successful candidate will study molecular mechanisms in membrane transport of Hg and Cd in the kidney. Experience in molecular biological techniques required. Send curriculum vitae to:

**Dr. Rudolfs K. Zalups  
Division of Basic Medical Sciences  
Mercer University School of Medicine  
1550 College Street  
Macon, GA 31207  
E-mail: [zalups.rk@gain.mercer.edu](mailto:zalups.rk@gain.mercer.edu)**

Mercer University is an Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION** is available immediately to study liposomes as delivery system for gene therapy and anticancer drugs. Recent Ph.D. with experience in liposome formulation and preclinical pharmacology is desirable. Send curriculum vitae and names of three references to: **Prafulla Gokhale, Ph.D., Department of Radiation Medicine, Georgetown University Medical Center, Room E207, The Research Building, 3970 Reservoir Road N.W., Washington, DC 20007-2197.** E-mail: [gokhalep@gunet.georgetown.edu](mailto:gokhalep@gunet.georgetown.edu).

## POSITIONS OPEN

### POSTGRADUATE RESEARCH POSITIONS AVAILABLE OAK RIDGE NATIONAL LABORATORY

Applications are invited for three Postgraduate positions at the Oak Ridge National Laboratory (ORNL). Candidates with a high level of motivation and initiative are invited to join multidisciplinary programs to conduct both basic and applied research in colloid and surface chemistry, environmental geochemistry, and environmental remediation technologies. The successful candidate will possess good oral and written communication skills.

**Position I: Environmental Geochemist** in the Environmental Sciences Division (ESD). The candidate will participate in an integrated laboratory and field investigation using reactive media to treat environmental contaminants, including chlorinated organic compounds, heavy metals, and radionuclides. The successful candidate will design and acquire laboratory and field data and perform chemical speciation modeling. Applicants must hold a Ph.D. degree in environmental chemistry/engineering or related disciplines and have demonstrated experience in environmental research. The applicant should have field experience with groundwater sampling and laboratory instrumentation (e.g., GC, IC, ICP, SEM, X-ray diffraction). Experiences with mineralogy identification and geochemical models are highly desirable.

**Position II: Colloid and interfacial chemist** in ESD and solid state division. The successful candidate will apply advanced analytical tools to investigate the microscopic environment of metal oxide interfaces in solution. Activities include synthesizing and characterizing colloidal suspensions, planning and conducting neutron and X-ray small angle scattering or reflectivity measurements, and developing conceptual and mathematical models on the electric double-layer structures at the solid-water interface. An advanced degree with demonstrated experience in colloid and surface chemistry and interfacial sciences is required. Additional experience is desired in neutron and X-ray small angle scattering or reflectivity, synthesis and surface characterizations of metal-oxide colloids, and colloidal stability.

**Position III: Environmental Scientist/Engineer** in ESD. The successful candidate will apply a high-pressure vessel to simulate the ocean environment in studies of the stability of CO<sub>2</sub> clathrate. Research activities consist of developing and conducting high-pressure, low-temperature experiments to simulate deep ocean conditions necessary for CO<sub>2</sub> hydrate formation and stability and modeling diffusive and reactive transport of chemical species across phase boundaries. An advanced degree with demonstrated experience in physical chemistry, material science, environmental engineering, chemical engineering, or related field is required. Experience in gas hydrate experimental research is highly desired.

Interested candidates should send curriculum vitae, a description of research accomplishments and interests, and the names and telephone numbers of three references to: **Dr. Liyuan Liang, Oak Ridge National Laboratory, P.O. Box 2008, MS-6038, Oak Ridge, TN 37831.** Telephone: 865-241-3933; e-mail: [LiangL@ornl.gov](mailto:LiangL@ornl.gov). These appointments will be offered through the ORNL Postdoctoral Research Associates Program and the ORNL Postmasters Research Participation Program. These programs are open to all qualified U.S. and non-U.S. citizens without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.

**POSTDOCTORAL POSITIONS** to study intracellular transport and cytoskeletal organization. Opportunities to focus on either basic mechanisms or applications that involve cell motility in cancer, atherosclerosis, or inflammation. Please send curriculum vitae with names of three references to: **Victor Hsu, M.D., Harvard Medical School, Brigham and Women's Hospital, One Jimmy Fund Way (Smith 538B), Boston, MA 02115.** FAX: 617-525-1104; e-mail: [vhsu@rics.bwh.harvard.edu](mailto:vhsu@rics.bwh.harvard.edu).

The Genetics Company, Inc. (TGC) is a young, highly innovative functional genomics company dedicated to the discovery of new drug targets, and the development of novel therapeutics in the fields of cancer and diabetes. The scientific founders of TGC are:  
Michel Aguet, Konrad Basler and Ernst Hafen.

## Scientist – Genetic Screening / Molecular Biology

A position for a highly qualified molecular biologist holding a Ph.D. is now available at our research facility in Zurich, Switzerland. You will use *Drosophila* genetics and/or molecular biology to identify new putative targets in therapeutically important biochemical pathways.

The selected candidates will work as part of a multi-disciplinary team. Good communication skills are required. We offer demanding and challenging work, attractive salary, entrepreneurial spirit and the perspectives of a fast growing biotech company.

To be part of our team please apply with your CV including the names and addresses of three referees and a covering letter to:  
Mario Jenni, The Genetics Company, Inc., Winterthurerstrasse 190, 8057 Zurich, Switzerland.  
E-mail inquiries to: [info@the-genetics.com](mailto:info@the-genetics.com)

For further information please visit our website at [www.the-genetics.com](http://www.the-genetics.com)

## ANNOUNCEMENTS



### TELETHON/JDF CENTERS FOR STUDY OF TYPE 1 DIABETES IN ITALY

#### CALL FOR LETTERS OF INTENT

Telethon and the Juvenile Diabetes Foundation International (JDF) are pleased to announce a new joint research program in Italy to foster multi-disciplinary research targeted at finding a cure for Type 1 diabetes. Telethon and JDF would like to establish Centers in Italy to support research in Type 1 diabetes, particularly in genetics and genomics, immune modulation, islet transplantation, genetic engineering and gene therapy.

Interested parties should refer to: the Telethon Web site, <http://www.telethon.it>, or to the JDF Web site, <http://www.jdf.org/research/rschinfo.html#applicants>, for the full text of this RFP.

Submit letters of intent addressed to:

*Dr. Francesca Pasinelli, Chief Scientific Officer,  
Comitato Telethon Fondazione Onlus  
Via Calzecchi, 10, 20133 Milano, Italy.  
Phone 39 02 70005931, Fax 39 02 70005947  
Email: [fpasinelli@mail.telethon.it](mailto:fpasinelli@mail.telethon.it)*

Letters of intent are due no later than October 15, 2000, and applicants will be notified by October 31, 2000.

## INSTITUT FÜR MOLEKULARE BIOTECHNOLOGIE E.V.



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Position immediately available for

## Scientific Director

at the Institute of Molecular Biotechnology (IMB) in Jena/Germany.

The IMB is an independent institute belonging to the Wissenschaftsgemeinschaft Gottfried Wilhelm Leibniz. This establishment is involved in research and development in molecular biotechnology and related fields and is funded equally by the Federal and Thuringian state governments.

The institute presently employs more than 240 staff. It comprises research groups and departments for Structural Biology/Crystallography, Molecular Biophysics/NMR-Spectroscopy, Molecular Cytology/Electron-microscopy, Theoretical Biophysics, Biochemistry/Gene and Protein Technology, Molecular Biology, Structural and Evolutionary Biochemistry, Biocomputing, Single Cell and Single Molecule Techniques, Genome Analysis and Tumour Genetics and Molecular Cytogenetics.

Applicants should be distinguished by their practical experience and outstanding achievements in the fields of IMB research. Their work should contribute to and enhance the research carried out at the institute.

We are looking for someone with both salient technical and social skills as a necessary attribute to lead the institute through a phase of new orientation and new structural organisation. The following characteristics are required: scientific skill, experience in leadership in research, management abilities, powers of assertion, negotiation talents and integration ability.

The applicant must be capable of promoting the interests of the institute concerning public policy.

There is a narrow cooperation between the institute and the Friedrich-Schiller-University of Jena encompassing both research and education. Applicants should be prepared to work closely with the Friedrich-Schiller-University of Jena as well as to devote time to teaching duties.

The salary is based on a C4-professorship (BBesO).

The IMB is an equal opportunities employer.

Applications should be sent within the next **six weeks** to the

**chairman of the board of trustees of the IMB**

**Dr. Klaus Bartholmé**

**Thüringer Ministerium für Wissenschaft, Forschung und Kunst**

**Postfach 101359 • D-99013 Erfurt • Germany**



## POSITIONS OPEN

### POSTDOCTORAL POSITIONS GEORGETOWN UNIVERSITY MEDICAL CENTER

A Postdoctoral position is available immediately to study the biochemical and molecular aspects of *ataxia-telangiectasia* and prostate cancer. The projects include biochemical analysis, isolation of novel genes, and clinical translation studies for gene therapy. Recent Ph.D. training in molecular or cellular biochemistry. Prefer experience in these areas and less than five years of postgraduate. Send curriculum vitae and names of three references to: **Mira Jung, Ph.D., Associate Professor, Department of Radiation Medicine, Division of Radiation Research, Georgetown University Medical Center, 3790 Reservoir Road N.W., E211A, The Research Building, Washington, DC 20007-2197. FAX: 202-687-0400.**

*Georgetown University is an Equal Opportunity/Affirmative Action Employer.*

A POSTDOCTORAL POSITION is available immediately in the Pulmonary/Critical Care Division of University Hospitals of Cleveland/Case Western Reserve University. The position is part of an expanding program studying the role of receptor tyrosine kinases in the regulation of pulmonary epithelial cell growth and differentiation during transformation and development. Studies are currently focused on the ErbB family using molecular and genetic techniques *in vitro* and in animal models. Applicants should have a strong background in molecular and cell biology. Send curriculum vitae, a brief description of research interests and experience, and names of three references to: **Jeffrey A. Kern, M.D., Chief, Pulmonary/Critical Care Division, University Hospitals of Cleveland, 11100 Euclid Avenue-LKS 5067, Cleveland, OH 44106. FAX: 216-844-3226.**

*University Hospitals of Cleveland and Case Western Reserve University are Affirmative Action/Equal Opportunity Employers.*

POSTDOCTORAL RESEARCH ASSOCIATE/ ASSISTANT PROFESSOR positions available in autoimmune arthritis research in the Section of Biochemistry and Molecular Biology at Rush University, Chicago. Position(s) requires documented experiences and understanding in genetics and molecular/cell biology as well as bioinformatics. Applicants should send curriculum vitae, brief summary of research experience, name and address of current preceptor, and at least two additional references to: **Tibor T. Glant, M.D., Ph.D., Professor, Search Committee, Section of Biochemistry and Molecular Biology, Department of Orthopedic Surgery, Rush University, 1653 West Congress Parkway, Chicago, IL 60612.**

POSTDOCTORAL POSITION to study transcriptional control of *CYP6D1*, a cytochrome P450 gene responsible for insecticide resistance. Applicants should possess a strong knowledge of molecular biology and have experience with one or more of the following techniques: gel shift assays, footprinting, nuclear run-on transcription assays and/or protein purification. Send curriculum vitae plus names of three to four references to: **Dr. J. G. Scott, Cornell University, Department of Entomology, Comstock Hall, Ithaca, NY 14850. Website: [http://www.cals.cornell.edu/dept/entom/Faculty\\_Staff/Scott/JS.html](http://www.cals.cornell.edu/dept/entom/Faculty_Staff/Scott/JS.html); e-mail: [JGS5@CORNELL.EDU](mailto:JGS5@CORNELL.EDU).**

### POSTDOCTORAL FELLOW NEUROCHEMISTRY, NEUROSCIENCE

A Postdoctoral position is available to study neurotransmitters (glutamate and catecholamine) involved in mechanisms of pain and analgesia in the central nervous system. Experience in neurochemical (HPLC) assay and electrophysiological studies is preferred. Send curriculum vitae and the names of three references to: **Dr. Hui-Lin Pan, Penn State University College of Medicine, The Milton S. Hershey Medical Center, Department of Anesthesiology, P.O. Box 850, H187, Hershey, PA 17033.**

## POSITIONS OPEN

### TWO POSTDOCTORAL POSITIONS MOLECULAR NEUROSCIENCE NINDS, NIH

Positions are available to recently awarded Ph.D.s to study presynaptic mechanisms of neurotransmitter release and its modulation. Experimental approaches include yeast two-hybrid cloning, gene knockouts, immunocytochemistry, transfection, and *in vitro* biochemical analysis. Recent publications from the laboratory include *Nature Neuroscience* 2:119, 1999; *Neuron* 25:191, 2000. Applicants should have a strong background in neuroscience and experience in one of these areas: (1) molecular biology and genetics, (2) protein biochemistry, or (3) electrophysiology. Applicants should have demonstrated productivity as a first author of publications in quality journals. Send curriculum vitae, bibliography, the names and addresses of three references, and a brief statement of research interests to:

**Dr. Zu-Hang Sheng**  
Synaptic Function Unit, NINDS, NIH  
Building 36, Room 5A23, 36 Convent Drive  
Bethesda, MD 20892-4154  
E-mail: [zsheng@codon.nih.gov](mailto:zsheng@codon.nih.gov)  
Website: <http://intra.ninds.nih.gov>  
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### POSTDOCTORAL POSITIONS The University of Texas Southwestern Medical Center at Dallas

Three Postdoctoral positions are available immediately to work within a multidisciplinary program to study stem cell biology and transcriptional regulation in the heart. Areas of interest include stem cell isolation from target tissues using transgenic technology, mechanisms of gene expression, and conditional knockout technology and functional genomics utilizing custom microarray analysis developed at our institution. A strong background in molecular biology or biochemistry is required. Competitive salaries are available with preference given to candidates who are U.S. citizens or permanent residents. Please send a cover letter, curriculum vitae, and names of three references to both: **Daniel J. Garry, M.D., Ph.D. (e-mail: [daniel.garry@utsouthwestern.edu](mailto:daniel.garry@utsouthwestern.edu)) and Ralph V. Shohet, M.D. (e-mail: [ralph.shohet@utsouthwestern.edu](mailto:ralph.shohet@utsouthwestern.edu)), The University of Texas Southwestern Medical Center at Dallas, Molecular Cardiology, 5323 Harry Hines Boulevard, Dallas, TX 75390-8573.**

*University of Texas Southwestern Medical Center at Dallas is an Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL RESEARCH POSITION DEVELOPMENTAL NEUROBIOLOGY

A Postdoctoral position in developmental neurobiology is available in the Developmental Endocrinology Branch, NICHD, NIH, in Bethesda, Maryland. The project aims at elucidation of molecular mechanisms of steroid hormone and peptide growth factor action in brain development and plasticity. A background in molecular biology and/or microarray technology is desirable. Candidates should have an M.D. or Ph.D. and less than five years of postdoctoral experience. Send curriculum vitae and two letters of recommendation to: **Carolyn Bondy, M.D., Chief, DEB, NICHD, NIH, Building 10, Room 10N262, 10 Center Drive MSC 1862, Bethesda, MD 20892-1862. NIH is an Equal Opportunity Employer.**

### POSTDOCTORAL POSITION

NIH-funded Postdoctoral position available to study a mouse model of diabetic embryopathy by conditional and microarray technologies. Contact: **Claudia Kappen, Ph.D., Associate Professor, Center for Human Molecular Genetics and Department of Cell Biology and Anatomy, 985455 Nebraska Medical Center, Omaha, NE 68198-5455. E-mail: [ckappen@unmc.edu](mailto:ckappen@unmc.edu).**

## POSITIONS OPEN

### RESEARCH ASSOCIATE/ POSTDOCTORAL POSITIONS THE UNIVERSITY OF VIRGINIA

Research Associate/Postdoctoral positions are available to study how the diversity of G protein  $\alpha$  and  $\beta\gamma$  subunits leads to specificity in transmembrane signaling. We are defining functional roles for  $\beta\gamma$  dimers containing divergent  $\beta$  subunits such as  $\beta_5$  using pure, recombinant proteins and cell transfection assays to monitor interaction with various  $\alpha$  subunits and effectors. Systems under study include receptor:  $\alpha\beta\gamma$  coupling, regulation of Type I and II adenylyl cyclases, and activation of PLC- $\beta$  or PI 3-kinase. A Ph.D. with experience with molecular techniques, biochemistry, and protein purification is required. Application deadline: November 1, 2000. Send a curriculum vitae and list of references to: **Dr. James C. Garrison, Department of Pharmacology, P.O. Box 800735, University of Virginia Health System, Charlottesville, VA 22908-0735. The University of Virginia is an Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITION TORREY PINES INSTITUTE FOR MOLECULAR STUDIES San Diego/La Jolla, California

One Postdoctoral position is available to study the molecular determinants of activity and specificity for serine proteases using phage display and *in vitro* evolution technologies. Experience with phage display is required. Experience with serine proteases or serine protease inhibitors would be beneficial.

Torrey Pines Institute for Molecular Studies offers a very stimulating scientific environment. San Diego provides an exceptionally pleasant climate and much natural beauty.

To apply, please refer to code EM and send a cover letter, curriculum vitae, and three letters of recommendation to: **Torrey Pines Institute for Molecular Studies, Edwin L. Madison, Ph.D., c/o Karen Douthitt, 3550 General Atomics Court, San Diego, CA 92121. FAX: 858-455-2598, e-mail: [kdouthitt@tpims.org](mailto:kdouthitt@tpims.org).**

*Torrey Pines Institute for Molecular Studies is an Equal Opportunity Employer.*

### POSTDOCTORAL POSITION IN NEUROSCIENCE AT THE UNIVERSITY OF NORTH CAROLINA

A NIH-funded Postdoctoral position is available to study neuronal-glial interactions. The individual recruited will be involved in the generation and analysis of transgenic and conditional-knockout mice designed to perturb astrocytic-neuronal interactions *in situ*. This project will include the analysis of astrocytic mRNA expression using DNA microarrays. Applicants interested in this position should have a strong background in molecular biology. Send curriculum vitae and names, telephone numbers, and e-mail addresses of three references to: **Ken McCarthy, Ph.D., Department of Pharmacology, CB# 7365, University of North Carolina Chapel Hill, Chapel Hill, NC 27599-7365. FAX: 919-966-5640; e-mail: [kdmc@med.unc.edu](mailto:kdmc@med.unc.edu).**

We are seeking a POSTDOCTORAL FELLOW to study virus receptor proteins (including DAF and CAR) and their roles in viral pathogenesis using human cells and mouse models.

Candidates should have a Ph.D. or M.D. degree or have completed degree requirements. Experience in molecular biology and/or biochemistry and publication of papers in the areas of receptor biochemistry and/or cell signaling required. Those interested should send curriculum vitae and names of three references by FAX or mail to:

**Robert Finberg, M.D.**  
University of Massachusetts Medical School  
Department of Medicine  
55 Lake Avenue North  
Room S6-824  
Worcester, MA 01655

## POSITIONS OPEN

### POSTDOCTORAL FELLOWSHIPS

NIH-funded neurovirology-molecular biology training program at the University of Colorado Health Sciences Center (UCHSC) offers Postdoctoral Fellowships in the laboratories of:

**Jeffrey Bennett:** neurotrophins and eye development.

**Randall Cohrs and Donald Gilden:** molecular mechanisms of herpes virus latency in human ganglia.

**Anthony Hayward:** cell-mediated immune responses to HSV and VZV.

**Kathryn Holmes:** molecular pathogenesis of coronavirus infection.

**Ravi Mahalingam:** animal model of VZV latency.

**Donald Gilden, Gregory Owens, and Mark Burgoyne:** identification of an antigen in multiple sclerosis.

**David Patterson:** chromosomal abnormalities and neurodegenerative diseases.

**Jerome Schaack:** virus transcription.

**Roderic Smith:** modification of neuronal excitation by viral-mediated gene transfer.

**Kenneth Tyler:** virus-induced apoptosis in the nervous system.

For more information, please contact: **Dr. Donald Gilden, Professor and Chairman, Department of Neurology, #B182, UCHSC, 4200 East Ninth Avenue, Denver, CO 80262.** Telephone: 303-315-8281; FAX: 303-315-8720; e-mail: don.gilden@uchsc.edu.

UCHSC is an Equal Opportunity/Affirmative Action Employer. Applicants must be U.S. citizens or hold a permanent resident alien card.

### RESEARCH SCIENTIST: BioGenex seeks Ph.D.-

level Scientists in pathology, genomics, immunology, molecular biology, or related disciplines for product management, research and development, and scientific liaison positions. Experience in tissue and cell-based assays (e.g., immunohistochemistry, *in situ* hybridization) preferred. Contact: **Telephone: 925-866-2579; e-mail: resums to: philippn@biogenex.com.**

## GRANTS

### RESEARCH GRANTS DEADLINE: OCTOBER 1, 2000

The National Organization for Rare Disorders, Inc. (NORD) has announced the availability of funds for clinical research **GRANTS** on the following diseases: adenoid cystic carcinoma (\$100,000) and familial Mediterranean fever (\$30,000). Project periods for one to two years will be considered. A one-page letter of intent, curriculum vitae, and brief budget outline due by October 1, 2000.

**National Organization for Rare Disorders, Inc.**  
Director of Development  
P.O. Box 8923  
New Fairfield, CT 06812  
Telephone: 203-746-6518  
FAX: 203-746-6896  
Website: [www.rarediseases.org](http://www.rarediseases.org)  
E-mail: [orphan@rarediseases.org](mailto:orphan@rarediseases.org)

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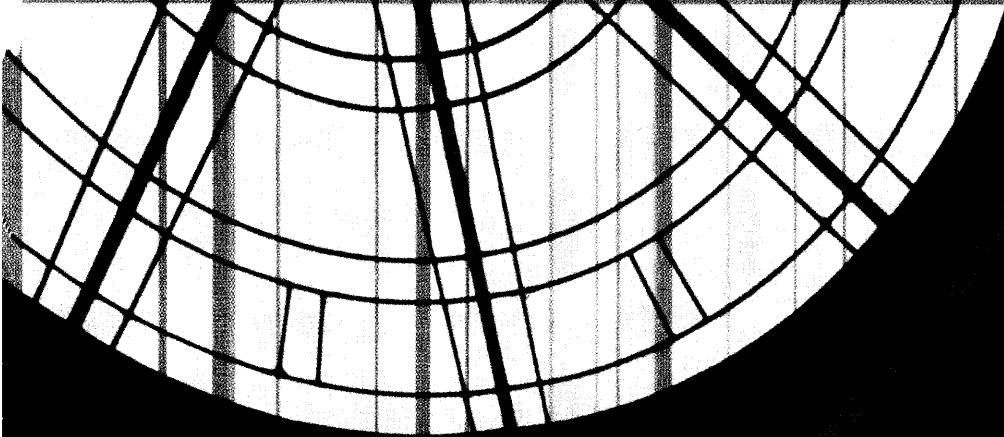
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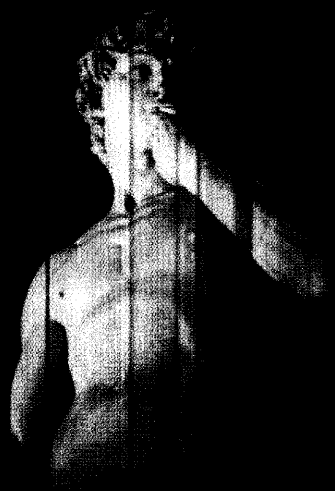
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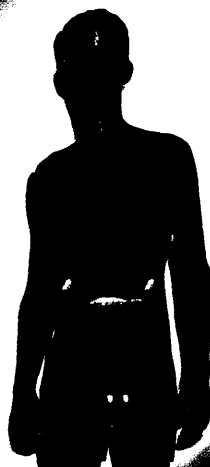
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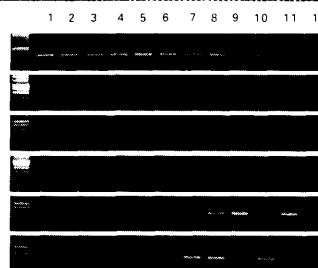
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