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**"Apoptosis:
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Presentations of the
Ciba Drew Award in
Biomedical Research
will be made to:

Andrew H. Wylie, FRS
The University of Edinburgh
Medical School
Edinburgh, United Kingdom
**"The Pathology of
Apoptosis"**

H. Robert Horvitz, PhD
Massachusetts Institute of
Technology
Cambridge, Massachusetts
**"Genetic Control of
Programmed Cell Death"**

Stanley J. Korsmeyer, MD
Washington University
School of Medicine
Saint Louis, Missouri
**"Bcl-2 Gene Family and the
Regulation of Programmed
Cell Death"**

The proceedings will be
introduced and moderated by:

Alan J. Main, PhD
Senior Vice President, Research
Ciba Pharmaceuticals

Hall of Science Auditorium
Room 4
Drew University
Tuesday, 15 October 1996
1:30 pm-5:30 pm

Address inquiries to:

James Miller, PhD, Frontiers in Biomedical Research
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Wang, X. et al. Matrix metalloproteinase inhibitor BB-94 inhibits human colon tumor growth and spread in a patient like orthotopic model in nude mice. Cancer Res. 54, 4726-28 1994

Hoffman, R. Orthotopic is orthodox: why orthotopic transplant metastatic models are different from all other models? J. Cellular Biochem. 56, 1-4, 1994

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**1997
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The McKnight Endowment Fund for Neuroscience is soliciting applications in preparation for awarding McKnight Scholar Awards, which commence July 1, 1997.

The McKnight Scholar Awards were initiated in 1976 to stimulate research in neuroscience especially as it pertains to memory and, ultimately, to a clearer understanding of diseases affecting memory. Over the years this mandate had been interpreted broadly to permit support of work in many relevant areas of neuroscience. The McKnight Endowment Fund for Neuroscience administers its awards programs through a Board of Directors comprised of eminent scientists and representatives from the Board of Directors of The McKnight Foundation, which is the source of the Endowment Fund.

Up to six 1997 McKnight Scholars will be selected from applicants who hold the M.D. and/or Ph.D. degree and have completed formal postdoctoral training. Candidates should have demonstrated meritorious research in areas pertinent to the interests of The McKnight Endowment Fund for Neuroscience and should be in the early stages of establishing their own independent laboratory and research career. Candidates must be citizens or lawful permanent residents of the United States. Award payments will be made directly to a sponsoring institution, which must be located within the U.S.

Each McKnight Scholar Award provides \$50,000 annually in 1997, 1998, and 1999. Funds may be used in any way that will facilitate development of the Scholar's research program. Funds may not be used for indirect costs.

Applications will be evaluated by a review committee, which will recommend to the Board of Directors of the Endowment Fund candidates for appointment. Award announcements will be made on or before May 15, 1997.

Potential applicants should write or call the office of The McKnight Endowment Fund for Neuroscience to request application forms and guidelines. Completed applications must be postmarked no later than **January 2, 1997**.

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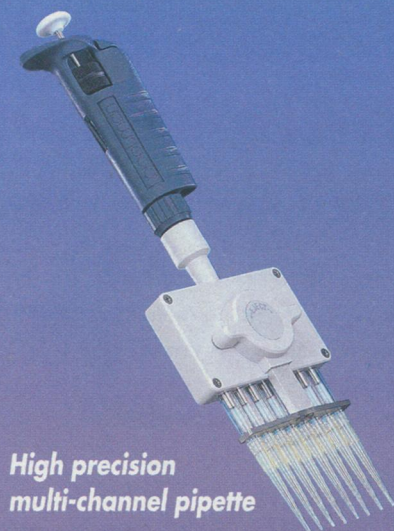
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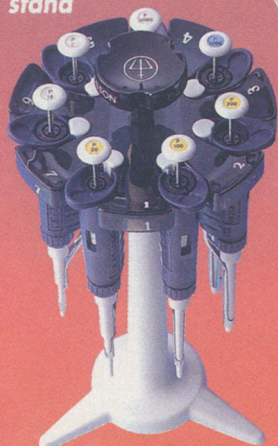


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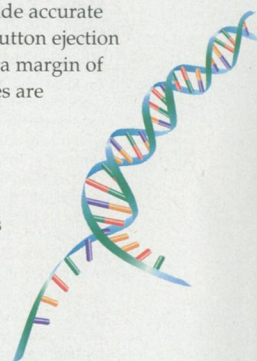
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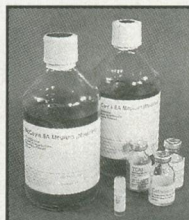
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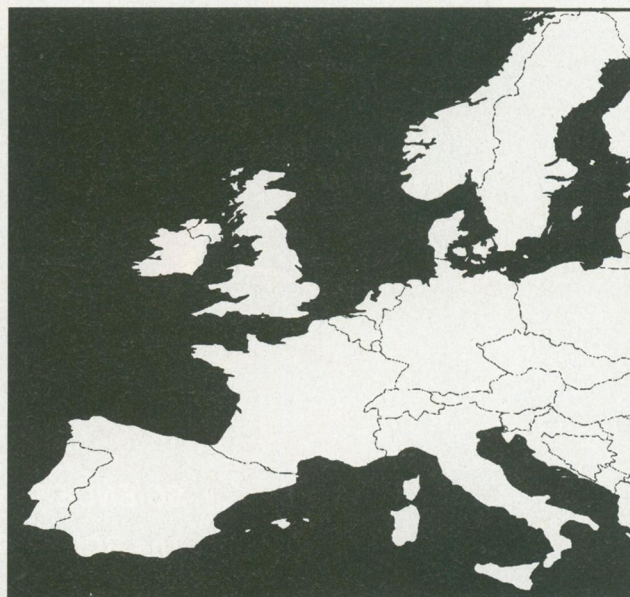
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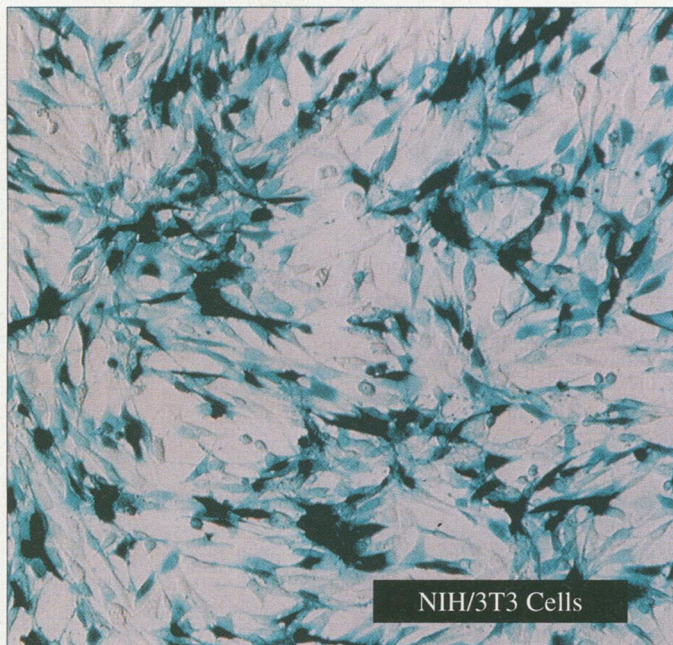
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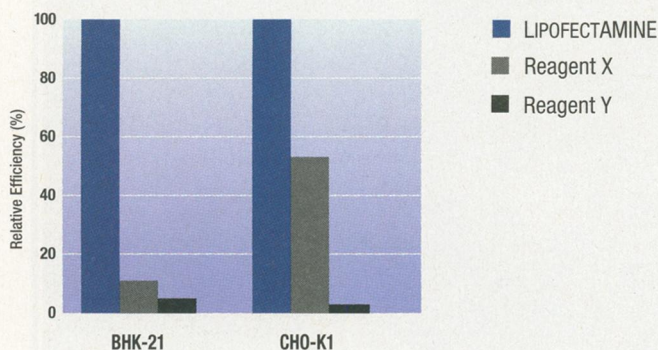


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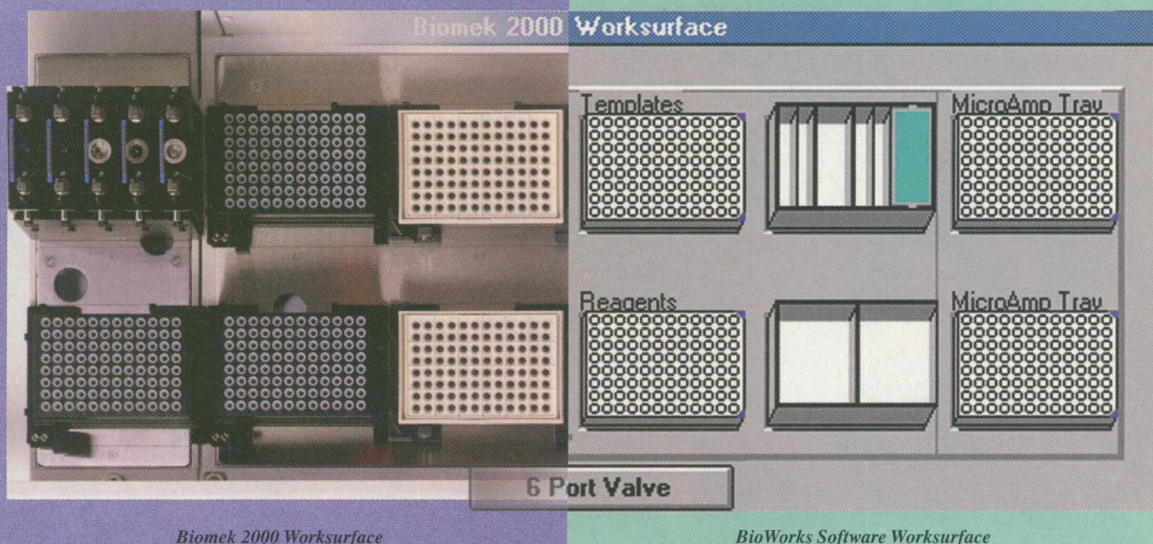
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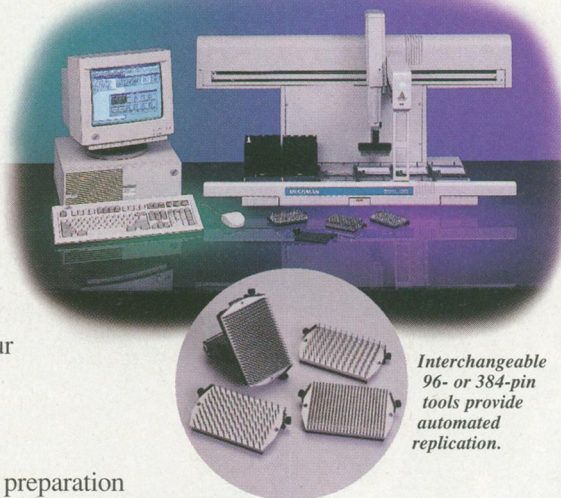
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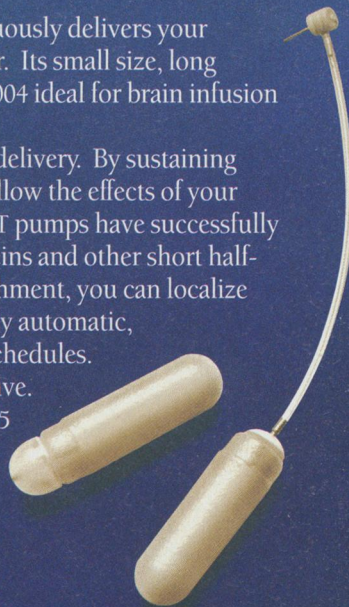
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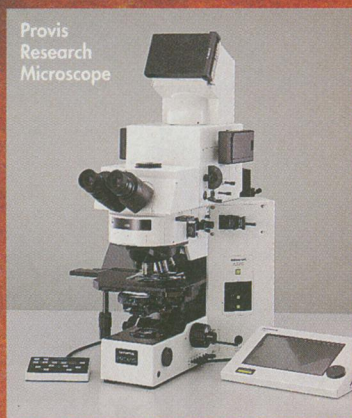
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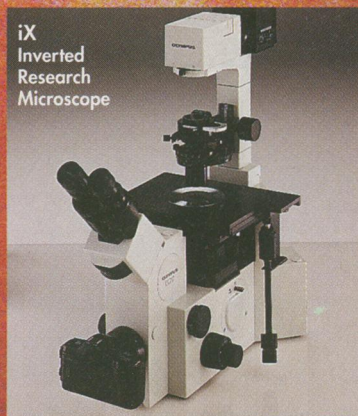


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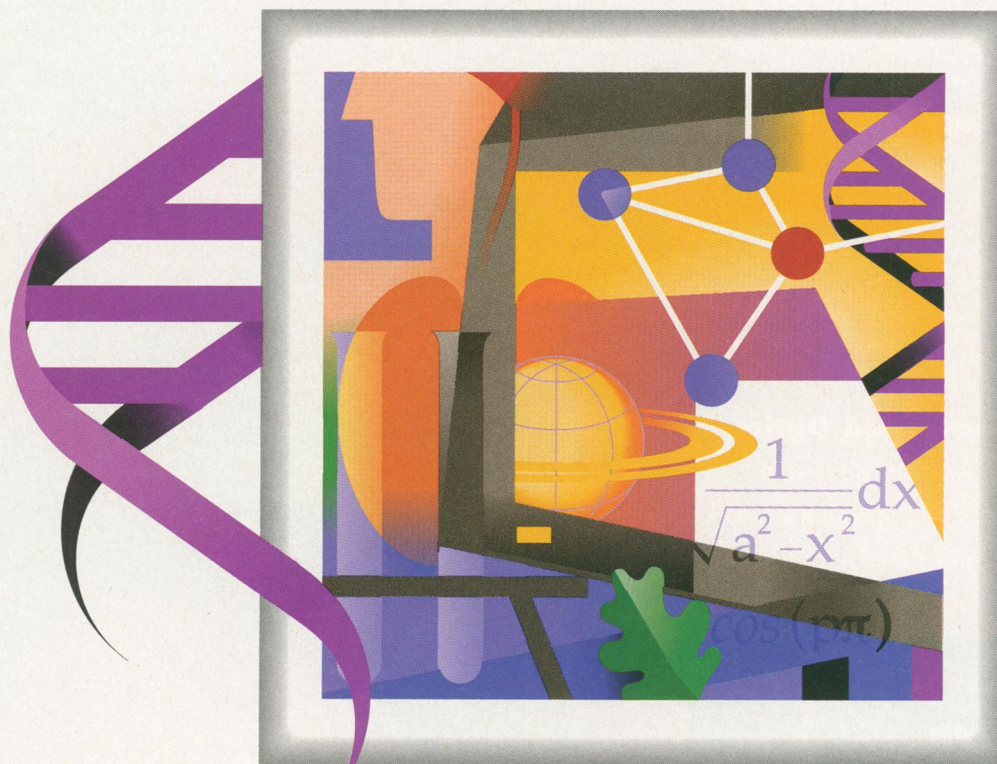
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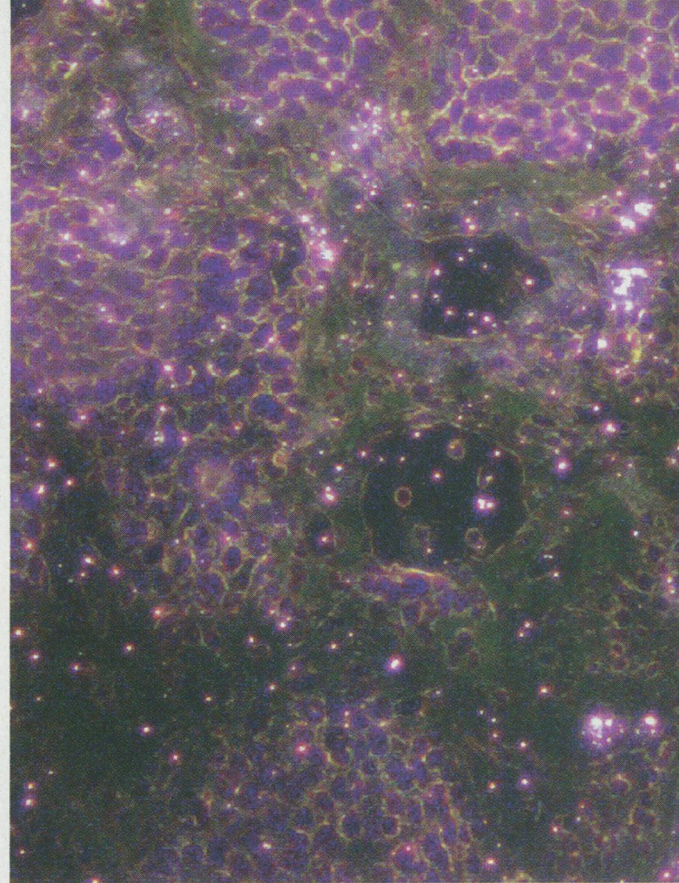
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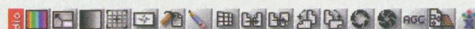
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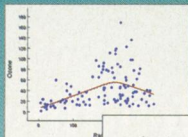
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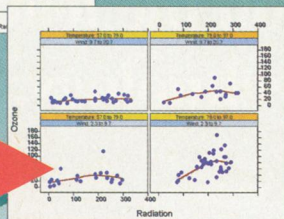
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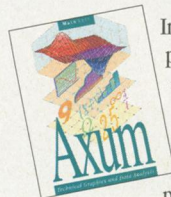
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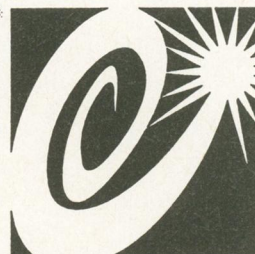
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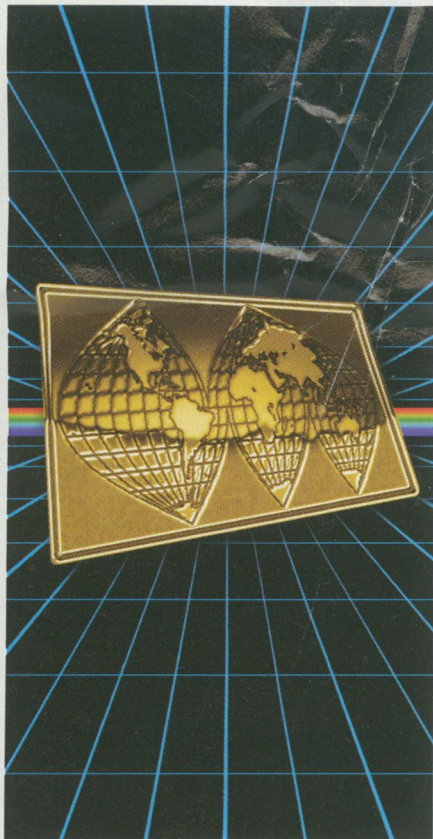
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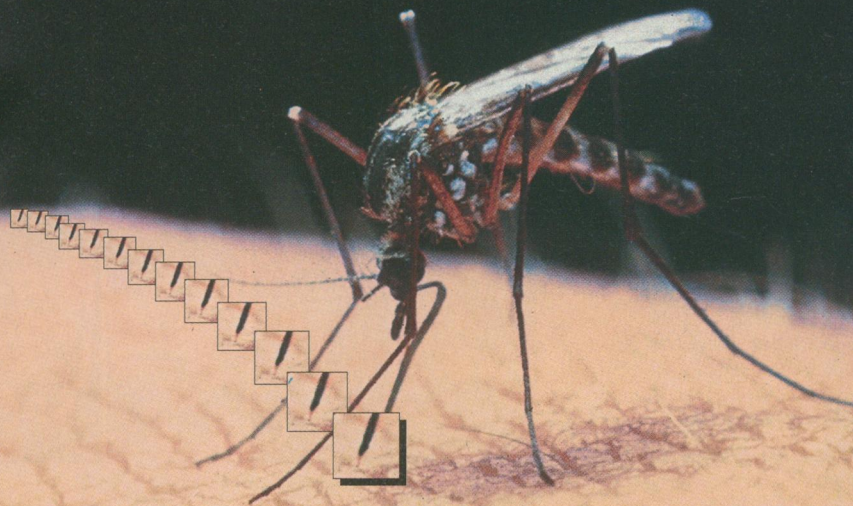
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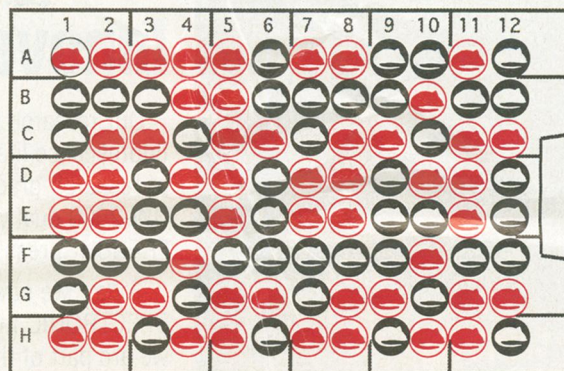
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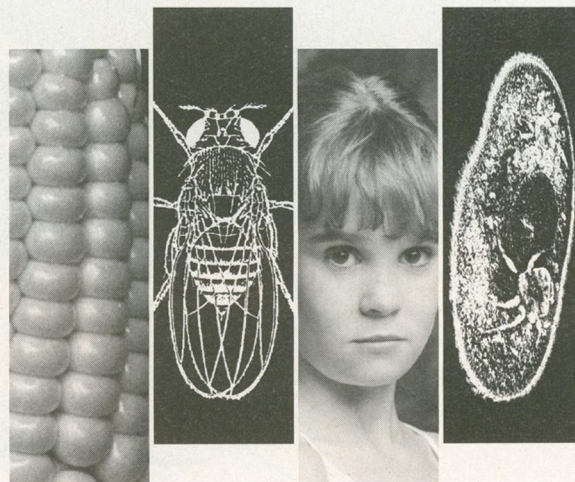
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European Careers

Skills of the Moment, Mind of the Future: Career Opportunities in European Biotechnology and Pharmaceuticals

A SCIENCE Advertising Supplement

The following European organizations have placed full page recruitment advertisements in the special advertising supplement of this issue of SCIENCE beginning on page 1590.

Advertiser	Page
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Novo Nordisk	1593
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TFR, Swedish Research Council for Engineering Sciences	1591

THE LAST FIVE YEARS HAVE BEEN A ROUGH RIDE FOR EUROPEAN BIOPHARMA. YET ALONGSIDE THE CONSOLIDATIONS AND CONTRACTIONS, GROWTH AND INNOVATION WERE CONTINUING. ALTHOUGH THE EMPLOYMENT MARKET IN EUROPE IS MORE COMPETITIVE THAN EVER, THE TALENTED AND CURRENT SCIENTIST IS MUCH IN DEMAND.

Here, we consider the profile of the person everyone seems to be looking for. We hear from experts from the Swedish Research Council for Engineering Sciences, the Karolinska Institute, SmithKline Beecham Biologicals, Bristol-Myers Squibb, and Eli Lilly about the state of science and hiring, with special emphasis on genomics, immunology, clinical research, and regulatory affairs. We conclude with a few things for the European biopharma job-seeker to keep in mind. Success in this competitive marketplace depends on having the skills of the moment and a mind of the future.

NEW SYNERGIES & EMPLOYMENT NEEDS IN SWEDEN

Jan-Eric Sundgren is professor of physics at Linköping University and secretary general for the Swedish Research Council for Engineering Sciences (TFR), which supports basic research with an emphasis on industrial relevance, as well as formulating policies for research and graduate education in Sweden. At TFR, the term "engineering sciences" is used to include information technology, industrially relevant physics, solid mechanics, chemistry, and biotechnology.

Sweden is home to both major pharmas such as Upjohn and Astra and a growing sector of small, entrepreneurial biotechs and biotech-related companies. "What's exciting," says Sundgren, "is that these companies are growing up in synergy with university centers of biotech research." Sundgren expects that entrepreneurial spirit to continue growing, with innovative biotech firms budding off from university departments. "In Sweden, there has tended to be a large barrier to the entrepreneurial science innovator," he says, "and that is decreasing."

John Timpane, PhD, writes frequently about the biotechnology and pharmaceutical industries.

Skills of the Moment, Mind of the Future: Career Opportunities in European Biotechnology & Pharmaceuticals

by John Timpane



Two scientific trends are most exciting at the moment—in Sweden as around the world. One includes the vigorous sciences that manipulate and analyze individual atoms and molecules—including nano-structure physics and engineering; atomic engineering; and molecular biology as applied to drug design, gene therapy, and DNA analysis. The other includes the recent advance of computational technologies and simulation techniques. "These have big

applications in everything from materials science to bioinformatics," Sundgren says.

And those are the very places Swedish industry is feeling the sharpest employment need at the moment. In 1995 the Federation of Swedish Industries issued a report pointing to the gap between demand and supply for science undergraduates and graduates with industrially relevant training. In biotechnology and information technology, demand exceeded supply by a factor of five. In response, Swedish universities have created special programs in biotechnology. The University of Lund has an interdisciplinary program aimed at supplying scientists to biotech, and the University of Linköping has started a popular new program in technical biology. TFR is also increasing its support and emphasis on basic research in hot fields such as bioinformatics.

Sundgren recommends that students in the sciences "get good grades, of course, but also acquire a broad, interdisciplinary education, along with medical or computational skills." Above all, Sundgren wants to see scientists with a good grounding in basic research. "We can't emphasize applied research at the expense of basic," he says. "Excellent basic research is the pillar on which applied research rests."

continued



**Teknikvetenskapliga
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**Swedish Research Council
for Engineering Sciences**

Visiting Professor Programme

Women in The Engineering Sciences

TFR is the main Swedish governmental funding agency for basic research within the engineering sciences. TFR works systematically to strengthen scientific competence within areas vital to Swedish industry. One important part of these efforts is to establish effective collaborations between renowned international scientists and the Swedish research community. Although Sweden today has one of the highest number of female academics in the world, there is a very strong male dominance in certain areas of engineering science. It is in the interest of TFR to increase the number of female scientists within the engineering sciences and as a measure to improve this situation, TFR hereby invites women in engineering sciences to apply for a visiting professors programme.

The objective of the this programme is to bring leading female scientists to Sweden to collaborate with Swedish colleagues on subjects important to the advancement of basic engineering sciences in Sweden and the future of Swedish industry. Up to four visiting professorships will be open for leading female scientists. A letter of interest should include an outline of a research programme and a curriculum vitae. The selected scientists are primarily expected to do research and to a limited extent teach at a Swedish university for up to one academic year. TFR will pay a competitive salary and cover costs connected with the professorship, such as travel and housing while working in Sweden and a limited research budget.

The primary areas under consideration are:

- **Biotechnology**
- **Information Technology (incl. applied mathematics, microelectronics & telematics)**
- **Mechanical Engineering**
- **Engineering Physics**
- **Materials Science**
- **Chemical Engineering**

Final selection is made by a committee appointed by TFR. TFR reserves the right to invite candidates within the different areas. Discretion is guaranteed.

For general information concerning the visiting professor programme, please contact:

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Secretary General

Dr Anne-Marie Pilotti
Director of Secretariat

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EXCELLENT SCIENCE & ENTREPRENEURIAL FEELINGS: THE KAROLINSKA INSTITUTE OF SWEDEN

Located in Stockholm, the Karolinska Institute is the largest medical institute in the Nordic countries, with approximately 150 professors, 500 faculty, 3000 undergraduates and

1500 graduate students. Education in Karolinska will change as of January 1997. As part of a national program for biomedical research funded through the Foundation for Strategic Research, Karolinska will start a graduate school in biomedical research. Worldwide applications will be accepted starting this fall. Staffan Normark, professor of medical microbiology and dean for research at Karolinska, says, "We think this pro-

gram is something that could excite students in Europe interested in graduate education."

Students will select a thesis lab at the end of a US-style rotation system. Karolinska will be part of a network of biomedical graduate schools throughout Sweden. Hans Wigzell, president of the Karolinska Institute, says, "Students can move from Karolinska to another university and back during the course of their training." Those students will have access to major programs in neurobiology, infection and vaccinology, molecular and cell biology, inflammation research, cardiovascular research, structural biology, developmental biology, and glycobiology.

The new program is the result of a massive effort in Sweden to align graduate education with the needs of contemporary research. "We designed this program to reflect the demands of the market, increase our competitiveness, and ensure we are educating people in the right areas," Normark says, "both in public sector science and in private industry. Toward those goals, we want to give students a broader educational base and include contact with industry." Such contact includes industrial rotations, industrial scientists on steering committees, and constant networking from the beginning of students' graduate careers. Wigzell says that Sweden has a good tradition of academic-industrial relations: "Our major research has always been carried out in a very close relationship with industry without losing academic freedom; this program is an effort to enhance that relationship."

Existing alongside the traditional mentor-driven graduate education, the new program emphasizes "basic research in strategic areas," as Normark puts it. The Foundation for Strategic Research is, as Wigzell points out, strategically named: "The aim is to support research that, while academi-

cally free, could become applied, linked to industry. We share this aim with the broader initiatives of the European Union." With the rest of Europe, Sweden is trying to encourage top-level science while also inculcating what Wigzell calls "an entrepreneurial feeling."

"A SPECIAL BRAND OF SCIENTIST" AT SMITHKLINE BEECHAM

SmithKline Beecham Biologicals (SKB) in Belgium employs 1400 people in the research, development, and commercialization of human vaccines. SKB has been a world leader in this field since 1992. That includes the classical vaccines (rubella, measles, influenza, and 500 million doses a year of oral polio vaccine) and the recombinant (hepatitis, and more recently the combination DTP/Hepatitis vaccine, the first to be licensed by the European Medical Evaluation Agency).

Michel De Wilde, vice president of research and development, thinks the future of European biopharma looks good. "I think Europe will continue to gain on the U.S. lead," he says, "especially in our area. All depends on political and economic factors." Among those factors, he names the continuing pressure on health care costs and uncertainty about the regulatory climate.

Genomics and immunology are the waves of both the present and the future. SKB has invested worldwide in an intensive genomics and bioinformatics effort. And De Wilde's own areas, vaccinology and immunology, are enjoying considerable growth. "Our understanding of the human immune response is undergoing dramatic progress at this very moment," De Wilde says. "The better our understanding of these aspects, the more rational our design of vaccines will become."

Process development remains in high demand throughout Europe. "As we have more and more successful research," De Wilde says, "scientists and engineers who understand the development of manufacturing processes for biologically-derived compounds will be much in demand." Again, a range of universities in England, France, and the Benelux countries offer programs focused on this area. Any skill, such as mass spectrometry or NMR, that helps in the characterization of biological products is an advantage.

How can job-seekers gain an advantage in a competitive employment market such as Europe? "Choice of your institution and thesis lab is critical," says De Wilde, "and during your thesis, you should establish and nourish your contacts with industry." In the large company, the ability to interact and communicate is indispensable. So are realism and ego management: "Scientists have to leave that part at the door when they walk into the meeting room." Candidates should be ready to be cross-disciplinary, to integrate understanding of other disciplines into their own work. And while an international outlook is a plus, it's more important to become part of the diverse culture of the company itself. "Scientific expertise is the most important aspect of a candidate's background," De Wilde says, "but having said that, 'I think the nonscientific part is 50 percent of it. We're looking for a special brand of scientist.'"

continued

Strengths & Weaknesses of Biotech Europe

France

Biotech a gov't priority; good public support; strong science base and research facilities
Waning R&D funding; weak technology transfer system

Germany

Europe's highest concentration of drug and chemical biotech; good science and R&D base; strong university-industry links
Public opposition to genetic engineering; limited venture capital

Netherlands

Strong science base; good gov't-industry-academic links; location
Lack of venture capital; high income and personal taxes

Sweden

Good university-industry links; firms traditionally international
Difficulty in obtaining private capital; stringent regulations

UK

High quality of science; public acceptance of biotech
Waning gov't spending; no coordination between gov't ministries

Source: US Office of Technology Assessment



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EUROPEAN VIEWPOINTS: CLINICAL R&D AT BRISTOL-MYERS SQUIBB

When Annick Schwebig, vice president for European clinical research and development for Bristol-Myers Squibb (BMS), describes her job, you realize how complex Europe and European biopharma truly are. She is in charge of clinical R&D for all Europe in all therapeutic areas—cardiovascular, anti-infective agents, CNS, oncology, immunology, and BMS's recent clinical push into dermatology.

In contrast to most U.S. clinical efforts, European clinical R&D covers not only Phase I-IV development but also all medical activities of products on the market, meaning, in Schwebig's words, "continuous activity during each product's life cycle." From thirteen head offices, medical directors lead R&D activities in 22 countries; they report both to Schwebig and to a country manager. These directors keep in close touch with government agencies and with physicians involved with the products.

Despite the efforts of the European Union to unify the regulatory area, the different medical, legislative, and regulatory organizations from country to country are still quite a challenge: "Whenever we develop a drug, we still must deal with different prescribing habits, regulatory climates, competitive conditions, and market environments from country to country." A truly European orientation—having a continental overview but also being "knowledgeable about what's distinctive and what's different from country to country"—is becoming more and more of an advantage for job-seekers.

Clinical affairs is an area of high demand at the moment. As BMS and other companies become more global, they contact more investigators interested in joining their clinical efforts. Eastern Europe, whose scientists and research centers are eager to participate in vanguard science, is becoming an important center of clinical research. BMS has opened clinical research centers in Warsaw, Prague, Budapest, and Moscow. "This is an opportunity we could not pass up," Schwebig says. "Due to the scarcity of certain medicines and treatment modalities, there is great interest among the investigators there."

Clinical affairs offers a popular route for young biologists and pharmacologists who want to experience industrial science right away. "It's interesting and rewarding to take a study from beginning to end," she says. "You're constantly traveling, meeting new people, working with new departments, different hospitals."

What is the profile of a successful clinical research scientist? "We're looking for people who are very skilled in a relevant field," Schwebig says, "especially in fields such as oncology or infectious disease. But beyond that, they must be customer-oriented, and they must be leaders. That's not much understood among job-seekers. They must be willing to take risks, ready to adopt strategic alternatives in drug development. They need to be open, enjoy making new contacts. They need to be good communicators, able to explain the compound, the study, and the company to investigators. It's quite a complex job, quite scientific."

Schwebig, herself a physician and scientist, sees opportunities for both traditional science and new degree combinations. "PhDs or MDs can find careers in drug discovery and clinical research. In Europe, we see more and more PhDs and MDs, even before they enter biopharma, getting MBAs. Pharmacology degrees are more attractive than they were 10 or 15 years ago. Since competition is high and academic science less certain, we're seeing people getting business expertise, an MBA, or another degree as added value."

"BOTH PLAYERS AND LEADERS": FOCUS ON REGULATORY AFFAIRS

As companies continue to merge and downsize, and as the European market becomes more competitive, the sharper the focus on registering new compounds and submitting them for regulatory approval to countries throughout Europe. Mike McDonald, director of Eli Lilly's European regulatory affairs department, calls regulatory affairs "the emerging Cinderella" in terms of its newly crucial prominence.

It costs an average of \$500 million and six to seven years to develop a drug. For that reason, in Europe as in the United States, companies are trying to streamline the development and approval process. Clinical failures can be ruinous, and regulatory failures are even bigger catastrophes. Thus regulatory affairs experts increasingly are becoming key players.

"We used to call these 'departments of registration,'" McDonald says. "That's where the reports were done, the forms filled out, and the documentation submitted to the authorities. Such departments never did anything wrong. If a drug was not approved, or if the process took forever, one could always point to clinical affairs, statistics, or toxicology—never regulatory." Now, getting the drug registered with the shortest development plan, best labeling, and quickest possible time to market is top priority. "That means," says McDonald, "we have to get involved right at the beginning of a drug's development and stay involved all the way through."

The new purview of European regulatory affairs takes in all of drug development (including chemistry, manufacturing, preclinical studies, and clinical safety and efficacy) and markets that include Europe, Australia, New Zealand, and South Africa. That calls for a broadly qualified and highly experienced team. Backgrounds include chemistry, manufacturing, pharmacy, pharmacology, toxicology, discovery science, and medicine. "Wherever our people originate," McDonald says, "the idea is that they come in feeling secure in their key discipline. On top of that, they have to learn regulatory affairs. Physicians have to think about manufacturing, toxicologists

**"WHENEVER WE DEVELOP
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ENVIRONMENTS FROM
COUNTRY TO COUNTRY."**

—ANNICK SCHWEBIG, BMS

continued

Senior Research Scientists at the ASTRA Structural Chemistry Laboratory



Astra is an international research-based pharmaceutical company in a period of rapid growth. The company's operations are focused on research, production and marketing of pharmaceutical products through subsidiary companies in about 40 countries. Through agents and licences Astra products are available in an additional large number of countries. The number of employees is approximately 17,000, of whom 6,000 are in Sweden. Group sales in 1995 amounted to 36 billion Swedish Crowns, of which 92 percent are in markets outside Sweden.

ASTRA HÄSSLE

Astra Hässle is situated in Göteborg, Sweden and is a research company with 1,200 employees. Research is aimed at developing new pharmaceuticals for cardiovascular and gastrointestinal diseases. Seloken® (metoprolol), Plendil® (felodipine), Imdur® (isosorbide-5-mono-nitrate), Logimax® and Losec® (omeprazole) are drugs developed by Astra Hässle scientists.

A central Structural Chemistry Laboratory is being established for the ASTRA group, with the mission to provide the projects of the ASTRA product companies with structural information on macromolecular targets of therapeutic interest. The Laboratory is projected to be operational during 1998, with a staff of 20 scientists, and will be located at the ASTRA Hässle site in Göteborg, Sweden.

The scientific disciplines initially available at the Laboratory will be protein crystallography (state-of-the-art instrumentation), NMR spectroscopy (750 and 600 MHz), protein biochemistry, and molecular biology. The implementation of additional technologies (solid-state NMR, electron microscopy) is foreseen for the future.

We are now looking for highly experienced and motivated PhD-level scientists to head the various disciplines at the Structural Chemistry Laboratory. In addition to a proven track record in their fields of expertise, the successful candidates will have had experience with research management. Documented experience in the field of macromolecular structure determination is highly desirable. Experience with the use of structural chemistry in drug discovery in the pharmaceutical industry is an advantage. The position requires good communication skills, and proven leadership abilities.

The heads of the various disciplines at the Structural Chemistry Laboratory will be expected to collaborate fully with project teams at the product companies.

Head of Protein Crystallography

The selected candidate will be responsible for setting up and managing a modern facility for protein crystallography, and will supervise a group of two co-workers. This will require a strong background in the practical aspects of the discipline, including crystallization, data acquisition, and structure solution and refinement. Our current equipment plans include two complete systems, with area detectors and rotating anode generators. Familiarity with recombinant techniques associated with crystallographic structure determination is an advantage.

Head of Molecular Biology

The selected candidate will establish a laboratory for molecular biology and supervise a group of about three co-workers. A strong background in cloning techniques, DNA sequencing, and PCR methods is required. Practical experience with protein expression, with special emphasis on the design of recombinant proteins suitable for structure determination, is highly desirable. Familiarity with bioinformatics / genomics is an advantage.

For more information, please contact Bob Carter, +46 31 776 16 21 or Bertil Samuelsson, +46 31 776 13 50

Applications with full details should be marked "Head of Protein Crystallography 76/96, Head of Molecular Biology 79/96, Head of Protein NMR 77/96, Head of Protein Biochemistry 78/96" and sent to the following address before October 4, 1996: Astra Hässle AB, Human Resources, Att. Victoria Barkby, S-431 83 Mölndal, Sweden. Fax. no. +46 31 776 37 46.

Head of Protein NMR

The selected candidate will be responsible for setting up and managing a state-of-the-art facility for protein NMR, and will supervise a group of two co-workers. This will require a strong background in the practical aspects of using high-field NMR for protein structure determination in solution. Familiarity with recombinant techniques associated with structure determination by NMR is an advantage.

Head of Protein Biochemistry

The selected candidate will establish a laboratory for protein biochemistry and supervise a group of about three co-workers. A strong background in purification and biophysical characterization of recombinant as well as native proteins is required. Well-documented experience with techniques such as chromatography, electrophoresis, biospecific assays, enzyme kinetics, immunochemistry and studies of post-translational modification of proteins is essential. Experience with the preparation of protein samples for structure determination is an advantage.



about safety data, chemists about preclinical models. It's potentially one of the most fascinating jobs in the industry. In few other positions are you likely to come across most of the company's portfolio, involving every issue all the way through to marketing."

How does one get into regulatory affairs? McDonald lists four common ways. Some scientists come to regulatory affairs after two or three years in their specialty. A good example would be a scientist with a few years of experience in toxicology. "That's good," says McDonald, "because you're coming in with a solid basis in at least one part of the jigsaw." Another way is the direct route, through regulatory expertise, preferably in a department covering a particular country. "Learning the basic trade in your home country for a couple of years is an excellent way in," McDonald says. Two other routes are via a governmental regulatory agency ("experience on the government side gives you tremendous credibility") and project management experience at a large drug company.

Regulatory affairs is rapidly becoming an international arena. "It's very important to us to be culturally diverse," McDonald says. "We have Dutch, German, French, Finnish, and Spanish members, just to name a few. There are still very real cultural differences out there, and you have to win the trust of the international organizations. If they look at us and see 'nothing but a bunch of Brits,' or 'nothing but Americans,' that will limit our effectiveness. Questions don't have just a one-country perspective, and we can't be only homogeneous, with only one way of doing things."

Flexibility, team skills, and good communication are essentials. "To be on the development team," McDonald says, "we need people who are both players and leaders, analytical, imaginative people who really know the area. It's not the sort of job you can do without a genuine interest in the drug, the data, and the competition."

STRATEGIES & MINDSETS: A FEW CONCLUSIONS

Let's suppose you are in the midst of a graduate or undergraduate science course. Or let's suppose you are a private-sector scientist considering a change. What should you be thinking about? What should you keep your eye on? How best to anticipate the needs of such a fast-changing industry? Here are seven pieces of advice, culled from a variety of sources, about how to shape your career and how to start thinking in brave and new directions.

CHOOSE A GOOD UNIVERSITY WITH AN INDUSTRIALLY RELEVANT COURSE. Universities such as University College, London, offer programs in bioinformatics and fermentation science. Along with a number of European institutions, the University of Teesside offers a degree course in European biotechnology. Many countries, especially in northern Europe, are beginning to retool traditional science education to reflect the demands of industrial science. A survey by the European Union's Project BEMET listed details of relevant courses at 213 European institutions of higher learning.

TRACK ACQUISITIONS, MERGERS, COLLABORATIONS, AND PARTNERSHIPS. By this measure, the hottest fields in the last

two years have been combinatorial chemistry, genomics, and gene therapy. Glaxo Wellcome plc of London bought Affymax, N.V. of Amsterdam for the latter's combinatorial chemistry expertise, just as Hoechst Marion Roussel of Frankfurt bought Selectide in the United States. In search of genomics magic, Ciba-Geigy Ltd of Switzerland bought 49.9 percent of Chiron; Sandoz Ltd of Switzerland bought Genetic Therapy Inc. for the latter's titular focus.

Strategic partnerships are following a similar pattern. Chiron/Ciba-Geigy are contracted with the laboratory of David Schwartz of New York University for access to methods of ultraspeed mapping and sequencing of genes. Genetic Therapy has struck agreements with the National Institutes of Health and Massachusetts General Hospital in the United States, both in the interests of gene therapy. Human Genome Sciences Inc., SmithKline Beecham and The Institute for Genomic Research have joined with the Medical Research Council (MRC) in the UK for access to gene sequence databases.

And nearly every single large biopharma is bolstering its computational divisions to ride the bioinformatics wave. This trend means that computer science, especially with life science applications, has a strong attraction at the moment. So do engineers with experience in software design.

SHARPEN YOUR CONTINENTAL KNOWLEDGE. Job-seekers ought to know the general state of the industry in Europe (which represents, after all, a quarter of the world's medical products market), the movements of the European Union (which has a 15-year-old commitment to supporting European biopharma), and the local character. Relocation and internationality are, as McDonald of Eli Lilly puts it, "the rules of the game."


NETWORK. De Wilde of SmithKline Beecham Belgium says that science undergraduates and graduates can't begin networking too early. "Increasingly, it's the networked people who are the most valuable to industry," he says. Graduates should begin forging strong contacts with industry well before completing their thesis work.

ACQUIRE GOOD PEOPLE SKILLS. Industrial science equals science with people. Good writing and speaking skills, good negotiating and teamwork skills, and flexibility make any job-seeker more attractive.

CONSIDER THE CROSS-FUNCTIONAL DEGREE. The practice of tacking on a business or law degree to one's science training is gaining in popularity in Europe. Scientists with expertise in these areas have an edge over scientists without.

THINK NEAR FUTURE AND FURTHER. The question is, "What happens after the human genome is sequenced?" Shortly after the turn of the century, we will have multiverses of information about approximately three billion base pairs. Enter a new kind of molecular physiobiologist, one whose imagination can telescope from gene to organism; an information scientist who can rough-cut the data to direct the search for important leads; synthetic chemists and pharmacologists who will design the drugs to go where the molecular physiobiologists direct. Anyone who can anticipate these sciences-to-come—or smooth the path for them—will play an important role in present and future science. **S**

Molecular Pharmacologist for HTS

 *Astra is a pharmaceutical company in a phase of rapid growth. The company's operations, which are highly international, consist of research, production and marketing of pharmaceuticals through subsidiaries, agents and licensees all over the world. The number of employees is about 17 000 of whom 7 000 are in Sweden. Sales in 1995 amounted to SEK 36 billion and earnings totaled SEK 12,1 billion.*

ASTRA DRACO AB

Astra Draco, a research and development company within the Astra Group, is engaged in R&D primarily in asthma and other inflammatory conditions. Astra Draco employs about 950 people and is located in Lund in the south of Sweden, 20 km from Malmö.

Astra has established a new corporate High Throughput Screening (HTS) department to serve the drug discovery programmes of the whole Astra group. This exciting development is based at Astra Draco, one of Astra's five research companies. It is a central facility for the operation of screens for all of Astra's disease targets and it houses Astra's compound library.

We are now seeking a PhD biochemist to join the HTS team to complement the multidisciplinary skills already assembled. The ideal candidate is a molecular pharmacologist, with a strong practical and theoretical understanding of receptor assay systems, and an appreciation of their use for drug discovery. Experience of screening and automation is also desirable, and great importance is placed on good teamworking and communication skills, and a pragmatic approach.

This is a dynamic role which will provide many opportunities and challenges both within and beyond the candidate's immediate field of expertise. It will involve considerable interaction with different project groups within the organisation as well as close co-operation with other scientists in the HTS team. The HTS department has superb new purpose-built labs, and is located in a particularly attractive part of south Sweden.

For further information please contact Mark Divers,
phone +46 46 33 75 55,
e-mail mark.divers@draco.se.astra.com

Send your application marked 86/96 not later than September 30 to Astra Draco AB, Personnel Department, Lena Ask, Box 34, S-221 00 Lund, Sweden.



Procter & Gamble

OPPORTUNITIES IN EUROPE

PH.D. SCIENTISTS

Procter & Gamble is a research and development-based international corporation with more than \$35 billion/year in worldwide sales in household consumer products and an annual R&D budget over \$1.4 billion. In Europe, the Middle East, and North America, Procter & Gamble is engaged in the research, development, manufacture, and sale of a wide range of household consumer products, disposable personal-hygiene products, household-care products, and beverages.

We currently have several entry-level openings in Europe for Ph.D. scientists. Successful candidates will have strong technical and communication skills, a high level of initiative and commitment, and a good command of English. In addition, fluency in at least one other European language is desirable. Candidates must be eligible to work in the European Union.



• Environmental and Human Safety Toxicologists

Scientists with a Ph.D. in Ecotoxicology, (Micro)biology, Toxicology, Pharmacology or similar disciplines are needed to develop and coordinate safety programs for consumer products, and to manage external issues that relate to the safety of consumer products. Positions are located at our Technical Centers in Brussels and Schwalbach (Germany).

• Organic Chemists/Analytical Chemists

Scientists with a Ph.D. in Organic Chemistry, Organic Spectroscopy, Analytical Chemistry or Physical Chemistry are needed to provide breakthrough scientific understanding of products chemistry. Initial responsibilities include developing technical leadership in key areas of chemical expertise, leading the development of novel analytical techniques and procedures, interfacing with internal and external expert organizations across the globe, and technical project management. Positions are located at our Technical Centers in Brussels, Rome, London, and Newcastle (UK).

• Environmental Scientist

A Scientist with Ph.D. in Environmental Science or Engineering is needed to join our Integrated Waste Management team. Initial responsibilities include the development of solid waste management projects, collecting relevant data and publishing case studies to promote the implementation of Integrated Waste Management worldwide. The position is located at our Newcastle Technical Center (UK).

• Food Scientist

A Scientist with Ph.D. in Food Science or Bioscience is needed to develop regulatory, toxicological, and nutritional assessments of foods and environmental aspects of food packaging. Initial responsibilities include participation in internal and external working groups on a broad range of matters related to foods. The position is located at our Schwalbach Technical Center (Germany).

For all these functions, we offer starting positions for a research & development career in a successful, strong and growing company and in an environment which will stimulate personal and professional growth. We have a policy of "promotion from within," based on contribution and potential. Salaries are highly competitive and are coupled with an excellent benefits package and paid relocation.

To apply, please send your c.v., publication list, and cover letter (indicating position for which you are applying) to:

Applicants in Europe:

**Procter & Gamble
Recruiting Office
Temselaan 100
1853 Strombeek-Bever
Belgium**

Applicants elsewhere:

**Procter & Gamble
Doctoral Recruiting
Dept. PM
P.O. Box 538707
Cincinnati, OH 45253-8707**

*No agency referrals, please.
Equal Opportunity Employer*

République Française**The State of France and the Ile-de-France and Paris Region**

are issuing a call for proposals for four International Research Chairs to be called
"Blaise PASCAL"

Each Chair, for 12 months full time, possibly distributed over 2 years, is intended for a foreign scientist of high level in exact, natural, or social science with a scientific project. It will allow the beneficiary to enjoy cultural and scientific support, equipments, and functional means in one or several centers for superior education or research, in Paris/Ile-de-France.

- The total financial amount allocated to each project (including salaries) reaches 1,3 MF (around US\$260,000.00; social security contributions*, taxes, and subsistence allowance spending to be deducted).
- The beneficiaries will have to teach about 10 lectures. A public seminar will conclude the project.
- Proposals should describe the scientific project, detailing its needs, and should indicate the accommodating establishment.
- A multidisciplinary jury, associated with Institute de France, will select the candidates according to the scientific interest of the project and the quality of the project file.

Proposals should be sent, at the latest on 31st of December 1996, to the following address:

Fondation de l'Ecole normale supérieure
Chaires Internationales de Recherche "Blaise PASCAL"
45 rue d'Ulm, F-75230 PARIS Cedex 05

Information: W. Mercouroff, Ens, (33) 01 44 32 31 85, Fax (33) 01 44 32 31 83)
e-mail: wladimir.mercouroff@ens.fr

*For information, social security contributions on salaries are about 80% of the net salary; the current VAT rate is 20.6%.



THE MICROBIOLOGY AND TUMOR BIOLOGY CENTER (MTC)
KAROLINSKA INSTITUTE
STOCKHOLM
SWEDEN

MTC is one of the newly formed departments at the Karolinska Institute joining the old, smaller departments of bacteriology, immunology, parasitology, tumor biology, and virology. At MTC there are 250 employees, visiting scientists, and graduate students working in new laboratory buildings and conducting research on molecular pathogenesis of bacteria, parasites and viruses, viral immunobiology, T- and NK cell immunity, antigen presentation, vaccine research, molecular oncology, cell-cell and cell-microbe adhesion, and gene regulation. We are aiming for a strong interaction between these disciplines.

The department has an international atmosphere with Ph.D. students, postdocs, and visiting scientists from all over the world. Recruitments at the group leader level are also being planned. Please contact **Professor Ingemar Ernberg, Chairman**, for general information **+46-8-7286262; fax +46-8-319470, ingemar.ernberg@mtc.ki.se**. Presently, there are openings for postdoctoral positions in the laboratories of the following group leaders.

Joakim Dillner: Immunology and epidemiology of human papillomavirus infection.

Ingemar Ernberg: Tumor viruses, genetic factors, signal transduction, and angiogenesis in tumor progression.

Johan Giesecke: Epidemiology of infectious diseases.

Mikael Jondal: Recombinant Semliki Forest virus as a vector for vaccines.

Klas Kärre: Antigen presentation, MHC class I molecules, NK cells and their receptors.

Klas Wiman: P53, DNA damage, cell cycle control and apoptosis.

Please address applications for any of the positions above directly to the group leader, at **Microbiology and Tumor Biology Center, Karolinska Institute, Box 280, S-171 77 Stockholm, Sweden**.

Roche

Pharmaceuticals

Physicist/Engineer

with a proven track record in experimental research

Our Profile

The department of preclinical research is located at our Basel research centre, a key part of the international Roche research organisation. It is responsible for identifying and characterising new compounds in preparation for the development of innovative pharmaceutical products. To enhance our mass handling and high-throughput screening capabilities we are investigating new, highly automated screening technologies that utilise miniaturised systems. We are looking for a highly motivated physicist or engineer who has the expertise to explore and establish these novel screening systems. We offer a stimulating research environment and an excellent scientific infrastructure.

The Task

The scientist we are looking for will head a research laboratory dedicated to evaluating and implementing novel devices and systems for automated sample handling and analysis. He or she will be part of a team of specialists providing technical expertise to preclinical research projects that depend on microtechniques, robotics and automation. The person appointed will also support and coordinate collaboration between the research labs and our mechanical and electronics workshops.

Your Profile

You should have a PhD, or equivalent experience, in physics or the technical sciences and a solid background in experimental research. Preferably, you will also have systems engineering experience and practical experience in the use of analytical equipment. You enjoy the challenge of designing and implementing experimental setups for specific research tasks. In addition to well-developed experimental skills you can design analog and digital electronic circuit boards and assemble customised software as required. You must be fluent in English.

Contact Address

If the above profile fits your background and experience and you are interested in this challenging position then please forward your full application documentation to our Human Resources Department, attn. of Mrs. M. Wäspe, F. Hoffmann-La Roche Ltd, CH-4070 Basel, Switzerland, quoting reference Wä2123.

FACULTY POSITION

MOLECULAR BIOLOGIST OF MUSCULOSKELETAL TISSUES

The Department of Orthopaedics and the Department of Microbiology and Molecular Genetics at UMDNJ-New Jersey Medical School invite applications for a tenure-track faculty position. Preference will be given to applicants with research programs in cell and molecular biology relating to musculoskeletal tissue.

The successful candidate will be expected to establish an independent research laboratory within the Department of Orthopaedics in close collaboration with its established Biomechanics/Biomaterials Unit and the Department of Microbiology and Molecular Genetics. Appointment is expected at the level of Assistant Professor; however, distinguished applicants at senior levels will also be considered with support commensurate with the candidate's qualifications and experience.

Applicants should submit a complete curriculum vitae including future research plans to: **Fred F. Behrens, M.D., Chairman, Department of Orthopaedics, New Jersey Medical School - UMDNJ, Doctors Office Center, 90 Bergen Street, Suite 5200, Newark, New Jersey 07103.** The UMDNJ is an Affirmative Action/Equal Opportunity Employer,



m/f/d/v, and a member of the University Health System of New Jersey.

Medical College of Wisconsin

Department of Pediatrics

FACULTY POSITIONS

The Department of Pediatrics is seeking highly motivated individuals to complement and expand its research strengths in the general areas of hematology, oncology, and vascular biology. Specific areas of focus are stem cell biology, blood cell interactions with the vascular endothelium, molecular biology of hemostasis, and mechanisms of signal transduction and oncogenic transformation. The use of transgenic and/or knockout mice, stem cell gene insertion or other innovative approaches are encouraged. Candidates should have an MD, PhD or MD/PhD degree and a well developed research project. Appointment may be at the Assistant or Associate Professor level.

The Department of Pediatrics at the **Medical College of Wisconsin (MCW)** is closely affiliated with the Children's Hospital of Wisconsin and The Blood Center of Southeastern Wisconsin. This unique environment provides researchers with access to the strengths of the pediatric medical staff, the academic research at MCW and the Blood Research Institute. Current established programs in the department include transcriptional regulation of hematopoiesis, sickle cell adhesion to the vascular endothelium, bone marrow transplantation biology, molecular and cellular biology of von Willebrand factor, genetics of neonatal pulmonary hypertension, pulmonary L-arginine metabolism, and free radical modulation of vascular function. In addition, significant research opportunities exist for close affiliation with the developing Genetics Initiative Program, the Cancer Center, the Cardiovascular Research Center, the Biophysics Institute, and the Blood Research Institute.

Interested and qualified individuals are invited to send their CV with a cover letter describing their current research interests, expertise and current funding to: **Dr. Robert Kliegman, Chair, Department of Pediatrics, Box S, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226-0509.** The Medical College of Wisconsin is an equal opportunity/affirmative action employer.



Right now, an ever growing number of the pharmaceutical industry's most respected research scientists are making history at Pfizer's Central Research Division in Groton, Connecticut. Backed up by the unparalleled financial and technical resources of a progressive Fortune 100 multinational company, these professionals are pioneering the development of a new generation of pharmaceutical and healthcare products. Already, their findings have contributed immeasurably to the fields of drug discovery and the development of human and animal health products. And while their work has radically improved the quality of life for millions around the world, much remains to be done.

Ph.D. Research Scientists

Drug Metabolism

You will interact in a project area with a multidisciplinary team including chemists, biologists and clinicians where pharmacokinetics and drug metabolism input is essential to the discovery and development of new drugs. Additionally, you will work with some of the most advanced equipment and support systems available. Qualified candidates will have a Ph.D. or equivalent degree in chemistry, biochemistry, or a related field in the biological sciences and superior interpersonal and oral/written communication skills. Experience in pharmacokinetics, drug metabolism, analytical chemistry, chromatographic methods, and *in vitro* metabolism studies would be an asset. Practical experience with bioanalytical methods and biotransformation of drugs is highly desirable. Ad# 1167

Bioinformatics

The Department of Molecular Sciences is seeking a Ph.D. scientist in the area of bioinformatics to join our Genetic Technologies group. This group is engaged in challenging research to discover new drug targets in major therapeutic areas. You will lead a growing team of scientists to develop and apply computational tools for molecular biology, working in close collaboration with drug discovery project teams. Expertise in current computational sequence analysis methods for database searching, gene and protein structure prediction, and pattern discrimination is essential. A strong background in database and utility programming in a Unix/Macintosh environment coupled with excellent written and verbal communications skills are required. Experience in developing World-Wide-Web applications is also desirable. Candidates with molecular biology research experience are preferred. Ad# 1168

Molecular Biology

Responsibilities for this position include supervising a laboratory which supports the atherosclerosis team in generating screens, using molecular biology techniques to generate and validate novel targets, cell-based models and animal models. Qualified candidates must possess Ph.D. and two years postdoctoral experience or equivalent in relevant field. A strong publication record is desirable as well as experience in molecular biology and atherosclerosis, particularly the biology of the vessel wall. Ad# 1169

General Pharmacology

We are seeking a creative scientist who could participate in the discovery and characterization of drugs for the treatment of human disease. Specifically, the successful candidate will work together with a talented multidisciplinary team to broadly characterize the general pharmacological properties of compounds across a wide variety of physiological systems. Candidates should have a broad background with *in vivo* physiological techniques including, but not limited to respiratory, endocrine, neuroscience or behavioral physiology. This position requires a Ph.D. and two or more years of postdoctoral experience, and a strong publication record. Previous experience in a General Pharmacology/Safety Pharmacology group would be considered a plus. Ad# 1170

Medicinal Chemistry

Successful candidates should have exceptional academic training, a proven track record of success as part of a project team focused on small molecule drug discovery, and at least 2 years industrial experience post-Ph.D. Medicinal Chemists at Pfizer are expected to play a key role in the design, synthesis and follow-up of small molecule biological effectors as a member of a multi-disciplinary project team pursuing mechanism-based approaches to novel therapeutic compounds. Pfizer maintains a strong discovery interest in many important therapeutic areas including antibacterials, cancer therapy, cardiovascular and metabolic diseases, neuroscience, and other exploratory areas of medicinal discovery. Ad# 1171

Metabolic Diseases Post Doctoral Position

Molecular Mechanism(s)/Obesity

We seek a scientist interested in a post doctoral opportunity targeted at understanding the interrelationship between leptin and thyroid hormone in regulating metabolism and metabolic rate. Cell lines and transgenic animals will be used to study energy metabolism at the molecular level. Experience with a variety of molecular and biochemical techniques is preferred. This Post-Doctoral position will be 36 months in length - 18 months at Pfizer and 18 months at Harvard Medical School. Ad# 1172

BS/MS Scientists

Drug Metabolism

You will participate in drug discovery and development by investigating the pharmacokinetics and *in vivo* and *in vitro* metabolism of new pharmaceutical candidates. Advanced analytical and biochemical techniques will be used in your research. Requires a BS/MS in biological or chemical science. Relevant experience in the development of quantitative analytical methods for drugs in biological matrices, pharmacokinetics, metabolite isolation and identification, and electronic data handling is highly desirable. Ad# 1173

Drug Pfinder

The BS/MS level candidate will have numerous responsibilities in the area of early drug discovery including development/characterization and implementation of novel radioligand binding, enzyme and cellular based high throughput screens. A portion of the candidate's responsibilities will require the use of various *in vitro* techniques to establish preliminary biological profile of compounds identified by screening. The candidate will be required to interact with medicinal chemists, molecular biologists and pharmacologists and therefore should have a broad interest in drug discovery and development. A BS/MS degree relating to this position is required, and three or more years of pharmaceutical or academic laboratory experience in biochemistry is desired. Good oral and written skills are essential. Ad# 1174

Bioanalytical-Mass Spectrometry

Successful candidates will operate and maintain state-of-the-art chromatography/mass spectrometric instrumentation and will assist in the isolation and identification of drug metabolites in biological fluids. Instrument troubleshooting and mechanical skills and report writing skills, and are desirable. Experience in radiotracer studies, laboratory computers and database management software would be an asset. A BS/MS in analytical chemistry, organic/medicinal chemistry or related science and strong interpersonal skills are required. Ad# 1175

As a contributing member of our staff, you will enjoy an excellent compensation package, a uniquely supportive environment and significant opportunities for professional development. Our scenic, shoreline location offers easy access to the many cultural, educational, recreational, and life-style advantages of New England. Please submit resume suitable for electronic scanning (i.e., eliminate italics, bullets, bolds, underlines and staples) indicating Ad# ___ to: Employee Resources, Pfizer Central Research, Eastern Point Road, Groton, CT 06340. An Equal Opportunity Employer M/F/D/V

TARGETED GENETICS CORPORATION

Staff Scientist: Assay Development

Targeted Genetics Corporation is a biotechnology company developing integrated gene and cell therapies for the treatment of acquired and inherited diseases. Continued growth has created a new opportunity for a Staff Scientist in the Development department. The successful candidate will join a highly interactive group dedicated to the aggressive pursuit of research and development programs leading to therapeutic products.

We are looking for an assay development scientist to develop and validate analytical methods pertaining to viral vectors, non-viral methods of gene transfer and cell-based products. Applicants should have a firm background in molecular biology techniques including PCR, as well as understanding of virologic assays and bioassays. Applicants must have proven experience operating in a GLP/GMP environment with a background in development and validation of stability indicating and bioanalytical assays; experience in transferring assays to a quality control group is also desired. Recent experience with gene transfer methods would be beneficial. Persons applying will need strong communication skills as well as the ability to work as a member of a creative team. Previous supervisory experience is required.

To qualify, candidates must have a Ph.D. in a relevant discipline and 3-5 years experience in an analytical or pharmaceutical setting. For consideration, please send your C.V. and a list of three references to:

Targeted Genetics Corporation

REF: SSAD

1100 Olive Way, Suite 100

Seattle, WA 98101

FAX (206) 521-7872

email: Sackettp@targen.com

Job line: (206) 521-7300

TGC is an equal opportunity employer

UNIVERSITY OF ROCHESTER Department of Anesthesiology TAPS Program

Training Anesthesiologists as Physician Scientists Post-MD PhD Program

To prepare physicians for careers as competitive, independent investigators in an academic research environment, the Department of Anesthesiology offers a program to include research leading to a Ph.D. degree as part of the academic training.

This accelerated research training program allows qualified candidates to complete the requirements for a Ph.D. in a specific biomedical science while working part time as an instructor in the Department, or while concurrently meeting the certification requirements of anesthesiology residency, or any anesthesiology fellowship. Unless candidates has specific previous research interests, they will examine a number of laboratories and departments upon their arrival to determine the one that best fits. By the end of the Program the candidates will be expected to have completed the requirements for the degree, and submitted an NIH grant application pertaining their research. Thus, they will finish as potentially funded, fully trained, independent investigators.

Twenty-five multidisciplinary mentors from the Departments of Biophysics, Pharmacology and Physiology, and Neurobiology and Anatomy currently participate in the program. Individualized curricula are designed by faculty mentors from the basic science and Anesthesiology Departments to ensure a logical progression of both clinical and academic training.

All applicants must be US citizens or permanent residents, have an MD or DO degree or be enrolled in medical school, and meet the requirements of all programs, departments, and schools. Stipends and benefits are maintained throughout the training periods commensurate with the participant's anesthesiology training level, extramural funding, and clinical contribution.

Further information and applications may be obtained from:

Richard J. Rivers, M.D., Ph.D., Department of Anesthesiology, University of Rochester, 601 Elmwood Avenue, Box 604, Rochester, NY 14642

Phone: 716-275-2143; FAX: 716-273-2397

E-mail: RRIVERS@anes.rochester.edu. Web: www.anes.rochester.edu

MEHARRY MEDICAL COLLEGE SCHOOL OF MEDICINE

Research Centers in Minority Institutions (RCMI) and the Department of Biochemistry

Faculty positions are available in 1996/97 at the Assistant Professor, Associate Professor or Professor levels in the area of cell signaling which has been targeted for expansion at the College. Initial funding for these positions is provided by an NIH-funded RCMI program at the College and support from the School of Medicine.

Recruitment of four individuals is expected, in an effort to develop a critical mass of investigators studying cell signaling at the institution. We are seeking scientists who merit primary appointment in the department of biochemistry. Joint appointments in clinical or other basic sciences departments are expected. Preference will be given to applicants who have an interest that complements one of our clinical science departments. Selected individuals must have potential or demonstrated competence in the use of molecular biological or biophysical approaches to conducting research in cellular signaling and must also be capable of, and committed to making significant contributions to the teaching and administrative functions of the appointing department(s). Successful applicants will be expected to develop/maintain a funded research program of high quality and to substantially participate in the graduate and professional (medical, dental, and applied health) school teaching programs of the department of biochemistry or other appointing department(s). They will also be required to participate in the further development of molecular neuroscience at the College. Applicants should send curriculum vitae, a statement on teaching interests, names of four individuals who may be contacted for reference, and a summary (not exceeding four pages) of potential research project(s) to either: Fred Jones, Ph.D., RCMI Program Director, and Vice President for Research, or John E. Arradondo, M.D., M.P.H., Dean, School of Medicine, (both at) Meharry Medical College, 1005 D.B. Todd Blvd., Nashville, TN 37208. Applications will be evaluated by the search committee appropriate for the targeted area of cell signaling as well as by the appointing department(s). Meharry Medical College is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIPS AT STONY BROOK

Fellowships for the National Research Service Award Program of the NIDDK, National Institutes of Health at Stony Brook are available in the *Cell and Molecular Biology of Metabolic Disease* for candidates with Ph.D., Sc.D., M.D., or equivalent. The program benefits from nearly 40 NIH-supported trainers with state-of-the-art research programs in areas of cell signaling relevant to diabetes, endocrine, and metabolic diseases in man. This institutional postdoctoral training program is interdisciplinary, interdepartmental, and interinstitutional by design, supported by a regional interaction with Brookhaven National Laboratory and Cold Spring Harbor Laboratory, and is located on the campus of Stony Brook, 50 miles west of Manhattan on scenic Long Island sound. Current research opportunities include:

Nada Abumrad—Fatty acid transporters; **Naji Abumrad**—Metabolic regulation by opiates; **Dafna Bar-Sagi**—Cell signaling by *ras*; **Eugenio Cersosimo**—Counter regulation in diabetes; **Peter Garlick**—Controlling protein homeostasis; **Marie Gelato**—IGF-1 action; **Roger Johnson**—Adenylyl cyclase biology; **Jamie Konopka**—G-protein-coupled receptors in yeast; **Charles Lang**—IGF-1 action in muscle; **William Lennarz**—Signaling in development; **Craig Malbon**—Heterotrimeric G-proteins and insulin action; **Margaret McNurian**—Insulin action in muscle; **Todd Miller**—Tyrosine kinases; **Andrew Morris**—Phospholipid signaling; **Mario Rebecchi**—Phospholipase regulation; **Nancy Reich**—Cytokine signaling; **Suzanne Scarlata**—Insulin receptor structure; **Linda Tseng**—Hormonal control of gene expression; **Hsien-yu Wang**—G-protein structure and function; **Eckard Wimmer**—viral pathogenesis and signalling.

U.S. citizens or permanent residents only are eligible for NIH-supported fellowships. Applicants should send a c.v., 3 references, and a brief letter of research interests to: **Craig C. Malbon, Director, c/o Dept. Molecular Pharmacology, Univ. Medical Center, SUNY/ Stony Brook, Stony Brook, NY 11794-8651; Fax: 516-444-7696. Stony Brook is an Equal Opportunity Employer.**

Fellowships for Biological and Biomedical Sciences

The Howard Hughes Medical Institute announces the 1997 competitions for fellowship programs that support training in fundamental biological and biomedical research. Awards, based on international competitions, focus on research directed to understanding basic biological processes and disease mechanisms. Fellowships may be held at academic or nonprofit research institutions.

Predoctoral Fellowships in Biological Sciences

Up to five years of support for full-time graduate study toward a Ph.D. degree in biostatistics, cell biology, epidemiology, genetics, immunology, neuroscience, or structural biology. Applicants must not have completed the first year of postbaccalaureate graduate study in biology. *Application deadline: mid-November.*

Postdoctoral Research Fellowships for Physicians

Three years of support for training in fundamental research subsequent to at least two years of postgraduate clinical training and no more than two years of postdoctoral research training. *Application deadline: mid-December.*

Research Training Fellowships for Medical Students

An opportunity for medical students in the United States to explore a burgeoning interest in fundamental research. Support is awarded for one year of full-time fundamental research in a laboratory at the student's medical school or another institution (except NIH in Bethesda, Maryland). *Application deadline: early December.*

Research Scholars at the National Institutes of Health

Under this joint HHMI-NIH program, medical students in the United States spend an intensive year in research in the intramural program at NIH in Bethesda, Maryland. Residence is provided at the Cloister on the NIH campus. *Application deadline: early January.*

1997 Program Announcements and Applications

For Predoctoral Fellowships:

Hughes Fellowship Program
The Fellowship Office
National Research Council
2101 Constitution Avenue
Washington, DC 20418
United States of America
Telephone (202) 334-2872
Fax (202) 334-3419
E-mail <infofell@nas.edu>
<http://www.nas.edu/fo/index.html>

For Other Programs:

Howard Hughes Medical Institute
Office of Grants and Special Programs
Department AL97
4000 Jones Bridge Road
Chevy Chase MD 20815-6789
United States of America
Telephone (301) 215-8889
Fax (301) 215-8888
E-mail <fellows@hq.hhmi.org>
<http://www.hhmi.org/grants/graduate/start.htm>

POSITIONS OPEN



CHAIR

Department of Cellular and Structural Biology

The University of Texas Health Science Center at San Antonio (UTHSCSA) invites applications and nominations for the position of **CHAIR** and **PROFESSOR** of the Department of Cellular and Structural Biology. The Department is one of six basic science departments at the Graduate School of Biomedical Sciences and participates in the education of graduate, medical, dental, and other health professional students. The Department has an active graduate program and is recognized for its well-established research activities, particularly in aging, mammalian genetics, and cancer biology. A special academic mission of the Department is the responsibility of teaching anatomical sciences in the health professional schools.

We seek a dynamic and established individual with a Ph.D. and/or M.D. degree, a distinguished record of scientific achievement, and a demonstrated ability to administer and lead a comprehensive academic program. The successful candidate should be capable of fostering an environment in which excellent teaching, scholarship, and state-of-the-art research endeavors can flourish. Please send letter of interest and curriculum vitae, which includes a summary of research activities, by December 6, 1996, to: Dr. Joel B. Baseman, Chair, Search Committee for Cellular and Structural Biology, Department of Microbiology, The University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, TX 78284-7758. Additional information concerning the UTHSCSA and the Department of Cellular and Structural Biology can be found through the World Wide Web address at: <http://www.uthscsa.edu>.

The UTHSCSA is an Equal Employment Opportunity/Affirmative Action Employer.

CHAIR

DEPARTMENT OF PSYCHIATRY

University of Pennsylvania School of Medicine

The University of Pennsylvania School of Medicine seeks outstanding candidates for the position of **PROFESSOR** and **CHAIR** of the Department of Psychiatry.

The successful applicant will be of international stature in his or her area of the field and will provide academic leadership in the broadly defined area of psychiatry. Applicants should have demonstrated qualifications in the administration of a large program in education, research, and patient care.

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

Arthur K. Asbury, M.D.
Chair, Psychiatry Search Committee
University of Pennsylvania School of Medicine
Department of Neurology
3 West Gates
3400 Spruce Street
Philadelphia, PA 19104

The University is an Equal Opportunity/Affirmative Action Employer. Women, minority, and international candidates are encouraged to apply.

FACULTY POSITIONS

RICE UNIVERSITY

Department of Biochemistry and Cell Biology

Applications are invited for two **TENURE-TRACK** faculty positions in biological sciences including the areas of biochemistry, cell and developmental biology, neurobiology, and molecular biology. Clear evidence of research excellence and teaching potential is essential. Emphasis in recruiting will be at the Assistant Professor level, but other levels may be considered. Review of applications will commence on October 15, 1996, and the positions will remain open until filled. Please send curriculum vitae, summary of past and future research plans, and four letters of reference to:

Faculty Search Committee
Department of Biochemistry and Cell Biology
Rice University, MS-140
6100 Main Street
Houston, TX 77005-1892

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

POSITIONS OPEN

CHAIRPERSON, DEPARTMENT OF BIOLOGICAL SCIENCES

The University of Alabama invites applications and nominations for the position of **CHAIR** of the Department of Biological Sciences in the College of Arts and Sciences. The faculty (28 members) has two areas of primary research focus: ecology/systematics, with emphasis on freshwater systems, and molecular biology, with emphasis on development. The Ph.D. and M.S. degree programs enroll approximately 70 graduate students. The Department offers specialized programs of undergraduate study in molecular biology, ecology and systematics, pre-professional areas (medicine, dentistry, and optometry), marine science, and microbiology for 470 majors and has a substantial commitment to non-majors. The faculty seeks a distinguished scientist with a Ph.D. or equivalent degree and an outstanding record of significant scientific and administrative accomplishments. The candidate should demonstrate exceptional leadership skills, including the ability to work well with faculty having diverse interests, students, and administrators. The candidate would be expected to strengthen existing areas of excellence, mentor faculty, promote faculty contract and grant activity, develop interdisciplinary research, and organize strong instructional programs. The position will start August 15, 1997. Applications will be accepted until the position is filled; however, review of applications will begin November 1, 1996. Applicants should send a detailed curriculum vitae, a statement of administrative philosophy, an outline of current and future research and instructional interests, and the names, addresses, and telephone numbers of at least three references to: Alvin L. Winters, Ph.D., Chairperson Search Committee, Department of Biological Sciences, Box 870344, The University of Alabama, Tuscaloosa, AL 35487-0344. Telephone: 205-348-1019; FAX: 205-348-1786; Email: awinters@biology.ua.edu. The University of Alabama is an Equal Opportunity/Affirmative Action Employer.



SOUTHEAST MISSOURI STATE UNIVERSITY DEAN College of Science and Technology

Southeast Missouri State University invites applications and nominations for this position. For full information see [www/semo.edu](http://www.semo.edu) or contact Gerald McDougall, Dean, Harrison College of Business and Chair, Search Committee, One University Plaza, Cape Girardeau, MO 63701. Email: C476bux@semo.edu. Screening will begin October 7, 1996. Southeast Missouri State University is an Equal Opportunity/Affirmative Action Employer.

CHAIRPERSON

Department of Biochemistry and Molecular Pathology

The Northeastern Ohio Universities College of Medicine (NEOUCOM) invites applications and nominations for the position of **PROFESSOR** and **CHAIRPERSON**, Department of Biochemistry and Molecular Pathology. The Department of Biochemistry and Molecular Pathology is one of seven basic science departments within the College of Medicine that has had as its research focus the molecular aspects of cytochrome enzymes. Department faculty have major responsibilities for the education of medical students and are members of the graduate faculty in programs leading to the Ph.D. through the School of Biomedical Sciences at Kent State University. Applicant should hold a Ph.D. and/or M.D. degree, be an active participant in medical and graduate education, have a strong record of scientific and scholarly achievements, and have extensive experience in obtaining extramural funding. The ideal candidate will have excellent interpersonal and communication skills and the leadership qualities necessary to promote collaborative interactions in education and research with clinical and graduate faculty. Send letter of application, accompanied by a curriculum vitae and names and addresses of three references, by November 1, 1996 to:

John Docherty, Ph.D.
Chairperson, Biochemistry Search Committee
Department of Microbiology/Immunology
P.O. Box 95
Rootstown, OH 44272

Northeastern Ohio Universities College of Medicine is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

SUPERVISORY FISHERY BIOLOGIST TWO POSITIONS

The Conservation and Utilization Division of NOAA's National Marine Fisheries Service, Northeast Fisheries Science Center, seeks quantitatively oriented biologists and ecologists to conduct and supervise research on the biology, ecology, and population dynamics of marine finfish, invertebrate and marine mammal species. Two positions are open:

CHIEF, Protected Species Branch

Woods Hole Laboratory, Woods Hole, Massachusetts

CHIEF, Population Biology Branch

Woods Hole Laboratory, Woods Hole, Massachusetts

Both positions are at the GS-14 level (\$61,348-\$79,754 per annum).

Applicants should possess a Ph.D. and should be experienced in supervision of relevant research programs; strong analytic skills are also necessary. The Division performs research and stock assessments that provide the scientific basis for management of fishery resources and marine mammal stocks in the Northeast.

For application package(s) call or write to: **Office of Personnel Management, Raleigh Service Center, 4407 Bland Road, Suite 200, Raleigh, NC 27609. Telephone: 919-790-2822**, by September 30, 1996. Ask for one or more of the following: Announcement No. AR0365 (Protected Species); and AR0369 (Population Biology). For additional information about the positions, contact: Ms. Kathryn McArthur, NOAA, 200 World Trade Center, Norfolk, VA 23510. Telephone: 804-441-6348. Applicants must be qualified United States citizens; NOAA is an Equal Opportunity/Affirmative Action Employer.

HAVERFORD COLLEGE

The Biology Department seeks a tenure-track faculty member at the **ASSISTANT PROFESSORIAL** rank for the fall of 1997. The successful applicant will teach introductory and advanced courses in the Biology Department on the structure and function of macromolecules. She or he will receive teaching credit for maintaining an active research program engaging undergraduate students in the study of an important cell biological problem at the macromolecular level. Some topics of interest include, but are not limited to, protein structure, protein-nucleic acid interactions, and biochemical aspects of RNA processing. She or he will also be expected to participate actively in the teaching of non-scientists and of advanced undergraduate students enrolled in the interdisciplinary Area of Concentration in biochemistry and biophysics. Postdoctoral research experience is required. Send curriculum vitae, research plans, teaching interests, and three reference letters by November 15, 1996, to: Dr. Sid Perloe, Chair of the Biology Search Committee, Haverford College, Haverford, PA 19041. Questions about the position can also be directed to: Dr. Philip Meneely in the Department of Biology. Email: pmeneely@haverford.edu; or Telephone: 610-896-4996. Haverford College, located 10 miles west of Philadelphia, is an Equal Opportunity/Affirmative Action Employer. Women and minority candidates are especially encouraged to apply.

EVOLUTIONARY BEHAVIORAL ECOLOGY (Rank Open)

We are searching to fill **TWO POSITIONS**, one senior and one junior, in evolutionary behavioral ecology. We are particularly looking for candidates with strong field and/or laboratory components to their research. Specific research areas and taxa are open and can include behavioral mechanisms in evolutionary genetic context. The ideal candidates will interact closely with a faculty with strong quantitative and theoretical interests and will be expected to maintain vigorous research programs, obtain extramural funding, train graduate students, and participate in undergraduate teaching.

To apply, please send curriculum vitae, a statement of research interests, and reprints, and have three letters of recommendation forwarded by November 7, 1996, 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.

REGENERON PHARMACEUTICALS, INC.

Two Postdoctoral/Scientist Positions Available

Regeneron Pharmaceuticals, Inc. is a leader in the application of molecular and cell biological approaches to the discovery of novel trophic factors.

Huntington Disease Project

We are seeking to add a scientist interested in animal models of Huntington disease to our existing Project Team. The team consists of scientists evaluating the efficacy and mechanism of action of trophic factors in several animal models of Huntington disease, as well as biochemists, formulation scientists, and cellular neurobiologists evaluating protein formulation and pump delivery. We are looking for a Ph.D. with 2-5 years of postdoctoral experience to join the group at either the postdoctoral or scientist level. Particular consideration will be given to candidates who are already experienced in relevant animal models. Knowledge of, and interest in, preclinical efficacy programs would also be desirable.

Cellular Neurobiology

We are interested in expanding our cellular neurobiology group to include a scientist interested in neurotrophic factor and neurotrophin receptor regulation in peripheral neurons and glial cells after various types of insults or pharmacologic manipulations. This scientist will join an interdisciplinary team consisting of pharmacologists, behaviorists, physiologists, and cellular neurobiologists working on several animal models of peripheral neuropathy and nerve regeneration. We are seeking a Ph.D. with 0-5 years of postdoctoral experience to join the group either at the postdoctoral or scientist level. Particular consideration will be given to candidates with experience in *in vitro* models of peripheral neuron-glial interactions.

Successful candidates for both available positions will have a proven publication record and demonstrate the ability to integrate into, and work well with, a project team. Good oral and written communication skills are also crucial.

Regeneron's modern research facilities are located in a suburban setting with ready access to the cultural and business centers of New York City. Qualified candidates should send their resumes, *including salary requirements*, to: **Regeneron Pharmaceuticals, Inc., 777 Old Saw Mill River Road, Box SW, Tarrytown, NY 10591; Fax: (914) 347-2847. EOE/M/F/H/V**

MOLECULAR ONCOLOGIST

**Institute for Molecular Medicine/
Ben May Institute for Cancer Research
The University of Chicago**

The University of Chicago is seeking applicants for 3 tenure-track positions at the Assistant and/or Associate Professor level. The Institutes are committed to developing strong interactive programs in molecular oncology and molecular immunology, broadly defined. We are seeking outstanding individuals who are using molecular, genetic and/or structural approaches to examine basic mechanisms such as signal transduction, gene and cell cycle regulation, and DNA replication and repair. The Institutes are closely interfaced with an NCI-designated Cancer Center, Committees on Cancer Biology and Immunology, and the new Advanced Photon Source at Argonne National Laboratory. Candidates should have sufficient research experience to demonstrate both significant accomplishment and outstanding promise. Faculty appointments will be tenure-track in the most appropriate academic department where the candidate will be expected to exercise full membership. Letters of recommendation including curriculum vitae, bibliography, a brief statement of research interest, and the names of 3 references should be sent to: Search Committee, Institute for Molecular Medicine, 924 East 57th St., Chicago, IL 60637-5419. The University of Chicago is an Affirmative Action/Equal Opportunity Employer.



**THE UNIVERSITY
OF CHICAGO**



St. Jude Children's Research Hospital

ALSAC • Danny Thomas, Founder

St. Jude Children's Research Hospital, a premier center for biomedical investigation, is establishing a new Department of Structural Biology with state-of-the-art facilities in protein crystallography, nuclear magnetic resonance and computer graphics. The Department is seeking two outstanding junior faculty with the drive and energy to take advantage of this unique opportunity to create a first-rate program in molecular biophysics. Applicants for this position should have a strong record of achievement in structure-function analyses of biological macro-molecules. Each faculty will be expected to develop an individual research program and to interact extensively with well established programs in areas such as biochemistry, genetics, neurobiology, hematology-oncology, immunology, virology, tumor cell biology and molecular pharmacology. The Department will occupy approximately 7,000 square feet on adjacent floors of the new Danny Thomas Research Facility. St. Jude Children's Research Hospital was founded by Danny Thomas and the hospital continues to receive support through the fund-raising efforts of the American Lebanese Syrian Associated Charities.

Please send a curriculum vitae, an outline of proposed research and the names and addresses of four references to:

**Dr. Stephen White, D. Phil
Chairman, Department of
Structural Biology
St. Jude Children's
Research Hospital
332 N. Lauderdale
Memphis, TN 38105**

AA/EOE

POSITIONS OPEN

BE PART OF THE NEW VA ASSOCIATE CHIEF OF STAFF FOR RESEARCH AND DEVELOPMENT VA Medical Center, Birmingham

Applicant will be appointed full-time permanent and will be responsible for administering the medical center's Research and Development programs, including the operation of the Research and Development Committee. Responsible for administering Research and Development resources, including non-VA funds; championing investigator opportunities; and assisting investigators in administrative and technical matters. Studies are ongoing in rehabilitation, health services, and biomedical research.

Qualified applicants must be U.S. citizens and must have scientific and managerial backgrounds. The Birmingham VA Medical Center is affiliated with the University of Alabama at Birmingham School of Medicine and the University of Alabama at Huntsville School of Primary Care.

Applicants should forward a letter of intent; curriculum vitae; and the names, addresses, and telephone numbers of three references. Applications must be received by November 1, 1996, and should be sent to: **Mr. Murray Mechum, Assistant to the Director, 700 South 19th Street, Birmingham, AL 35233. Telephone: 205-933-8101, Extension 6101; FAX: 205-933-4497.**



FACULTY POSITION

Department of Medical Biochemistry and Genetics

The Department of Medical Biochemistry and Genetics invites applications for a tenure-track **ASSISTANT PROFESSOR**. Appointment at a higher rank will be considered for qualified candidates. Candidates are expected to maintain a vigorous research program and participate in medical and graduate instruction. Applications from individuals with research interests in any area of biochemistry, molecular biology, or molecular genetics are encouraged, but teaching responsibilities will be in the Medical Genetics course. Submit curriculum vitae, description of research interests, and names of three references to: **Chairman, Search Committee, Department of Medical Biochemistry and Genetics, Texas A&M University Health Science Center, College Station, TX 77843-1114.**

Find out more about Texas A&M University at www.tamu.edu; more about our department at <http://pauling.tamu.edu/medbiogen/index.html>. Equal Opportunity through Affirmative Action.

SYSTEMATIC HERPETOLOGIST CALIFORNIA ACADEMY OF SCIENCES

The California Academy of Sciences invites applications for the **FACULTY POSITION** of Assistant Curator of Herpetology. The Department of Herpetology seeks applicants with primary interests in, and commitment to, collection-oriented research in systematic herpetology who are familiar with and capable of employing both morphological and molecular techniques. Individuals who will contribute to the growth and curation of a major research collection are sought. Interest in field work would be desirable. Candidates must have a Ph.D. and an active research program. Responsibilities include curatorial, administrative, and public educational activities at the Academy. Applicants should forward a curriculum vitae; description of research goals; and the names, addresses, and telephone numbers of three references to: **Human Resources/SH, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118-4599.** Deadline for applications is 1 November 1996.

FACULTY POSITIONS are open in the Department of Nutrition at Case Western Reserve University School of Medicine. The fields are 1) investigation of nutrient metabolism with stable isotope technology, 2) applications of molecular biology to nutrition research, and 3) applied human nutrition. Candidates are expected to develop independent research programs, train graduate and postdoctoral students, and teach undergraduate and/or graduate students. Send curriculum vitae, representative reprints, outline of research program and teaching interests, and three letters of reference by October 31, 1996 to: **Dr. Henri Brunengraber, Chair, Department of Nutrition, Case Western Reserve University, 10900 Euclid Avenue, Cleveland, OH 44106-4906.** Case Western Reserve University is an Equal Opportunity Employer and encourages applications from minorities and women.

POSITIONS OPEN



EVOLUTIONARY BIOLOGIST

The Department of Biology at Swarthmore College invites applications for a **TENURE-TRACK** appointment at the **ASSISTANT PROFESSOR** level, to begin September 1997. We seek an evolutionary biologist who is committed to combining teaching and research at a small liberal arts college. Teaching responsibilities include a broadly based intermediate-level course in evolution, an advanced seminar in a major area within evolutionary biology, and participation in the Department's introductory biology sequence. The successful candidate will be expected to establish an active research program that will provide opportunities for undergraduate participation. A Ph.D. is required; postdoctoral research experience and teaching experience are desirable. Interested individuals should submit a curriculum vitae along with statements of teaching and research interests, and arrange to have three letters of recommendation sent by October 15, 1996, to: **Dr. Rachel Merz, Department of Biology, Swarthmore College, Swarthmore, PA 19081-1397.**

Swarthmore College is an Equal Opportunity Educator and Employer and especially invites and encourages applications from women and minorities.

MICHIGAN STATE UNIVERSITY Michigan State University-Department of Energy Plant Research Laboratory Faculty Position in Plant Biology

The Michigan State University-Department of Energy (MSU-DOE) Plant Research Laboratory has a tenure-track faculty position available at the **ASSISTANT PROFESSOR** level. Persons conducting innovative research in plant biochemistry are particularly encouraged to apply; however, outstanding candidates in other areas of plant biology will be seriously considered. Preference will be given to individuals working in underdeveloped areas that show promise for future advances.

The Plant Research Laboratory, with major funding from the U.S. Department of Energy, provides a stimulating atmosphere and excellent facilities for research in the plant sciences. Faculty members are jointly appointed in an appropriate academic department. Adequate laboratory space and set-up funds as well as continuing research support will be provided.

Applicants should have postdoctoral research experience with demonstrated productivity and evidence of potential for independent research. To ensure consideration, applications should be received by November 1, 1996. Applications, including curriculum vitae, description of research accomplishments and future interests, and three letters of reference, should be sent to: **Kenneth Keegstra, Director, MSU-DOE Plant Research Laboratory, Michigan State University, East Lansing, MI 48824.** MSU is an Equal Opportunity/Affirmative Action Employer. Women and minorities are particularly encouraged to apply.

TENURE-TRACK FACULTY POSITION DEPARTMENT OF BIOLOGY Massachusetts Institute of Technology

Applicants with significant research accomplishments, the ability to establish and maintain a vigorous research program, and a commitment to excellence in education at the undergraduate and graduate levels are sought for a tenure-track faculty position at the level of **ASSISTANT PROFESSOR**.

The applicant's research direction could involve any area of modern biology with emphasis on molecular, cellular, and/or genetic approaches to the biology of multi- or single-celled organisms.

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

**Dr. David Baltimore
Chair, Biology Search Committee
Room 68-132
Department of Biology
Massachusetts Institute of Technology
Cambridge, MA 02139**

Applications will only be considered when they are complete and letters of recommendation have been received. MIT is an Affirmative Action/Equal Opportunity Employer. Qualified women and minority candidates are especially encouraged to apply.

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR Biochemistry and Molecular Biology

The Department of Biochemistry and Molecular Biology, University of North Dakota School of Medicine and Health Sciences, invites applicants for a **TENURE-TRACK** twelve-month position as Assistant or entry-level Associate Professor. The appointment is anticipated to begin July 1, 1997. Applicants trained in any area of biochemistry and molecular biology will be considered. Duties will include teaching medical, graduate, and undergraduate students; conducting independently funded research; and serving on committees. A Ph.D. or M.D. degree, postdoctoral research experience, and publications are essential. Evidence of extramural funding and teaching experience, preferably at the medical or graduate school level, is highly desirable. The individual must have a strong commitment to medical and graduate education and to conducting an extramurally funded research program. Salary is negotiable based on credentials. Applicants are to submit a letter of application, complete curriculum vitae, up to three pages describing teaching experience/interests/philosophy and past/present/proposed research, and should arrange for three letters of reference to be sent to: **Dr. David O. Lambeth, Chair of Search Committee, Department of Biochemistry and Molecular Biology, University of North Dakota School of Medicine and Health Sciences, 501 North Columbia Road, Grand Forks, ND 58202-9037.** Review of completed applications will begin November 15, 1996 and will continue until the position is filled. For more information about our department, visit <http://www.med.und.nodak.edu/depts/biochem/home.htm>.

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

THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE MOLECULAR BIOLOGIST

The Department of Pathology invites applications for a tenure-track faculty position at the rank of **INSTRUCTOR or ASSISTANT PROFESSOR**. Candidates should have an outstanding record in research and experience in tumor biology. M.D., Ph.D. degree preferred. Salary will be commensurate with experience and accomplishments. Applications and nominations should be sent with a current curriculum vitae to:

**Peter C. Burger, M.D.
The Johns Hopkins Medical Institutions
600 North Wolfe Street
Baltimore, MD 21287-6417.**

The Johns Hopkins University is an Equal Employment Opportunity/Affirmative Action Employer. Women, minorities, Vietnam-era veterans, disabled veterans, and individuals with disabilities are encouraged to apply. Drug-free and smoke-free.

ASSISTANT PROFESSORS MOLECULAR BIOLOGY AND BIOTECHNOLOGY

The Division of Biology of Kansas State University (KSU) invites applications for two **TENURE-TRACK** positions at the Assistant Professor level, beginning in the 1997/98 academic year. We seek individuals who will establish strong, extramurally funded research programs in molecular biology and biotechnology, as well as participate in undergraduate and graduate teaching. A Ph.D. or equivalent and postdoctoral training are required. The positions include competitive salaries and start-up packages. One individual will focus on animal cell systems, particularly virology and cell biology, and teach virology. The second will utilize genetic, cellular, and developmental approaches to plant biology, and teach in molecular biology courses. The Division of Biology is a large, diverse unit, with a strong record of research productivity and funding and established investigators in areas relevant to the search. For more information go to <http://www.ksu.edu/biology>. Applicants should submit a curriculum vitae, selected reprints, and a summary of research interests, and should have three letters of reference sent to: **Rob Denell, Chair, Faculty Search Committee, Division of Biology, Kansas State University, Ackert Hall, Manhattan, KS 66506-4901.** Applications should be received by November 1, 1996. KSU is an Equal Opportunity/Affirmative Action Employer and encourages diversity among its employees.

UNIVERSITY OF CALIFORNIA, SANTA CRUZ
DEPARTMENT OF BIOLOGY
ASSISTANT PROFESSOR POSITIONS
www-biology.ucsc.edu

Applicants are invited for tenure-track assistant professor positions in the three areas listed below. Successful candidates will be expected to establish strong extramurally funded research programs and to participate in graduate and undergraduate teaching in their respective areas. Positions available Fall 1997, subject to final administrative and budgetary approvals. Candidates must have a Ph.D. (see areas below), plus postdoctoral research and university teaching experience or demonstrated potential for university research and teaching.

Applicants should submit a curriculum vitae, brief description of research and teaching interests, and copies of reprints, and should arrange for three letters of recommendation to be sent to

Chair, _____ Search Committee
Department of Biology
225 Sinsheimer Laboratories
University of California
Santa Cruz, CA 95064

If applying for more than one position, you may send only one application, but you **MUST** state in a cover letter which position(s) you are applying for:

FINAL FILING DATE: December 13, 1996

Plant/Algal Ecology: We seek applicants whose research employs both field and laboratory-based experimental approaches and whose program can take advantage of the extraordinarily diverse terrestrial and/or marine coastal environments of Central California. We are looking for candidates who can participate in undergraduate and graduate teaching in the areas of plant sciences, ecology, and evolution. Refer to Provision #62 in your application.

Marine Ecology: We seek a marine vertebrate or invertebrate ecologist using modern experimental approaches who will augment existing strengths in marine biology, who is field oriented, and who is able to take advantage of the extraordinary marine environments of Central California. Teaching responsibilities for this position will be in the areas of ecology and either invertebrate or vertebrate biology. Refer to Provision #234 in your application.

Environmental Toxicology: We seek a candidate focusing on fundamental molecular, biochemical, or physiological mechanisms involved in the adaptations and responses of animals, plants, or microorganisms to environmental toxins or pathogens. The successful candidate will be expected to actively participate in the development of a new graduate program in Environmental Toxicology. The position will initially reside with the Department of Biology and will be the fourth of several appointments in a proposed Environmental Toxicology Program. Refer to Provision #507 in your application.

The University of California is an Equal Opportunity Employer.

Postdoctoral Fellowships - Cell Biology

Parke-Davis Pharmaceutical Research Division of Warner-Lambert Company currently has postdoctoral positions available at our Department of Cell Biology in Ann Arbor, MI. The highly motivated and independent individuals will be interested in applying modern techniques in molecular and cellular biology enabling them to explore the actions of hormones and growth factors. The Department consists of a highly interactive group of scientists dedicated to investigation of the basic mechanisms underlying metabolic, cardiovascular, neurological and proliferative diseases. Research opportunities are available in the laboratories of:

Stuart Decker: Growth factor receptors signaling pathways
David Dudley: MAP Kinase cascades; peptide receptor signaling
Todd Left: Regulation of transcription by hormonal and metabolic signals
Bruce Markham: Transcriptional regulation related to developmental and pathological states of cardiac muscle
Alan Saltiel: Mechanism of Insulin action; protein kinases and phosphatases.

Applicants should be recent M.D. or Ph.D. graduates with a strong background in molecular and cellular biology, biochemistry, pharmacology, physiology or a related area. The ability, enthusiasm and motivation to learn is essential and interaction with our colleagues at the University of Michigan and other academic institutions is encouraged.

Members of the Parke-Davis team enjoy competitive salaries, benefits and career growth potential. Interested candidates should send or e-mail a CV along with a list of references to: **Parke-Davis Pharmaceutical Research, Human Resources Department, BOX: CJM-CB, 2800 Plymouth Road, Ann Arbor, MI 48105. E-mail: resume@aa.wl.com.**

Equal Opportunity in action.
Smoke-free work environment.

 **PARKE-DAVIS**

MICROBIAL RESEARCH

Breakthroughs In Conquering Infectious Disease

At SmithKline Beecham Pharmaceuticals' state-of-the-art Microbiology Research Department, this is the challenge. We've made major investments in the detailed characterization of the genomes from key bacterial pathogens. The result? A vast source of information which, along with associated strengths in bioinformatics and structural biology, gives us the foundation to make significant headway in understanding bacterial pathogens at a global level. These initiatives have already yielded the rapid identification of new molecular targets for drug intervention, and promise to uncover many more.

Our growing commitment to combat infectious disease presents opportunities for leading scientists to contribute significantly to anti-infectives research. It also presents the chance to collaborate with leading academic departments and strategic alliance partners.

Within our Department of Microbiology, PhD, MS, BS and Postdoctoral positions are available for candidates with backgrounds in microbial genetics, molecular biology, biochemistry and animal models of infection.

Located in our research facility in Suburban Philadelphia, SmithKline Beecham offers an excellent compensation/benefits/relocation package. For confidential consideration, please send your resume and salary requirements to: SmithKline Beecham Pharmaceuticals, Department DBMICRO, P.O. Box 2645, Bala Cynwyd, PA 19004. We are an Equal Opportunity Employer, M/F/D/V.


SmithKline Beecham
Pharmaceuticals

POSITIONS OPEN

MOLECULAR/CELLULAR BIOLOGY UNIVERSITY OF VIRGINIA

The Department of Biology at the University of Virginia (<http://www.virginia.edu>) invites applications for a tenure-track appointment at the **ASSISTANT PROFESSOR** level (exceptional, more senior candidates will also be considered). We are seeking a researcher of outstanding promise who uses molecular, genetic, and/or biophysical approaches to investigate fundamental questions in biology. Candidates who would contribute to existing departmental strengths in cellular, molecular and developmental biology, neurobiology/behavior, evolution, or plant biology are desired. Applicants should submit curriculum vitae, a summary of past accomplishments, and a description of future research plans and teaching interests, and should arrange for three letters of reference to be sent to: **Molecular/Cellular Biology Search Committee, Department of Biology, Gilmer Hall, University of Virginia, Charlottesville, VA 22903-2477.** Screening of applications will begin immediately. Only applications received by November 15, 1996 will be considered. (Note: This search is in addition to our ongoing search for a circadian biologist.) *The University of Virginia is an Equal Opportunity/Affirmative Action Employer. Women and members of minority groups are encouraged to apply and to identify themselves.*

NEPHROLOGY-HYPERTENSION AND FACULTY OF BASIC SCIENCES

ASSOCIATE PROFESSOR/PROFESSOR of Medicine, M.D. or Ph.D. required. This is a tenured position that requires: 1) administration of an active basic research program; and 2) competence in teaching in the preclinical curriculum. Salary is related to rank and step of the appointment within established salary schedules of the University of California, San Diego (UCSD) School of Medicine Faculty Compensation Plan. Please send curriculum vitae and names of six references to: **Roland C. Blantz, M.D., Chair, Search Committee, Professor and Head, Division of Nephrology-Hypertension, UCSD, 3350 La Jolla Village Drive, Dept. 111H, San Diego, CA 92161.** *Immigration status of non-citizens should be stated in the application.* Applications received by October 4, 1996 will receive thorough consideration. *UCSD is an Affirmative Action/Equal Opportunity Employer. We encourage applications from women and minorities.*

BIOLOGY FELLOWSHIPS University of Vermont

The Department of Biology Graduate Program has four **TEACHING FELLOWSHIPS** effective fall 1997: two in the area of cell/molecular biology; two in ecology/evolutionary biology and population genetics. Such fellowships are ordinarily renewable, up to five years. Write to: **N. Gotelli, University of Vermont, Department of Biology, Burlington, VT 05405.**

EVOLUTIONARY BIOLOGY/ECOLOGY ASSISTANT PROFESSOR

The University of Rochester anticipates an opening for an **ASSISTANT PROFESSOR** of Biology in the areas of evolutionary biology or ecology. We are particularly interested in individuals employing genetic approaches, although we encourage applications from all areas of evolution or ecology. Applicants should submit, as soon as possible, but before November 15, 1996, a curriculum vitae and statement of research interests, and should ask three references to send letters of recommendation to: **Chair, Ecology/Evolution Search Committee, Department of Biology, University of Rochester, Rochester, NY 14627.**

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

ACADEMIC SCIENTIST

The Divisions of Perinatology and Neonatology at The Evanston Hospital Corporation, Northwestern University Medical School, are seeking a **SCIENTIST** at the tenure-track level to join the Perinatology Research Group. Candidates should have a Ph.D. in molecular biology or biochemistry and have experience and interest in inflammation and mediator biology. Salary is commensurate with background and experience. Send curriculum vitae to: **Michael Caplan, M.D., Head, Division of Neonatology, Department of Pediatrics, Evanston Hospital, 2650 Ridge Avenue, Evanston, IL 60201.** *Evanston Hospital is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ACADEMIC PATHOLOGIST

A full-time position is available in the Department of Pathology at Baylor College of Medicine at the **FULL, ASSOCIATE, or ASSISTANT PROFESSOR** (tenure-track) level. Applicants should have a strong record of scholarship and, if at the Full or Associate Professor level, extramural research funding. Preference will be given to investigators in the area of cancer, developmental biology, cardiovascular disease, neurobiology, human genetics, or microbial pathogenesis. Investigators must be Board-certified or -eligible in either anatomic or clinical pathology. *The candidate should have a license to practice medicine in the United States.* The position is available immediately. Applications will be accepted until October 15, 1996. Please send a letter, curriculum vitae, and names of three references to:

James M. Musser, M.D., Ph.D.
Department of Pathology
Baylor College of Medicine
One Baylor Plaza
Houston, TX 77030

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

Applications are invited for faculty positions at the **ASSISTANT PROFESSOR, ASSOCIATE PROFESSOR, and PROFESSOR** levels. Two individuals are being recruited to expand a cadre of scientists at Meharry with expertise and commitment to HIV/AIDS research. A virologist studying the molecular biology or pathogenesis of HIV or HIV-related viruses and a microbiologist studying HIV-associated opportunistic organisms are sought. Candidates must have a Ph.D. and/or M.D. degree(s) and postdoctoral experience. Candidates for senior positions must have a record of excellence in research and teaching. Applicants for junior positions must demonstrate potential to conduct independent research and for excellence in teaching. Competitive start-up funds are available to establish a vigorous research program. All appointees will be expected to develop and sustain productive extramurally funded research programs and to participate in the professional and graduate teaching programs of the College. Positions are expected to be filled during the 1996-97 academic years. A curriculum vitae, description of research interests, and three letters of reference should be sent by October 31, 1996 to: **Frank Hatcher, Ph.D., Chair, Search Committee, Department of Microbiology, Meharry Medical College, 1005 D. B. Todd Boulevard, Nashville, TN 37208.**

Meharry Medical College is an Equal Opportunity/Affirmative Action Employer. Women and members of under-represented minority groups are especially encouraged to apply.

FACULTY POSITION IN MEDICINE (CARDIOLOGY/ELECTROPHYSIOLOGY) Case Western Reserve University

The Department of Medicine (Cardiology/Electrophysiology) invites applications for a faculty position at the **INSTRUCTOR** level. Candidates with a Ph.D. and strong credentials in the area of cardiac repolarization dynamics in the intact heart, including the influence of premature electrical stimuli on the spatial dynamics of cardiac repolarization and arrhythmia vulnerability, are encouraged to apply. Submit curriculum vitae, brief statement of present and proposed research interest, representative reprints, and names of four references to: **Marc D. Thames, M.D., Division of Cardiology, University Hospitals of Cleveland, 11100 Euclid Avenue, Cleveland, OH 44106-5038.** *Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.*

Human/Mammalian Genetics. The Rowe Program in Molecular Medicine and Human Genetics at the University of California, Davis, is soliciting applications for mammalian geneticists. This program is centered on development and application of techniques defining genetic basis and mammalian models of human disease. These tenured positions are at the **ASSISTANT PROFESSOR** level. Higher level appointments considered for unusually qualified candidates. Successful candidates will have outstanding training in genetic epidemiology and/or molecular genetics, strong publication records, and well-defined research goals. Letters of interest, curriculum vitae, synopsis of research plans, and names and addresses of three references should be forwarded to: **Dr. Michael F. Seldin, Chair, Rowe Program Search Committee, Department of Biological Chemistry, University of California-Davis, Davis, CA 95616.** Applications will not be accepted after July 1, 1997. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

BIOCHEMIST/MOLECULAR BIOLOGIST DEPARTMENT OF BIOLOGICAL SCIENCES STANFORD UNIVERSITY

We invite applications for a tenure-track position at the **ASSISTANT PROFESSOR** level (or **TENURED ASSOCIATE/FULL PROFESSOR** level) from candidates working in the broad area of functional aspects of the interactions of proteins with nucleic acids in key cellular processes. Please submit a curriculum vitae, FAX number, Email address, description of current and future research interests, and statement of teaching experience and goals to: **Professor Philip C. Hanawalt, Department of Biological Sciences, Stanford University, Stanford, CA 94350-5020 U.S.A.** The application deadline is November 1, 1996. Please provide the names, addresses, Email, FAX and telephone numbers of three referees, but do not ask them to send a letter of recommendation. *Applications from women and members of minority groups are strongly encouraged.*

ACADEMIC ASSISTANT/INSTRUCTOR

Direct and develop laboratories/discussion groups and assist in course development/presentation. Must have a Master's degree or equivalent in physiology or related field. A background in exercise physiology preferred. Salary and responsibilities will be commensurate with qualifications. Submit a résumé and three letters of recommendation to:

Gary O. Ballam, Ph.D., Chairman
Department of Physiology
University of Health Sciences
College of Osteopathic Medicine
2105 Independence Boulevard
Kansas City, MO 64124-2395

Pre-employment drug screen required.
Equal Opportunity Employer.

MOLECULAR VIROLOGY T. Jake Liang, M.D.

Current research focuses on the molecular pathogenesis of hepatitis B and C viruses. Elucidation of mechanisms of HBV and HCV infections leading to chronic infection and development of hepatocellular carcinoma is also a major research effort. Several positions are available to study various aspects of molecular virology and viral pathogenesis. Applicants should have a strong background in molecular and cell biology. Candidates with experience in viral and cell immunology, nucleic acid-protein interaction, signal transduction, and transgenic animal work are encouraged to apply. Applicants should have less than three years of postdoctoral experience. Contact: **Liver Diseases Section, Digestive Diseases Branch, NIDDK, Building 10, Room 9B16, 10 Center Drive MSC 1800, Bethesda, MD 20892-1800.**

DEPUTY DIRECTOR, CBNS

Position available: **DEPUTY DIRECTOR**, Center for the Biology of Natural Systems (CBNS), Queens College, City University of New York.

Qualifications: experience in analyzing "real-world" environmental and energy-related issues; in managing research projects; in the preparation of grant proposals and reports; and in computer-based techniques of data analysis and modeling. Ph.D. or equivalent strongly preferred. Depending on qualifications, the appointment will be made as a tenure-track Assistant Professor, tenure-track Associate Professor, tenure-track Professor, non-tenure-track Research Associate, or Higher Education Officer. Send letter, résumé, and brief writing sample by November 20, 1996 to: **Dr. Barry Commoner, Director, CBNS, Queens College, Flushing, NY 11367. FAX: 718-670-4189.** *Queens' College is an Equal Opportunity/Affirmative Action Employer.*

THE UNIVERSITY OF THE WEST INDIES St. Augustine, Trinidad, West Indies

Applications are invited for the following post: **Zoology: LECTURER/ASSISTANT LECTURER** in Terrestrial Ecology. Preference will be given to candidates with research and teaching experience in conservation/wildlife ecology, chemical ecology, evolutionary ecology, or behavioral ecology.

Annual Salary Range: Lecturer-TT\$73,632 to \$86,880 (B) to \$105,456. Assistant Lecturer-TT\$56,244 to \$60,660. Regional Allowance-30% of basic salary. Passages, Pension, Housing Allowance, Study/Travel, and Book Grants. Send applications naming three referees and detailing qualifications and experience to: **The Registrar, UWI, St. Augustine, Trinidad**, as soon as possible. Further particulars sent to all applicants.

X-Ray Crystallographer

The Department of Biochemistry at the Albert Einstein College of Medicine is seeking a faculty member with experience in applying diffraction methods to the solution of fundamental biological and biochemical problems. Faculty rank in this tenure-track position will be determined by prior experience. The X-ray crystallography laboratory is well-equipped with area detectors and molecular graphics equipment. A synchrotron resource facility at Brookhaven National Laboratory is operated by the College.

Applicants should send a curriculum vitae, a summary of research interests and future research plans and arrange for three or more letters of references to be mailed directly to: **Search Committee, Department of Biochemistry, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461.** Review of applications will begin on November 1, 1996 and continue until the position is filled. The Albert Einstein College of Medicine of Yeshiva University is an Equal Opportunity Employer.

ALBERT EINSTEIN COLLEGE OF MEDICINE

Toward the
advancement of medicine
...and your career



THE UNIVERSITY OF CALIFORNIA AT BERKELEY

Tenure-Track Assistant Professor Faculty Position in Cell Biology

The Department of Molecular and Cell Biology, Division of Cell and Developmental Biology, is seeking applications for a faculty position in the general area of cell biology. Research emphasis is in any area of cell biology including membrane and cytoskeletal function, cell cycle regulation, molecular endocrinology, cell-cell interactions, cell biology of development, and tumor biology. Completed applications must be received by November 15, 1996. The appointment commences on July 1, 1997.

Ph.D. and/or M.D. scientists should have demonstrated excellence, originality, and productivity in research, as well as a strong interest in undergraduate and graduate teaching.

Applications should include a curriculum vitae, bibliography, and a brief description of research accomplishments; a two-page statement of research objectives and teaching interest; and reprints of the three most significant publications. Arrange to have three letters of reference sent to the address below on your behalf. *The University of California is an Affirmative Action/Equal Opportunity employer.* Send applications to:

Divisional Assistant, Cell Biology Search

University of California, Berkeley

Dept. of Molecular and Cell Biology

142 LSA #3200

Berkeley, CA 94720-3200



GENEMEDICINE, INC.

GENEMEDICINE is pioneering the pharmaceutical use of genes to treat disease. Our interdisciplinary team of scientists is currently developing gene medicines to treat cancer, asthma, infectious disease and immune disorders. GENEMEDICINE is seeking to appoint senior scientists for leader positions in Molecular and Cellular Immunology. Join our thriving research community in applying your skills in immunology and gene regulation to create new therapies for treating human disease.

Molecular Immunologist

You will lead a group characterizing the expression of costimulatory molecules and cytokines in cells of the immune system. This team will focus on the discovery and optimization of novel gene-based approaches to the control of cellular immunity. This important work will have broad application throughout our product development programs.

Cellular Immunologist

You will lead the company's effort to analyze cell migration and cell-cell interactions that occur during the development of cell-mediated immunity. Using your knowledge of inflammation and antigen presentation, your team will identify and characterize cell targets for *in vivo* gene delivery and analyze the function of gene-modified cells.

The successful candidates for both positions will have demonstrated significant achievement in the field. You will have an excellent publication record, a Ph.D., and at least 5 years of relevant postdoctoral academic or industry experience. Experience in managing small dynamic teams is preferred. You will provide the Company with intellectual leadership and you will have excellent written and verbal communication skills.

GENEMEDICINE, INC. offers career growth and a highly competitive compensation and benefits package. For confidential consideration, please send resume to: GENEMEDICINE, INC., Attn: Human Resources, 8301 New Trails Drive, The Woodlands, TX 77381-4248; Fax (713) 364-0858. EOE.

RESEARCH ASSISTANT/ASSOCIATE



Genentech is a pace-setting company, internationally known for discovering, developing, manufacturing and marketing pharmaceuticals for significant unmet medical needs. We are currently seeking a Research Assistant/Associate interested in the discovery and analysis of novel growth factors and receptors. Requirements include a BS/MS in Biology, Biochemistry or equivalent with 2+ years' relevant laboratory experience. You must have an extensive background in cellular and molecular biology techniques, such as cDNA library construction and screening, protein expression, mammalian cell culture and analysis of signal transduction pathways. To be successful, you need to be a highly motivated and organized individual with the ability to interact and collaborate with others in a creative team environment.

Join us and enjoy our exciting success and progressive benefit package that includes free health club membership, 3 weeks paid vacation, 6 weeks sabbatical after every 6 years, fully paid medical/dental/vision coverage, and Company stock purchase opportunities for full time employees. For immediate consideration, send your resume to Genentech, Inc., Human Resources Dept. EOPG, 460 Pt. San Bruno Blvd., South San Francisco, CA 94080. We value creativity at Genentech, but our scanning equipment does not! Please avoid bold, underline or italic type faces. You may also e-mail your resume with the department code to jobs@gene.com (ASCII files only with a maximum line width of 76 characters). Find out more about Genentech at <http://www.gene.com>. Genentech is an Equal Opportunity Employer. We value the contributions of our diverse workforce.

Genentech, Inc.

POSTDOCTORAL FELLOW Transgenics

Position available immediately to study the taste-specific G protein gustducin and its role in taste transduction (Nature 381: 796, 1996; Nature 376: 80, 1995; Nature 376: 85, 1995;

**Mount
Sinai**

SM

Nature 357: 563, 1992). Projects involve the generation and analysis of transgenic mice to study mammalian taste transduction mechanisms. Strong background in molecular biology, transgenic techniques and animal husbandry required.

Please send curriculum vitae, the names of three references, and a statement of research interests to: **Robert F. Margolskee, Department of Physiology and Biophysics, Mount Sinai School of Medicine, Box 1218, One Gustave L. Levy Place, New York, NY 10029-6574. Fax: (212) 860-3369; e-mail: Margolskee@MSVAX.MSSM.EDU**

Equal Opportunity Employer

The Mount Sinai Medical Center

ENVIRONMENTAL HEALTH AND SAFETY

RADIATION SAFETY OFFICER

(SEARCH RE-OPENED)

Dartmouth College seeks an accomplished, hands-on RSO. Position requires BS in Health Physics (or related science discipline) and five to ten years' experience in a biomedical environment. Preference to applicants with M.S or Ph.D. in Health Physics with three years' experience. Must have expertise in laboratory-based radiation safety; including training, licensing and waste management.

Submit c.v., cover letter, three letters of reference and an example of written work to: **Dr. Michael Blayney c/o Environmental Health and Safety, Dartmouth College, 6216 Clement West, Hanover, NH 03755**

Dartmouth College is an Affirmative Action/Equal Opportunity Employer. Woman and minorities are encouraged to apply.



UCR/UCLA Program in Biomedical Sciences Division of Biomedical Sciences University of California, Riverside ASSISTANT RESEARCH BIOMEDICAL SCIENTIST

The Division of Biomedical Sciences at UCR invites applications for an Assistant Research Biomedical Scientist. The candidate's research program should focus on the molecular biology of the effects of lipids on endothelial cells and atherogenesis. Applicants should have at least 2 years of postdoctoral experience and should demonstrate a vigorous and independent research program capable of obtaining external support.

Please send a curriculum vitae, including a detailed bibliography and a description of the proposed research, along with names, addresses, and phone numbers of three references by November 15, 1996, to **Dr. Michael Stemerman, Director, Division of Biomedical Sciences, University of California, Riverside, CA 92521-0121. Email: michael.stemerman@ucr.edu**

The University of California is an Equal Opportunity Employer.

Structural NMR Spectroscopist, Senior (Associate or Full Professor) Appointment, for individual with established track record and national/international reputation. The Department of Molecular Physiology and Biological Physics wishes to complement its faculty engaged in structural biological studies with X-ray crystallography, atomic force microscopy, electron energy loss spectroscopy, energy filtered electron microscopy, EPR, vibrational and optical spectroscopy by recruiting an outstanding new faculty member to pursue significant biological problems with advanced NMR spectroscopic methods. A strong record of peer-reviewed publications and support is required, and candidates who are both problem-oriented and engaged in development of novel methods will be given preference. An interest in proteins involved in signal transduction, while not essential, would provide a good match with research in this and other departments of the school. Send curriculum vitae, bibliography, and list of three (3) references to **Dr. Lukas K. Tamm, Chair, Molecular Physiology and Biological Physics Search Committee, Department of Molecular Physiology and Biological Physics, University of Virginia, P.O. Box 10011, Charlottesville, VA 22906-0011. The University of Virginia is an Equal Opportunity/Affirmative Action Employer. Qualified female and minority applicants are encouraged to apply.**

Chair, Department of Cellular and Structural Biology

The UTHSCSA invites applications and nominations for the position of Chair and Professor of the Department of Cellular and Structural Biology. The Department is one of seven basic science departments in the Graduate School of Biomedical Sciences and participates in the education of graduate, medical, dental, and other health professional students. The Department has an active graduate program and is recognized for its well-established research activities, particularly in aging, mammalian genetics, and cancer biology. A special academic mission of the Department is the responsibility of teaching anatomical sciences in the health professional schools.

We seek a dynamic and established individual with a Ph.D. and/or M.D. degree, a distinguished record of scientific achievement, and a demonstrated ability to administer and lead a comprehensive academic program. The successful candidate should be capable of fostering an environment in which excellent teaching, scholarship, and state-of-the-art research endeavors can flourish. Please send letter of interest and curriculum vitae, which includes a summary of research activities and names of references by December 6, 1996, to **Dr. Joel B. Baseman, Chair, Search Committee for Cellular and Structural Biology, Department of Microbiology, The University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, Texas 78284-7758. Additional information concerning the UTHSCSA and the Department of Cellular and Structural Biology can be found through the World Wide Web address at <http://www.uthscsa.edu>.**

The UTHSCSA is an equal employment opportunity/affirmative action employer.

Geneticist and Cell Structural Biologist

The Department of Biology at the University of North Dakota is seeking two additional colleagues at the rank of Assistant Professor in the areas of Genetics and Cell Structural Biology. The department offers graduate degrees through the Ph.D. and provides an environment conducive to building a competitive research program. The successful candidate will demonstrate the potential to establish a productive and extramurally funded research program utilizing modern approaches in basic research. Both positions will start August 16, 1997. Review of applications will begin October 7, 1996.

We seek a plant, a non-mammalian, or an evolutionary geneticist who uses molecular techniques. Teaching responsibilities will include a core genetics course, and participation in a team-taught introductory biology course. An additional upper level undergraduate or graduate course in area of specialization will be expected in the future.

We seek a cell structural biologist who bridges molecular and organismal levels and uses modern molecular or cellular approaches. Areas of research specialization of particular interest include: developmental biology, neurobiology, and plant cell biology. Teaching responsibilities will include a modern undergraduate course in either histology or cell biology and participation in a team-taught introductory biology course. An additional upper level undergraduate or graduate course in the area of specialization will be expected in the future.

Ph.D. required and postdoctoral experience desirable. For additional information on each position and our department, consult our web page at: <http://sage.und.nodak.edu/dept/biology/jobs.html>. Send curriculum vitae, three representative reprints, list of relevant coursework, and statements of teaching and research interests addressing the specific concerns of each position, and have three letters of reference sent to: **Chair, Genetics or Cell Structural Biologist Search Committee, Department of Biology, University of North Dakota, Grand Forks, ND 58202-9019; Telephone: 701-777-2621; Fax: 701-777-2623.**

RESEARCH ASSISTANT PROFESSOR
University of Cincinnati Medical Center
Cincinnati, Ohio

A Research Assistant Professor position is available March 1, 1997, in the Department of Environmental Health at the University of Cincinnati Medical Center. Outstanding individuals with a Ph.D., or equivalent, and at least three years of postdoctoral experience with a strong background in aquatic/marine biology, oceanography, and toxicology are encouraged to apply. Training desired in the areas of molecular biology (particularly in marine/aquatic systems), molecular toxicology, and aquaculture. Experience desired in the following areas: maintenance, breeding, and transgenesis of zebrafish; transfection and transformation of cultured eukaryotic cells, and development of novel *in vitro* systems for toxicological analysis; general molecular biology techniques including PCR, sequencing, and the analysis of xenobiotic-inducible gene promoters.

The successful candidate will be required to establish collaborative research projects within the Department of Environmental Health and the College of Medicine, become part of an active graduate training program in Toxicology, and establish an externally funded independent research program focusing on the development and utilization of practical non-mammalian model systems in Toxicology and Environmental Health. Send cover letter; curriculum vitae; and the names, addresses, and phone numbers of three references to: **Daniel W. Nebert, Department of Environmental Health, University of Cincinnati Medical Center, P.O. Box 670056, Cincinnati, Ohio 45267-0056.** To receive full consideration, applications should be received by November 15, 1996. *The University of Cincinnati is an Equal Opportunity/Affirmative Action Employer.*

The University of California, Irvine
Department of Developmental and Cell Biology
Announces

Two Assistant Professor Openings
Cell Biology — Tenure Track

Successful candidates will be expected to develop and maintain active, funded research programs and to participate in teaching cell biology at the graduate and undergraduate levels. Applicants who will strengthen research in cell biology and complement existing departmental research programs in molecular genetics, developmental biology, cell biology, plant biology, and molecular neurobiology are sought. Preference will be given to candidates who have a Ph.D. and whose research emphasizes the fields of signal transduction and/or cell-cell signaling. In exceptional cases, an appointment at the level of Associate Professor may be considered. Please submit a curriculum vitae, a description of research and teaching interests, and names and addresses of three individuals who will provide letters of reference to: **Search Committee, Department of Developmental and Cell Biology, UCI, 5207 Bio Sci II, Irvine, CA 92697-2300. Deadline: December 1, 1996.**

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

Please visit our Web Site on the Internet at http://www.bio.uci.edu:80/units/acad_pos/

MetaXen

*A New Venture with
Xenova Group Ltd.*

MetaXen, located in the San Francisco Bay Area, has recently been founded to rapidly develop leads from Xenova's strong high throughput screening and natural product chemistry operations as a means of advancing their clinical development candidates. In addition, the company will utilize information derived from DNA sequence databases to identify and validate new drug targets. Offering an interdisciplinary approach to drug discovery with a primary focus on cancer targets, we are currently seeking outstanding PhD Scientists to support our mission in the following areas:

**Computational Sciences
Computational Chemistry
Medicinal Chemistry
Molecular Biology
Molecular Pharmacology
Molecular Genetics
Protein Biochemistry
Protein X-ray Crystallography**

MetaXen provides an excellent opportunity for scientific and personal growth in a stimulating, entrepreneurial environment. Candidates interested in learning more details should contact Dr. Michael J. Ross, MetaXen, P.O. Box 117490, Burlingame, CA 94011-7490.

**NATIONAL INSTITUTES OF HEALTH
NATIONAL INSTITUTE ON AGING
GERONTOLOGY RESEARCH CENTER
BALTIMORE, MARYLAND**

POSTDOCTORAL FELLOW

The Office of the Scientific Director, National Institute on Aging, is seeking a postdoctoral fellow interested in studying mammalian cell cycle regulation. The candidate should have training in cellular and molecular biology. Experience in protein purification and biochemistry is very helpful. Starting salary will be commensurate with qualifications and experience. For more information, contact Dr. Douglas K. Ferris at (301) 846-1427. Interested candidates should submit a curriculum vitae, relevant reprints, and names of three references to:

**NATIONAL INSTITUTE ON AGING
ATTN: KAREN MABEN
PERSONNEL OFFICE, ROOM 1D09
GERONTOLOGY RESEARCH
CENTER, 4940 EASTERN AVENUE
BETHESDA, MD 21224**

NIH is an Equal Opportunity Employer

PRINCIPAL SCIENTIST

Biological R&D

Schering-Plough Animal Health is a leading developer, manufacturer and marketer of a broad range of veterinary biological and pharmaceutical products for cattle, swine, poultry and companion animals throughout the world.

Working at our Elkhorn, Nebraska location, you will assume major responsibilities for conducting R&D activities directed at the development of new or improved veterinary vaccines, with emphasis on viral pathogens. This will include developing and managing studies necessary for vaccine licensing, publication and presentation of results, as well as facilitating the manufacture and testing of new or existing products. PhD in Microbiology, Virology or Immunology is preferred. Candidates with a DVM or MS and vaccine development experience will also be considered. Background must include experience supervising a scientific staff and managing laboratory projects. Management of viral vaccine development projects, along with knowledge of molecular biology, monoclonal antibody technology and GLPs are highly desirable.

We offer an excellent compensation package including a competitive salary and comprehensive benefits. For prompt, confidential consideration, we invite you to forward a resume with salary requirements to: Human Resources-EL, Schering-Plough Animal Health, P.O. Box 3113, Omaha, NE 68103. We are an equal opportunity employer.



Schering-Plough
Animal Health

DEAN

School of Biological Sciences University of California, Irvine

The University of California, Irvine, invites applications and nominations for the position of Dean of the School of Biological Sciences. We seek an individual with an outstanding reputation within the scientific community who will bring vision and innovative leadership to the School. Candidates must have a demonstrated commitment to academic excellence to further advance the School's standing in research, undergraduate and graduate education, and service. The scholarly achievements of this individual should be appropriate for an appointment as a Full Professor in one of the departments in the School. The School of Biological Sciences comprises four academic departments: Development and Cell Biology, Ecology and Evolutionary Biology, Molecular Biology and Biochemistry, and Psychobiology.

Applications and nominations will be received until the position has been filled. However, the screening process will begin immediately, and individuals are encouraged to apply prior to **November 15, 1996**.

Nominations and expressions of interest, along with a curriculum vitae and the names and addresses of three referees, should be submitted to:

Professor Thomas Poulos
Chair, Biological Sciences Dean Search
University of California, Irvine
509 Administration, Irvine, CA 92697-1000.

The University of California, Irvine is an equal opportunity employer committed to excellence through diversity.

GLOBAL CAREER OPPORTUNITIES

MDC

MAX-DELBRÜCK-CENTER FOR MOLECULAR MEDICINE BERLIN-BUCH

The MAX DELBRÜCK CENTER FOR MOLECULAR MEDICINE (MDC) BERLIN-BUCH invites applications for one position of an

INDEPENDENT GROUP LEADER IN MOLECULAR CELL BIOLOGY

The MDC is a member of the National Helmholtz Research Centers supported by the Federal Government of Germany and the Land Berlin.

Research subjects of the cell biology department are related to cell adhesion, signal transduction, protein sorting and transport, as well as structural biology.

Scientists are specifically encouraged to integrate into clinical research programs at the Franz Volhard Clinic for Cardiovascular Diseases and the Robert Rössle Cancer Clinic, respectively; both Clinics are affiliated with the Virchow Hospital at the Humboldt University of Berlin.

Applicants should have an outstanding record of scientific accomplishment.

The position is guaranteed for five years. Tenure track or tenure will depend on the candidate's expertise and scientific record. Appropriate laboratory space, funds for laboratory set-up and operation will be provided. Fellowships for postdoctoral fellows and graduate students are subject to further negotiation. Groups at the MDC are obliged to apply for extramural funds.

Candidates should submit their curriculum vitae, a list of publications, a short description of their future research objectives, and the names of three references to:

Prof. W. Birchmeier
Max-Delbrück-Center for Molecular Medicine
(MDC) Berlin-Buch
Robert-Rössle-Strasse 10, D-13125 Berlin

Deadline for applications is October 15, 1996.

The MDC is an equal opportunity employer.

For further information about the MDC and its collaborating clinics, please visit our World Wide Web site at <http://www.mdc-berlin.de>

ANNOUNCEMENT

Equipment Grant Opportunity

Ultrasensitive mRNA and Amplified DNA Quantitation

Molecular Devices Corporation is offering an equipment grant to scientists at non-profit institutions to acquire the Threshold Assay System for nucleic acid quantitation at a significantly reduced cost in exchange for future publication. To learn more about the Threshold System and receive a grant application package, please contact:

Molecular Devices Corporation
Attn: Threshold System Grant
1311 Orleans Drive
Sunnyvale, CA 94089 USA
Tel: (408) 747-1700, Fax: (408) 747-3602
e-mail: info@moldev.com

Application deadline: December 15, 1996



Division Directors

National Health Research Institutes Taiwan, Republic of China

National Health Research Institutes (NHRI) is a newly established non-profit research organization that aims at promoting medical, pharmaceutical, and public health research in Taiwan. NHRI plays the role of a funding agency and conducts intramural research in the following research divisions:

- Biomedical Engineering
- Biotechnology and Pharmaceutical Technology
- Clinical Research
- Environmental Health and Occupational Diseases
- Gerontology
- Health Policy
- Mental Health and Drug Abuse
- Molecular and Genomic Medicine

The Director of each research division will be in charge of the development of a well-focused research program and future recruitment of professional staff in the division. Applicants shall specify research interests and supply a cover letter, a curriculum vitae and publication list, a research proposal, a copy each of selected reprints, and five references. Please apply to:

Cheng-Wen Wu, President
National Health Research Institutes
3F, No. 2, Jen-Ai Road, Sec. II
Taipei 100, Taiwan, R.O.C.
Tel: 886-2-351-9126 Fax: 886-2-322-1807

Deadline for application: November 1, 1996



THE UNIVERSITY OF SHEFFIELD

DEPARTMENT OF BIOMEDICAL SCIENCE AND MOLECULAR BIOLOGY AND BIOTECHNOLOGY

A new programme in Developmental Genetics is being established under the Directorship of Professor P W Ingham. Following the appointments of Dr A Furley and Dr M Placzek, we now seek applicants for a further:

SIX RESEARCH LECTURESHIPS IN DEVELOPMENTAL BIOLOGY

Applicants with research interests in any area of developmental biology will be considered, but preference will be given to investigators whose research places a strong emphasis on genetic approaches to developmental problems. Excellent facilities for the use of *Drosophila* and vertebrate systems are being established but researchers using other model systems such as *C. Elegans*, *Arabidopsis*, or yeast are encouraged to apply. The successful candidates will be expected to establish a strong independent programme of research at an internationally competitive level. Reflecting this, teaching duties will be limited to special courses. In addition to newly refurbished laboratory space and central support facilities, an individual start up package will be available commensurate with the experience and needs of the investigator.

Salary in the range £15,154 - £26,430 pa.

Informal enquiries to Professor Ingham (bmsoffice@sheffield.ac.uk) or Department of Biomedical Science, The University of Sheffield, Sheffield S10 2TN.

Closing date for applications: 15 October 1996. (Ref: R968)

Further particulars from the Director of Human Resource Management, The University of Sheffield, Western Bank, Sheffield S10 2TN, Tel: 0114-279 9800.

An Equal Opportunity Employer

Division of Molecular and Genomic Medicine National Health Research Institutes Taiwan, Republic of China

The National Health Research Institutes (NHRI) was recently established by the Government of the Republic of China in Taiwan as a non-profit research organization aimed at promoting medical, pharmaceutical, and public health research and at improving the health and well-being of citizens in the country. In addition to serving the role of a funding agency, NHRI also embraces strong intramural, basic, and transitional research.

The intramural division of Molecular and Genomic Medicine was established to develop strong interactive research programs to identify genetic determinants of diseases prevalent in Taiwan, using molecular biological and genetic approaches. Our present emphasis is on the identification of disease-associated, genetically altered, or differentially expressed molecules involved in cell growth, differentiation, and apoptosis. We invite applications from qualified individuals at the level of Members, Associate Members, and Assistant Members (equivalent to Professors, Associate Professors, and Assistant Professors). Please send curriculum vitae, description of research interests, reprints of selected publications, and the names and addresses of three references to:

Dr. C. K. Chou, Division of MGM, NHRI
3F, No. 2, Sec. 2, JEN AI Rd. TAIPEI, TAIWAN,
R.O.C.

Tel: 886-2-3519122 Fax: 886-2-3221807



ICI Polyurethanes, one of the world's largest producers of polyurethane chemicals and systems, has currently a vacancy in the field of

Simulation and Modelling of Polymer Structure and Properties

for its research department based at Everberg (East of Brussels) in Belgium.

The candidate should have a Ph.D. level education in chemistry or physics, with a strong background in polymer modelling and electronic structure of molecules and should be familiar with the supporting computational techniques. He/she should have experience in scientific programming on Unix or VMS platforms. Influencing skills and ability to work in a multidisciplinary team are seen as other important elements for a successful application. More mature candidates are considered as well.

Candidates interested in this vacancy should send their application before 30.11.1996 with detailed resume and list of scientific publications in confidence to:

ICI Europe Ltd.
Mrs. Martine Van Roey
Assistant Human Resources Officer
Everslaan, 45
3078 Everberg - BELGIUM

Postdoctoral Positions in Biochemistry University of Missouri-Columbia

Dr. Susan Deutscher

*Antibody engineering, nucleic acid
protein interaction*

Dr. David Emerich

Symbiotic nitrogen fixation

Dr. Milton Feather

Protein glycation and Maillard reaction

Dr. William Folk

Animal cell DNA replication

Plant tRNA expression

Dr. Tom Guilfoyle

Auxin-regulated genes

RNA polymerases

Dr. Gretchen Hagen

Auxin-regulated genes

Dr. Mark Hannink

Transcription factors and oncogenesis

Dr. Dennis Lubahn

*Effects of environmental estrogens in
ER-minus mice*

Dr. Mark Martin

*Transcription factors and gene
regulation*

Dr. Roy Morris

Cytokinin biosynthesis and control

Dr. Joseph Polacco

Ni and nitrogen metabolism in plants

Dr. Tom Quinn

*Design & synthesis of radiolabeled
antibodies and peptides*

Dr. Douglas Randall

Plant pyruvate dehydrogenases

Plant protein kinases

Dr. John Rogers

Sorting of proteins to plant vacuoles

Dr. Cleopas Samudzi

*Crystallography of protein-protein
and protein-DNA complexes*

Dr. Frank Schmidt

RNA structure and function

Dr. Grace Sun

*Signal transduction and gene expression
in the nervous system*

Dr. Roger Sunde

*Selenoprotein regulation and molecular
biology*

Dr. Judy Wall

Genetics of sulfate-reducing bacteria

Dr. Ching Wang

*Gene mapping and cloning for human
neurological disorders*

Dr. Gary Weisman

*Structure and function of recombinant
P2 purinoceptors*

Applicants should send CV and names of two references to:

Postdoctoral Application, Department of Biochemistry, 117 Schweitzer Hall,
University of Missouri, Columbia, MO 65211

Please specify research interest

The University of Missouri is an Equal Opportunity Institution

Assistant Professor

Harvard Medical School Department of Cell Biology

The Department of Cell Biology invites applications for a tenure track Assistant Professor. We are seeking individuals with strong research accomplishments and outstanding promise. Applicants should have proven expertise in applying modern approaches to problems in cell or developmental biology. Successful candidates will be expected to maintain a vigorous research-program and to participate in the teaching of medical and graduate students. Harvard University is committed to increasing the number of women and minorities among its faculty, so applications from such candidates are especially encouraged.

Applicants should submit a curriculum vitae and a brief statement of research accomplishments and future activities. Please arrange to have three references sent by November 15, 1996.



Dr. Marc Kirschner, Chair
Department of Cell Biology
Harvard Medical School
240 Longwood Avenue
Boston, Massachusetts
02115-5730

Harvard Medical School is an Equal
Opportunity/Affirmative Action Employer

CELL BIOLOGIST

The Department of Biological Sciences at Dartmouth College seeks applicants for a tenure track position at the level of Assistant Professor. The successful candidate will be expected to establish and supervise an independent research program that will attract extramural funding and provide research training for graduate and undergraduate students. The successful applicant will join a group of faculty whose research involves cellular, genetic, and biochemical approaches to studying problems in a number of model systems. Candidates should have a Ph.D. (or equivalent) and at least two years of relevant postdoctoral experience. Candidates should expect to participate in the teaching of cell biology or biochemistry to undergraduates, as well as a graduate course in their area of research specialization.

Please send a current curriculum vitae, a list of your referees with their FAX numbers, and a statement of research and teaching interests, and arrange to have three letters of reference sent under separate cover to:

Victor Ambros, Chair
Cell Biologist Search Committee
Department of Biological Sciences
Dartmouth College
6044 Gilman Hall
Hanover, NH 03755-3576

Although materials may be submitted by FAX (603-646-1347), the original documents are ultimately required. Application review will begin on 15 October, 1996. Women and members of minority groups are strongly encouraged to apply. Dartmouth College is an Equal Opportunity/Affirmative Action Employer. Additional information about the Department may be viewed on the World Wide Web: <http://coos.dartmouth.edu/~mcpeek/index.html>

**Wanted:
Committed,
ambitious
scientist.
Must be
a team
player with
a vision for
the future.
M.D./Ph.D.,
Ph.D., M.S.
or B.S.
degree
necessary.**

Does this describe you?

If it does, then plan to attend the bioSCIENCE Career Fairs sponsored by SCIENCE. The bioSCIENCE Career Fairs offer the perfect opportunity for scientific professionals to meet in person with representatives from top biotechnology and pharmaceutical companies, universities, governmental agencies and institutions.

Next 1996 bioSCIENCE Career Fair

Palo Alto, CA on the Stanford Campus
in Palo Alto, Oct. 4-5
Tresidder Memorial Union/Oak Lounge
and Cypress rooms

Oct. 4: 11 am - 4 pm

Oct. 5: 11 am - 3 pm

To pre register, please submit your resume or CV via fax: (202) 289 6742, or via e mail: bioscience@aaas.org. Please remember to bring multiple copies of your CV or resume with you to the Career Fairs, a copy will be necessary to register. Admission to the event is free.

**bioSCIENCE
CAREER FAIRS**

bioSCIENCE Career Fair Information
On Line: <http://www.sciencemag.org>
(Choose SCIENCE Classified Advertising
from the menu)

Nutritionist

Department of Agriculture (USDA)

Agricultural Research Service (ARS)

Position/Location: The National Program Staff, Agriproducts and Human Nutrition Sciences Branch at the Agricultural Research Service, USDA, Beltsville, Maryland, has an opening for a National Program Leader for Nutrition.

Responsibilities: To lead and coordinate agricultural research programs relating to human nutrition and the food supply. To provide leadership and coordination for programs that creatively expand the knowledge base needed to make nutrient and dietary recommendations to the public and resolve issues associated with dietary guidance, food assistance and relation of nutrition to health, food supply and processing, food composition and biotechnology. To participate in implementation and operations planning and review teams to assess, validate, and initiate programs or program shifts needed to reflect national priorities and policies. To participate in Agency budget development and serve as a technical expert for advice on technical policy and issues.

Qualifications/Salary: Bachelor's or higher degree in dietetics, food, nutrition, or closely related science. A Ph.D. is desirable. Candidates must have experience with human nutrition research related to nutrient functions and requirements as well as demonstrated ability to administratively lead and coordinate research programs. For specific qualifications, see vacancy announcement. The appointment is a permanent full-time position and requires U.S. citizenship. Salary commensurate with experience (\$73,486—\$95,531).

To Apply: For an application package with complete qualification requirements and instructions, contact the Human Resources Division (301) 344-4638 or (301) 344-2288, and request vacancy announcement number ARS-D-H-6-024. For information on the position, contact Ms. Wilda Martinez at (301) 504-6275, fax: (301) 504-6699.

Effective Date: Applications must be marked ARS-D-H-6-024-B610 and postmarked by October 7, 1996.

USDA/ARS is an Equal Opportunity Employer



Wayne State University

CELL AND DEVELOPMENTAL BIOLOGY

The Department of Biological Sciences invites applications for tenure-track positions at the full, associate, and assistant professor level. We are seeking individuals whose primary research interest is in molecular and genetic analysis of cellular function and development. We are developing a strong interactive core of researchers with overlapping and complementary interests. Individuals working with a variety of model systems from microbial to vertebrate are encouraged to apply.

Wayne State University is one of the nation's largest research universities, and the Department of Biological Sciences is in the midst of a significant expansion which includes recently occupying a new seven-story Biological Sciences research building. In addition to generous research space, the department houses and operates animal rooms, greenhouses, and core facilities for *Drosophila*, imaging and microscopy, and DNA synthesis and sequencing.

Substantial space and start-up funds are available to successful candidates who will be expected to establish and maintain an extramurally funded research program and participate in departmental teaching programs.

Women and minority candidates are encouraged to apply. Review of candidates will begin immediately and continue until all positions are filled.

Send curriculum vitae, a description of current and long-range research plans, three representative papers, and the names of four references to:

Jack Lilien

Chair, Department of Biological Sciences
Wayne State University
Detroit, MI 48202

*Wayne State University is an equal opportunity/
affirmative action employer.*

*All buildings, structures, and vehicles at WSU are smoke-free.
Wayne State University—People working together to
provide quality service.*



St. Jude Children's Research Hospital

ALSAC • Danny Thomas, Founder

POSTDOCTORAL POSITION IN DEVELOPMENTAL NEUROBIOLOGY

A postdoctoral position is available immediately to study molecular mechanisms of neuronal cell death. Two projects are ongoing in the laboratory: (1) Examination of the role of neurotrophins and their receptors from postnatal development through adulthood; and (2) Examination of the molecular mechanisms underlying the pathogenesis of Parkinson's disease. The laboratory makes extensive use of transgenic/knockout models of human neurodegenerative disease.

The ideal candidate will have considerable experience in molecular biological techniques, including gene cloning and the use of genomic databases as well as experience with transgenic mice and/or embryonic stem cells. Knowledge of Neuroscience or Developmental Biology will be considered a plus but is not required.

St. Jude Children's Research Hospital provides a state-of-the-art scientific facility with a highly interactive environment containing core facilities in molecular biology, peptide and protein chemistry, genomics and transgenic/knockout mouse production.

Interested candidates should send a curriculum vitae and three letters of recommendation to:

Richard Smeyne, Ph.D.

Department of

Developmental Neurobiology

St. Jude Children's Research Hospital

332 North Lauderdale

Memphis, TN 38015-2794

richard.smeyne@st.jude.org

St. Jude Children's Research Hospital is an equal opportunity employment/affirmative action employer.

POSITIONS OPEN

DIVISION OF BIOLOGY CALIFORNIA INSTITUTE OF TECHNOLOGY

The California Institute of Technology Biology Division is accepting applications for one or more **TENURE-TRACK ASSISTANT PROFESSOR** positions in the area of immunology. The term of initial appointment is normally four years, and appointment is contingent upon completion of a Ph.D. degree. Successful applicants are expected to participate in immunology teaching as well as to generate a creative and productive research program that will interface with the diverse scientific interests represented in the Biology Division.

Applicants should submit a curriculum vitae; list of publications; and a brief statement of teaching experience, research interests, and plans. In addition, the candidate should arrange to have three letters of reference sent to the search committee to coincide with receipt of the application. All materials should be sent to:

Professor P. H. Patterson
Immunology Search Committee
Division of Biology 216-76
California Institute of Technology
Pasadena, CA 91125

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

ASSOCIATE/FULL PROFESSOR Toxicology/Molecular Carcinogenesis

The Division of Toxicology, Department of Pharmacology and Toxicology, University of Arkansas for Medical Sciences (UAMS) and the Arkansas Cancer Research Center (ACRC) are recruiting a full-time **TENURE-TRACK FACULTY** member at the Associate or Full Professor level. Requirements include: a Ph.D. or equivalent degree, evidence of a productive record of quality research, and a commitment to teaching. Applicants should have a well-funded research program in the area of molecular carcinogenesis. Excellent opportunities are available for collaborative research with other faculty in the Department of Pharmacology and Toxicology, with faculty in the ACRC, and with adjunct faculty at the National Center for Toxicological Research. An excellent start-up package and laboratories in a newly constructed space in the ACRC are available. Send curriculum vitae, the names of three references, and a brief research prospectus to: **Jack A. Hinson, Ph.D., Division of Toxicology, Slot 638, University of Arkansas for Medical Sciences, Little Rock, AR 72205.** Applications should be received before November 1, 1996. *UAMS is an Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR PHYSIOLOGY

The University of New England College of Osteopathic Medicine invites applications for a **TENURE-TRACK** position at the Assistant or Associate Professor level focusing on the teaching of physiology to medical students and students in a Master's level Physician Assistant program. Candidates should possess a doctorate degree, strong teaching credentials, and an ability to obtain extramural research funding.

The University of New England will offer a competitive salary, an amenable working environment, and excellent benefits program. Please send curriculum vitae, detailed teaching portfolio, summary of research plans, and names of three references by November 15, 1996 to: **Michael D. Miles, Director of Human Resources, University of New England, 11 Hills Beach Road, Biddeford, ME 04005.** Email: employ@mailbox.une.edu.

The University of New England is an Equal Opportunity/Affirmative Action Employer and welcomes female and minority candidates.

RESEARCH ASSISTANT PROFESSOR—Fish Ecology and Management. Ph.D. in fish ecology or related field required. Must demonstrate ability to obtain funding; develop and conduct independent, externally funded research with an emphasis on the Great Lakes; and work with fisheries management agencies and the public. Must also demonstrate teaching and advisement at graduate level and scientific achievement. Prefer: complement to current programs and facilities; administrative skills. Initial three-year appointment; potential for renewal. Send curriculum vitae; names, addresses, and telephone numbers of three references to: **C. Darstein, Great Lakes Center-S1, SUNY College at Buffalo, 1300 Elmwood Avenue, Buffalo, NY 14222.** Closing date: October 4, 1996. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT/ASSOCIATE/FULL PROFESSOR DEPARTMENT OF BIOCHEMISTRY University of Illinois College of Medicine

Applications and nominations are invited for a tenure-track faculty position at the level of **ASSISTANT/ASSOCIATE/FULL PROFESSOR** in the area of developmental gene regulation and cell differentiation. We are especially interested in individuals using transgenic vertebrate systems to investigate problems related to gene expression in the context of development and medicine. Applicants should have a Ph.D., postdoctoral experience, a strong record of research accomplishments, and demonstrable potential for the development of an independent research program. The Department is one of six basic science departments in the largest College of Medicine in the United States and consists of 18 full-time faculty and 13 joint appointees. In recent years we have recruited several senior and junior faculty and are most interested in fostering independent research in an environment of interactive collegiality. Applications should include a curriculum vitae; a summary of current and future research plans; and the names, addresses, and telephone/FAX numbers of at least three individuals for references. All inquiries will be held in confidence. Review of applications will begin after October 1, 1996. Send applications or nominations to: **Chair, Developmental Search Committee, Department of Biochemistry (M/C 536), University of Illinois College of Medicine, 1819-53 West Polk Street, Chicago, IL 60612.** *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS IN FUNCTIONAL BIOLOGY AND GENETICS

The Department of Biology, Wake Forest University, has two tenure-track positions for **ASSISTANT PROFESSORS**. The first involves functional morphology, comparative physiology, biomechanics or related field with an evolutionary and organismic emphasis. Responsibilities will include teaching in the lower-division core sequence, and an upper-level course in area of specialization alternating with comparative vertebrate anatomy. The Genetics position involves teaching a lower-division ecology/evolution course and genetics. Ability to teach multivariate statistics is an asset. Successful candidates will participate in the graduate curriculum and establish active research programs. Application must include names and addresses of three references, a curriculum vitae, and statements regarding research plans and teaching interests and philosophy. For the Functional Biology position send materials to **Dr. Peter D. Weigl**; for the Genetics position to: **Dr. Robert Browne, Department of Biology, P.O. Box 7325, Wake Forest University, Winston-Salem, NC 27109.** Deadline for both positions is December 1, 1996. *Wake Forest is an Equal Opportunity Employer and is strongly committed to increasing the diversity of its faculty. Applications from women and minorities are encouraged.*

ACADEMIC POSITIONS

Analytical Biochemist/Molecular Biologist—Versatile scientist required to join research and analytical services team. Experienced in eukaryotic genetics and familiar with HPLC, GLC, GC/MS and GLP. Position will require creativity in the use of molecular biology and glycoprotein and carbohydrate analytical techniques, as well as assistance in the routine maintenance of GC/MS equipment. Position is nonacademic and is available September 1, 1996. Applications will be accepted until the position is filled. Please send complete curriculum vitae and two letters of recommendation to: **Dr. Thomas P. Mawhinney, Director, Agriculture Experiment Station Chemical Laboratories, Room 4, Agriculture Building, University of Missouri, Columbia, MO 65211.** *The University of Missouri is an Equal Opportunity/Affirmative Action Employer.*

Healthcare company, located in Southern California, solicits applications from highly motivated recent Ph.D.'s (preferably within four years of graduation) with direct experience in biomedical research and molecular modeling. Applicants should have a thorough understanding of biochemical mechanisms prevalent in health and disease. Must have experience and express interest in molecular modeling to develop novel therapeutic strategies. Innovative mind-set and excellent oral and written communication skills are required. We offer a competitive salary and benefits package. Cover letter and résumé to: **S. Maxwell, 520 Washington Boulevard, Suite 420, Marina del Rey, CA 90292.** FAX: 310-822-0582; Email: smagb@aol.com. *Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR Signal Transduction University of Vermont

Applications are invited for **TENURE-TRACK** position in the Department of Biology. Applicants are expected to 1) hold a Ph.D. degree and have two or more years of postdoctoral experience; 2) have research experience with techniques of modern molecular biology and a primary research focus on some fundamental aspect of signal transduction; 3) develop a competitive research program in signal transduction; and 4) teach introductory and advanced cell and molecular biology topics, such as neurobiology. Areas of expertise can range from molecular genetics to cell physiology. Applicants should forward a current curriculum vitae and brief description of their research and teaching plans and should solicit three letters of reference to be sent to:

Dr. Judith Van Houten
University of Vermont
Department of Biology
120A Marsh Life Sciences Building
Burlington, VT 05405-0086

Review of applicants will begin on November 15, 1996.

We especially encourage women, disabled, and minority candidates to apply. The University of Vermont is an Affirmative Action/Equal Opportunity Employer.

PLANT ECOLOGIST

ASSISTANT PROFESSOR, tenure-track, for an ecologist with a research program focusing on plants or plant-animal interactions, beginning July 1, 1997. The candidate is expected to establish an active research program, supervise senior undergraduate research projects, and participate in an introductory course with laboratory entitled "Adaptation and the Organism," an upper-level course in ecology, and an advanced course or seminar in the candidate's area of expertise. Ph.D. required and postdoctoral experience preferable.

Send curriculum vitae, statement of research and teaching interests, and three letters of evaluation by December 1, 1996 to: **Patrick Williamson, Chair, Department of Biology, Amherst College, Amherst, MA 01002-5000.**

Amherst College, a private coeducational liberal arts college of some 1570 students and 165 faculty located in the Connecticut River Valley of western Massachusetts, participates with Hampshire, Mount Holyoke, and Smith Colleges and the University of Massachusetts in the Five-College Consortium. *Amherst College is an Affirmative Action/Equal Opportunity Employer, and encourages women, minorities, and disabled persons to apply.*

RESEARCH SCIENTISTS

Junior, Staff, and Senior Scientists are being recruited at the Rammelkamp Center for Education and Research (RCER). The positions are equivalent to **ASSISTANT, ASSOCIATE and FULL PROFESSOR**. Research at RCER is in molecular medicine with emphasis on structure, function, and regulation of membrane proteins. We seek scientists with research programs in trafficking of membrane proteins, interactions of cytoskeletal and matrix proteins, and/or transcriptional regulation. Applicants for Staff and Senior positions should be independent investigators with a history of extramural funding. Generous start-up funds and an excellent salary and benefits package are available. Send letter of application, curriculum vitae, three recent publications, and three letters of reference to: **Dr. Arthur M. Brown, Vice President, Research, Rammelkamp Center for Education and Research, MetroHealth Medical Center, 2500 MetroHealth Drive, Cleveland, OH 44109-1998.** *MetroHealth is an affiliate of Case Western Reserve University. Candidates must meet all requirements to work within the U.S. Equal Opportunity Employer.*

ASSISTANT PROFESSOR

The University of Alabama at Birmingham (UAB), Department of Obstetrics and Gynecology, is seeking to fill a **FACULTY POSITION**. Candidates must be Board-eligible/certified. The position will provide patient care services in the area of ambulatory primary care gynecology. In addition, this position will be responsible for the training of residents in ambulatory primary care gynecology. Interested persons should apply to: **Harvey L. Ikner, Executive Administrator, Department of Obstetrics and Gynecology, Liberty National Building, Suite 613, 301 South 20th Street, Birmingham, AL 35233.** Application closing date: October 15, 1996. *UAB is an Equal Opportunity Employer.*

NEUROPSYCHOLOGIST STAFF FELLOW

The Clinical Epilepsy Section, Epilepsy Research Branch, Division of Intramural Research NINDS has an opening for a Staff Fellow Neuropsychologist to conduct studies in children and adults with epilepsy, and normal controls. The Fellow will be expected to develop a personal research program consistent with the Section's mission. Previous neuropsychological research in the Section has focused on cortical representation of language and memory, comparison between mapping using imaging techniques and direct cortical stimulation, and the study of functional reorganization due to seizures. PET and fMRI have been emphasized in the Section's work, and will continue to be used extensively in the future, supported by strong NIH functional imaging core facilities. Initial appointment is for two years, with yearly extensions possible up to five years. Stipend, determined by candidate's educational and professional experience, ranges from \$28,000-\$45,336. *NINDS is committed to an affirmative action program that includes steps to improve the representation of minorities, women, and the handicapped in the mainstream of basic and clinical neuroscience research.*

For further information, contact:

William H. Theodore, M.D., Chief,
Clinical Epilepsy Section, Telephone:
301-496-1505, Fax: 301-401-2871,
Email: theodore@alw.nih.gov

Director, Developmental Biology Children's Hospital University of Cincinnati

Applications are invited for the position of Director of Developmental Biology and Albert Sabin Professor of Pediatrics to lead a well-established program in molecular and developmental biology.

Candidates will be expected to direct their own outstanding research program, lead the Division of Developmental Biology (a 10 member Ph.D. faculty with primary focus on the molecular biology of mammalian development), participate in a well-established graduate program in developmental biology, and interact with research activities in developmental sciences at the Children's Hospital Research Foundation and the University of Cincinnati College of Medicine. Candidates will have an M.D. and/or Ph.D. degree and an internationally recognized program in developmental molecular biology. Outstanding support facilities are available for the Director and the program.

Send a letter of interest and curriculum vitae to **Jeffrey A. Whitsett, Associate Chair of Pediatrics, c/o Search Committee, Children's Hospital Medical Center, Division of Pulmonary Biology, 3333 Burnet Avenue, Cincinnati, OH 45229-3039. Children's Hospital Medical Center is an Affirmative Action/Equal Opportunity Institution. Women and minorities are encouraged to apply.**



F A I R F I E L D U N I V E R S I T Y



Two positions in BIOLOGY

Positions to start September 1997. Candidates with a Ph.D. and a strong commitment to undergraduate teaching and research are encouraged to apply. Start-up funds are available. Salary and benefits are competitive.

Molecular Developmental Biologist

Search reopened. This position is for an assistant professor (tenure track) or an associate professor.

Teaching responsibilities include lecture/laboratory courses in genetics and developmental biology for biology majors and the development of an upper division elective course. Participation in the introductory biology course, undergraduate research and grant-writing initiatives is expected.

At the associate level, strong record of successful teaching, undergraduate research initiatives, and grant writing required.

Evolutionary Biologist

Assistant professor (tenure track). Molecular biology experience expected. Preferred teaching responsibilities include lecture/laboratory courses in comparative anatomy and the development of upper division elective courses, one of which should be an evolutionary biology course. Participation in the introductory biology course, undergraduate research and grant-writing initiatives is expected.

Fairfield University, the Jesuit University of Southern New England, is located in Fairfield, Connecticut and enjoys a beautiful 200-acre campus in the suburban town of Fairfield within easy access to New York, New Haven and Boston.

Send letter of application, curriculum vitae, statement of teaching goals, statement of research interests and goals (including how you would involve undergraduates), selected reprints and three letters of reference to: Search Committee Chair, Molecular Developmental Biologist Position (or Evolutionary Biologist Position), Biology Department, Fairfield, CT 06430. The deadline for completed applications is November 8th.



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

SMITH COLLEGE DEPARTMENT OF BIOLOGICAL SCIENCES BACTERIOLOGIST

The Smith College Department of Biological Sciences invites applications for a full-time, tenure-track Assistant Professor in bacterial physiology or bacteriology/immunology starting September 1, 1997. We seek a biologist with expertise in bacterial physiology to participate in introductory biology or cell biology and to offer a one-semester lecture and laboratory course in bacteriology at the intermediate level. Ability to teach immunology or pathogenic microbiology is highly desirable. **Professor S. A. Williams.**

MICROBIOLOGIST

The Smith College Department of Biological Sciences invites applications for a full-time, tenure-track Assistant Professor in microbial physiology starting September 1, 1997. We seek a biologist with expertise in eukaryotic microbiology to participate in introductory biology and to offer a one-semester lecture and laboratory course in microbiology or physiology at the intermediate level. Teaching of an advanced course in the applicant's area of specialty will be encouraged. **Professor S. P. Scordilis.** Candidates should have a Ph.D., a commitment to undergraduate teaching, and a strong research program with projects suitable for undergraduates. Preference will be given to persons with significant teaching and/or postdoctoral experience. Located in Western Massachusetts, Smith College is a leader in the education of women and has a large and active Biological Sciences Department. The Five College Consortium, comprised of Smith, Amherst, Mount Holyoke and Hampshire Colleges and the University of Massachusetts, provides a rich intellectual and cultural life for faculty and students, as well as collegial opportunities in teaching and research. A curriculum vitae, statement of teaching philosophy and research interests and experience, and three letters of recommendation should be sent to: **(Professor's Name), Department of Biological Sciences, Clark Science Center, Smith College, Northampton, MA 01063.** Applications should be received by November 15, 1996. *An Affirmative Action/Equal Opportunity Institution. Minorities and women are encouraged to apply.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS in molecular cardiovascular pharmacology available for recent Ph.D. in pharmacology, physiology, or biochemistry. Project related to molecular pharmacology of purine receptors and the involvement of second messenger systems in vascular smooth muscle and endothelial cells. Salary NIH level. Experience in related field preferred. Send curriculum vitae and three letters of recommendation to: **Dr. S. Jamal Mustafa**, Department of Pharmacology, East Carolina University, Greenville, NC 27858. Telephone: 919-816-2736; FAX: 919-816-3203. *Affirmative Action/Equal Employment Opportunity. Accommodates individuals with disabilities. Applicants must comply with the Immigration Reform and Control Act.*

RESEARCH ASSOCIATE/POSTDOCTORAL TRAINEE

A position is available to study the intracellular mechanisms involved in activation and termination intracellular MAP kinase signaling cascades. The requirements include Ph.D. or M.D. degree and a sound background in biochemistry, cell biology, or molecular biology. Interested candidates should send curriculum vitae plus names and telephone numbers of three references to: **Dr. Michael J. Dunn**, Office of the Dean, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226. *Equal Opportunity/Affirmative Action Employer/Minorities/Females/Disabled/Veterans.*

STANFORD UNIVERSITY

POSTDOCTORAL POSITION available immediately to study oxidative stress and muscle cell death in muscular dystrophies. Experience in molecular biology, mammalian cell culture, and free radical biochemistry desirable. Send curriculum vitae, brief summary of doctoral work, a statement of research interests, and three letters of reference to: **Thomas A. Rando, M.D., Ph.D.**, Department of Neurology and Neurological Sciences, Stanford University School of Medicine, Stanford, CA 94305-5235. *Affirmative Action/Equal Opportunity Employer.*

NMR POSTDOCTORAL POSITION

A **POSTDOCTORAL POSITION** is available to study proteins and protein complexes involved in transcriptional regulation and cytotoxicity via heteronuclear NMR. Some experience with protein expression and purification is preferred. Interested applicants should send a curriculum vitae and names of three references to: **Dr. Steven M. Pascal**, Department of Biochemistry and Biophysics, Box BPHYS, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, NY 14642.

The University of Rochester is an Equal Opportunity Employer.

POSTDOCTORAL POSITION

POSTDOCTORAL RESEARCH in protein folding and design. This is a position for a strong computationalist with in-depth knowledge of macromolecular physical chemistry and serious biological interests. Position available immediately.

Send curriculum vitae to: **Professor Charles DeLisi**, Office of the Dean, Laboratory of Molecular Engineering, College of Engineering, Boston University, Boston, MA 02215.

RESEARCH FELLOWSHIP TRAUMA/BURNS

The University of Texas Medical Branch (UTMB)—Galveston has National Institutes of Health and Shriners Burns Institute funded **POSTDOCTORAL RESEARCH FELLOWSHIPS** available for individuals interested in trauma and burn related research. Applicants who have attained an M.D., D.O., Ph.D., or D.V.M. are eligible. Fellowships are for two years.

The UTMB Trauma and Burn Services currently support active investigators with comprehensive laboratories working in the fields of wound healing, metabolism, cardiopulmonary pathophysiology, molecular biology, genetics, and immunology. Graduate programs, including Master's and Ph.D. degrees, are available. Interested parties should contact:

David N. Herndon, M.D., FACS
Chief of Staff

Shriners Burns Institute, Galveston Unit
815 Market Street
Galveston, TX 77550

Telephone: 409-770-6731; FAX: 409-770-6919
Email: dherndon@utmb.edu

POSITIONS OPEN

POSTDOCTORAL POSITION GLYCOPROTEIN ENZYMOLOGY

A **POSTDOCTORAL POSITION** is available in glycoprotein enzymology. Send curriculum vitae and three letters of reference to: **Inder K. Vijay**, Department of Animal Sciences, University of Maryland, College Park, MD 20742 U.S.A. FAX: 301-314-9059; Email: iv1@umail.umd.edu.

RESEARCH ASSOCIATE—Position focusing on identification of genes and proteins involved in implantation and menstruation. Ph.D. and three to five years of relevant postdoctoral research experience required. Send curriculum vitae and three letters of reference to: **Siamak Tabibzadeh, M.D.**, University of South Florida Pathology Department, 12901 Bruce B. Downs Boulevard, Tampa, FL 33612. Applications must be postmarked by deadline date of September 29, 1996. *University of South Florida is an Equal Opportunity/Affirmative Action/Equal Access Institution. For disability accommodations contact Linda Lewis at 813-974-3133, a minimum of five working days in advance. TDD: 813-974-2218.*

POSTDOCTORAL POSITIONS PLANT MOLECULAR VIROLOGY

Three positions are available to study RNA recombination in plant viruses. 1) Investigate cis- and trans-acting factors of homologous recombination. 2) Study the mechanism of nonhomologous recombination. 3) Study recombination between viral and transgene RNAs. Applications must be received by October 15, 1996. Send preference, curriculum vitae, and three references to: **Jozef J. Bujarski**, Northern Illinois University, Plant Molecular Biology Center, Montgomery Hall, DeKalb, IL 60115. *Affirmative Action/Equal Opportunity Employer/Institution.*

POSTDOCTORAL/RESEARCH ASSOCIATE Case Western Reserve University School of Medicine Molecular Cardiovascular Research Center

Molecular biology experience required to participate in studies of adhesion molecules and transcriptional regulation in the developing heart using adenoviral and plasmid vectors. Contact: **Dr. Michiko Watanabe**, Telephone: 216-844-3212; Email: mxw13@po.cwru.edu or **Dr. Steven A. Fisher**, Telephone: 216-368-0488, Department of Pediatrics, Mail Stop 6100, Rainbow Babies and Children's Hospital, 11100 Euclid Avenue, Cleveland, OH 44106.

POSTDOCTORAL PROTEIN CHEMISTRY position available in the Adirondack Mountains in 1996. Requires doctoral degree with experience in electrospray mass spectrometry and liquid chromatography. The successful candidate will gain state-of-the-art experience in protein structural characterization, including purification, identification of posttranslational modifications, sequence and amino acid analysis. Send curriculum vitae and three letters of recommendation to: **Dr. John W. Crabb**, Protein Chemistry Facility, c/o Personnel Manager, W. Alton Jones Cell Science Center, Lake Placid, NY 12946. FAX: 518-523-1849.

POSTDOCTORAL POSITION available to study transcriptional regulation of genes expressed in progenitor cells of the pancreas. Primary interest in regulation of CFTR gene with focus on identification of key transcription factors that regulate expression of the CFTR gene in the ductal cell and during ductal cell differentiation to acinar and endocrine elements. Send curriculum vitae and names and telephone numbers of three references to: **Lucyndia R. Marino, M.D.**, Cystic Fibrosis Center, Case Western Reserve University, Biomedical Research Building, 8th Floor, 2109 Adelbert Road, Cleveland, OH 44106.

POSTDOCTORAL CHEMIST POSITION

A **POSTDOCTORAL** chemist position in the Departments of Pharmacology and Radiology is available. Candidates should have a Ph.D. in either medicinal or synthetic organic chemistry to join a research team to study CNS receptor function. Major emphasis will be using products of molecular biology to characterize new ligands. Experience in synthetic organic chemistry and its application in drug discovery will be helpful. Send résumé to: **Dr. Hank F. Kung**, Room 305, 37000 Market Street, Philadelphia, PA 19104.

POSITIONS OPEN

POSTDOCTORAL POSITION Yale University School of Medicine

A position is available to study two abundant and conserved classes of small RNA-protein complexes in eukaryotic cells, the Ro and LaRNPs. The protein components of these RNPs appear to function in novel aspects of the biogenesis of polymerase III-transcribed RNAs. Candidates should possess a recent Ph.D. degree and have experience in biochemistry, genetics, or molecular biology. Please send curriculum vitae, a brief summary of research experience, and the names of three references to:

Dr. Sandra Wolin
Department of Cell Biology
Yale University School of Medicine
295 Congress Avenue
New Haven, CT 06536

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POSTDOCTORAL POSITION

Available to study radioimmunoconjugates and chemotherapeutics in animal models, tumor physiology and biology of drug resistance, and radiobiology. Additional work in application of immunodetection and immunotherapy to nontumor pathophysiological conditions. Ph.D. with up to three years of experience and knowledge in several of the following areas: immunology, cell biology, hematology, and/or infectious diseases. Starting salary is \$25,000 to \$30,000 with possible future faculty opportunity. Position available after November 1, 1996 in new site in Belleville, New Jersey. Send curriculum vitae and three references to: **Dr. Rosalyn Blumenthal**, Director, Tumor Biology, Center for Molecular Medicine and Immunology, 1 Bruce Street, Newark, NJ 07103. FAX: 201-982-7047. *Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE DEVELOPMENTAL NEUROBIOLOGY

An advanced **POSTDOCTORAL** position is anticipated to be available for three years to study the role of nitric oxide and the NMDA receptor in synaptic development. Applicants should have experience with immunocytochemistry, biochemical assays, calcium imaging, and/or membrane physiology. An academic interest in NO and visual system development is preferred. Salary levels are competitive and the position could convert to a Research Assistant Professorship. Send curriculum vitae and names of three references to: **Dr. R. Ranney Mize**, Department of Anatomy and the Neuroscience Center, LSU Medical Center, 1901 Perdido Street, New Orleans, LA 70112. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE

Anticipated availability of one or two positions in the Laboratory of Molecular Psychiatry to work on cloning and neuropharmacological analysis of imidazoline receptors. Relevant Ph.D., evidence of research productivity, and expertise in molecular biology are required. Unique opportunity for a creative person to contribute to a new field of study, within an outstanding Division of Neurobiological and Behavior Research. Send curriculum vitae and names and addresses of three references to: **J. E. Piletz**, Department of Psychiatry and Pharmacology, Room G128, 2500 North State Street, Jackson, MS 39110. FAX: 601-984-5899. *Equal Opportunity Employer, Minorities/Females/Disabled/Veterans.*

POSTDOCTORAL POSITION. Immediate opening to study role of DNA conformation, chromatin structure, and nuclear architecture in selection of DNA targets by endine anticancer drugs and other radical-mediated genotoxins. Prefer recent Ph.D. experienced in DNA biochemistry and PCR. Send, FAX, or Email curriculum vitae, names of three references, and statement of research experience to: **Prof. Peter Dedon**, Division of Toxicology, 16-336, MIT, Cambridge, MA 02139. FAX: 617-258-8676; Email: pcedon@mit.edu.

POSTDOCTORAL (VISITING) position available immediately for a cell biologist/molecular biologist to study mechanisms of chemical-mediated growth inhibition of breast tumor cells in culture. Experience with estrogen dependent breast tumor lines desirable. Deadline for applications November 1, 1996. Send curriculum vitae and names of two references to: **Dr. Leonard Bjeldanes**, Department of Nutritional Sciences, University of California, Berkeley, CA 94720. Email: lfb@nature.berkeley.edu; FAX: 510-642-0535. *Affirmative Action/Equal Opportunity Employer.*



Tenure-Track Faculty Positions Department of Genetics

The Genetics Department of the University of Pennsylvania School of Medicine is continuing its recent expansion and plans to make appointments in the molecular genetics of both lower and higher eukaryotes, including developmental genetics and human genetics. Attractive new laboratory space and resources are available.

The deadline for applications is February 1, 1997. Applications should include a curriculum vitae and a statement of research interests. In addition, candidates should arrange for three letters of recommendation to be sent to:



Chair, Search Committee
Department of Genetics
School of Medicine
University of Pennsylvania
415 Curie Boulevard
Philadelphia, PA 19104-6145

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Postdoctoral Training in Cell and Molecular Biology of Reproduction

The Center for Biomedical Research of The Population Council offers postdoctoral training in various aspects of reproductive physiology, with emphasis on the male. Fellowships are provided by an NIH-supported training program. Research interests of our training faculty include:

Name	Title/Role	Areas of Research
James F. Catterall	Senior Scientist/Director	Cell-specific hormonal regulation of gene expression; apoptosis in spermatogenesis; immunocontraception
Indrani Bagchi	Staff Scientist	Molecular mechanism of blastocyst implantation
Milan Bagchi	Staff Scientist	Nuclear receptor structure and function; transcriptional regulation
Ching-Ling C. Chen	Scientist	Structure and regulation of testis-specific genes; the pituitary-testicular axis
C. Yan Cheng	Senior Scientist	Biochemistry and physiology of testicular proteins; cell-cell interaction
Glen L. Gunsalus	Senior Scientist	Extracellular steroid binding proteins; mechanism of ligand binding and cellular recognition
Matthew P. Hardy	Staff Scientist	Developmental biology of Leydig cells; stress and Leydig cell function
Patricia L. Morris	Senior Scientist	Sertoli cell-germ cell interaction; JAK-STAT signal transduction; Regulation of Leydig cell function
David M. Phillips	Senior Scientist	Mechanisms of sexual and transplacental transmission of HIV; structure and function of gametes

The Center for Biomedical Research is located on the campus of Rockefeller University and provides excellent facilities for research and an outstanding scientific environment for postdoctoral training. Applicants must be U.S. citizens or permanent residents. Applications from women and minorities are encouraged. Please send curriculum vitae and names and addresses of three references to **The Fellowship Secretary—NIH Training Program, The Population Council, Center for Biomedical Research, 1230 York Avenue, New York, NY 10021 USA**. Please indicate in your cover letter the name of the faculty member(s) of interest.

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Topics of main lectures:

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Immediately forward a letter of application, curriculum vitae, list of
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personal research to:

**Prof. A. Renzoni, Dipartimento Biologia Ambientale, Via delle Cerchia 3,
53100, SIENA, ITALY, Phone: +39-577-298831, Fax: +39-577-298806**

Deadline for application: 31st January 1997

POSITIONS OPEN

POSTDOCTORAL RESEARCH POSITIONS CASE WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE

The Department of Physiology and Biophysics has available several **POSTDOCTORAL TRAINING** positions as part of a training program supported by the National Institutes of Health. The major focus of the program is on cell physiology, biophysics, and metabolism. Training opportunities exist in a very interactive environment in the areas of intracellular signalling, ion transport, molecular biology, protein chemistry, metabolic imaging, neural control, and electrophysiology. Several projects focusing on physiopathology of hypertension, heart disease, and endocrine research are also available. Candidates must be eligible for NIH funding. Send curriculum vitae and the names and addresses of three references to: **Coordinator, Educational Programs, Department of Physiology and Biophysics, Case Western Reserve University, 10900 Euclid Avenue, Cleveland, OH 44106-4970.** Web site: <http://pout.cwru.edu:8080/Default.html>. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION Harvard Medical School Hematopoietic Stem Cell Biology

A **POSTDOCTORAL** or **RESEARCH ASSOCIATE** position is available immediately for Ph.D. or M.D.-Ph.D. to investigate human stem cell biology, isolation from cord blood and bone marrow, functional characterization, adhesion interactions with the micro-environment, and gene therapy applications using novel adeno associated virus (AAV) vectors. Extensive experience in human stem cell biology and molecular biology is required.

FAX or mail curriculum vitae and three letters of reference to: **Dr. Hava Avraham/Dr. Jerome E. Groopman, Harvard Medical School, Division of Hematology/Oncology, Deaconess Hospital, One Deaconess Road, Boston, MA 02215.**

POSTDOCTORAL FELLOW University of Maryland Human Retinal Biology

One or two **POSTDOCTORAL FELLOWSHIPS** are available to study gene expression and function in the human retina. The laboratory is oriented toward defining the normal gene expression patterns of human retinal regions, and determining the molecular causes of acquired and inherited macular degenerations. Molecular techniques (RNA and DNA), as well as western and yeast two-hybrid analysis, are used. Applicants should submit a curriculum vitae and a summary of research interests to: **Dr. Steven L. Bernstein, Department of Ophthalmology, University of Maryland, 22 South Greene Street, Baltimore, MD 21201.** Email: sbernst@umabnet.ab.umd.edu.

POSTDOCTORAL POSITION

A **POSTDOCTORAL POSITION** is open immediately to conduct research in the areas of neurobiology and signal transduction. The appropriate candidate would be involved in the functional characterization of novel tyrosine kinases and novel tyrosine phosphatases in neuronal astrocytic cells. A working knowledge of molecular biology and neuronal cell biology is essential for this project. Analysis of tissue samples for abnormalities in signalling pathways will be facilitated through access to multiple samples available in our tissue bank.

Please send curriculum vitae and three references to: **Shalom Avraham, M.D., Ph.D., Harvard Medical School, Division of Hematology/Oncology, Deaconess Hospital, One Deaconess Road, Boston, MA 02215.** FAX: 617-424-6237.

POSTDOCTORAL POSITION available immediately to study the neural and biomechanical basis of adaptive behavior (see *J. Neurophysiol.*, 75:1309-1326), and to do research in the areas of neuroethology and computational neuroscience (see *Robotics and Autonomous Systems*, 18:59-64, 1996). Experience in neurophysiology and modeling desirable. Strong quantitative skills also essential. Applicants should have a recent Ph.D. in biology, biophysics, biomedical engineering, neuroscience, or a related area, and a strong research record. Send curriculum vitae, brief description of research interests, and telephone numbers of three references, and arrange for letters to be sent to: **Dr. Hillel J. Chiel, Department of Biology, Case Western Reserve University, 2080 Adelbert Road, Cleveland, OH 44106-7080.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS Molecular Biosciences Department Battelle, Pacific Northwest National Laboratory

Immediate opportunities for **POSTDOCTORAL POSITIONS** are available in three areas: 1) molecular biologist to investigate mechanisms of nucleotide excision repair with an emphasis on structure/function relationships, 2) molecular/cellular biologist with training in cellular signaling pathways and interests in tumor promotion, and 3) pharmacologist/toxicologist with experience in xenobiotic metabolism and interests in studying mechanisms of toxicity. Successful candidates will have completed recent Ph.D. studies, have demonstrated solid research capabilities, and have an enthusiasm to work in a collaborative team environment. Salary is competitive and commensurate with experience. Qualified candidates send curriculum vitae and brief statement of research interests to: **Dr. Brian Thrall or Dr. Richard Bull, Molecular Biosciences Department, Battelle, Pacific Northwest Laboratories, Box 999, Mail Stop P7-56, Richland, WA 99352.**

IMMUNOLOGY POSTDOCTORAL FELLOWSHIP POSITIONS

Immediate opening for two full-time **POSTDOCTORAL FELLOWSHIPS** in the Tumor Immunology Section, Surgery Branch, National Cancer Institute, National Institutes of Health, Bethesda, Maryland, to study the immune response to tumor cells in murine models and in humans.

We seek candidates with experience in cellular immunology. Ongoing projects include the study of breaking immune tolerance to tumor-associated differentiation antigens and the development of synthetic and recombinant anti-cancer vaccines.

Send cover letter, curriculum vitae, and statement of research interests to: **Steven A. Rosenberg, M.D., Ph.D., Chief of Surgery, National Cancer Institute, Building 10, Room 2B42, Bethesda, MD 20892-1502.** Telephone: 301-496-4164.

The NIH is an Equal Opportunity/Affirmative Action Employer.

RESEARCH INVESTIGATOR/ POSTDOCTORAL FELLOWSHIP

Position available to work toward the development of a topical formulation to prevent sexually transmitted diseases. Work involves studying basic mechanism of transmission of pathogens, developing *in vitro* and animal models to test candidate compounds, and developing novel antiviral and anti-microbial compounds. Salary depends upon qualifications and experience. Please send up-to-date curriculum vitae and names and addresses of three individuals to whom requests for letters of recommendation can be sent to: **Dr. David Phillips, The Population Council, Center for Biomedical Research, 1230 York Avenue, New York, NY 10021.** An Equal Opportunity/Affirmative Action Employer. Minorities/Females.

POSTDOCTORAL POSITION

Transcriptional control of mammalian cell growth and differentiation; p202 and the gene 200 cluster.

Applicants are invited for exploration of the functions and mechanisms of p202 and other proteins encoded by the gene 200 cluster. Applicants should be proficient in recombinant DNA techniques.

Please send résumé and three references to: **Dr. Peter Lengyel, Yale University, Department of Molecular Biophysics and Biochemistry, School of Medicine, 333 Cedar Street, C-139 SHM, New Haven, CT 06520-8024 U.S.A.**

POSTDOCTORAL POSITION

Available December 1996 for NIH-funded research into the neurobiology of mammalian SCN circadian clock function. Applicants must meet eligibility requirements and have a strong background in neurosciences. Send curriculum vitae and the names and telephone numbers of three references to: **David Glass, Professor, Biological Sciences, Kent State University, Kent, OH 44242.** Email: iglass@kentvm.kent.edu.

POSTDOCTORAL POSITION available immediately to participate in ongoing study of molecular changes in schizophrenic brain. Individuals with knowledge of neuroscience and experience in molecular biological techniques are preferred. Send curriculum vitae to: **Dr. Michael S. Lidow, OCBS Department, Room 5-A-12, University of Maryland at Baltimore, 666 West Baltimore Street, Baltimore, MD 21201-1586.**

POSITIONS OPEN

POSTDOCTORAL POSITION COX LABORATORY FOR BIOMEDICAL ENGINEERING, RICE UNIVERSITY

A position is available in an NIH-funded program on the effects of hemodynamic forces on blood and vascular cells. The project involves research to elucidate the mechanisms of interaction of endothelial cells, smooth muscle cells, and platelets as influenced by fluid mechanical shear stress and cyclic strain. Some of the work focuses on the mechanisms of regulation of the expression of genes in vascular cells that mediate the synthesis of important vasoactive metabolites. The work is accomplished by an established, interdisciplinary research group of engineers, medical scientists, and basic scientists from Rice University and the Baylor College of Medicine. Send curriculum vitae and two references to: **J. David Hellums, A. J. Hartsook Professor, Cox Laboratory for Biomedical Engineering, Rice University, MS 142, Houston, TX 77005.** Telephone: 713-285-5116; FAX: 713-285-5116; Email: jhellums@rice.edu.

Rice University is an Affirmative Action/Equal Opportunity Employer.

Two **POSTDOCTORAL POSITIONS** available immediately to study induction of gene expression and protein production 1) in dermal cells after exposure to chronic solar radiation and 2) in epidermal cells after exposure of specific layers of cells in skin. Approaches include RT-PCR, immunofluorescence, and *in situ* hybridization. Applicants should have relevant background in extracellular matrix or inflammatory mediator cell biology, biochemistry, or molecular biology. Please send curriculum vitae and names of two references to: **Irene E. Kochevar, Ph.D., Wellman Laboratories of Photomedicine, Massachusetts General Hospital, WEL-224, Harvard Medical School, Boston, MA 02114.** Email: kochevar@helix.mgh.harvard.edu. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOW, Glioma Invasion-Phoenix, Arizona. The Barrow Neurological Institute of Mercy Healthcare Arizona has NIH funding available immediately for a Postdoctoral Fellow to study signal transduction pathways used by integrins and growth factor receptors on human glioma cells (see CRISP 1 RO1 NS34437-01A1). Requires a knowledge of cell and molecular biology techniques and immunocytochemistry. Send curriculum vitae and names of three references to: **Michael E. Berens, Ph.D., Neuro-Oncology Laboratory, Barrow Neurological Institute, 350 West Thomas Road, Phoenix, AZ 85013-4496.** FAX: 602-406-7172; Email: mberens@mha.chw.edu. Equal Opportunity Employer.

POSTDOCTORAL POSITION

POSTDOCTORAL POSITION available to study the physiology and pharmacology of baroreceptor and chemoreceptor afferent integration in mammalian CNS using electrophysiological, anatomical, and molecular approaches. Send résumés and names of references to: **Dr. Steve Mifflin, Department of Pharmacology, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284-7764.** Email: mifflin@uthscsa.edu. *University of Texas Health Science Center at San Antonio is an Equal Employment Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION MOLECULAR BIOLOGY WASHINGTON UNIVERSITY

POSTDOCTORAL POSITION to study genetic defects in human autosomal recessive diseases using novel methods for expression cloning. Applicant must have M.D., Ph.D., or equivalent and a strong background in molecular cell biology. Send curriculum vitae and names of three references (with fax numbers) to: **Dr. Daniel S. Ory, Washington University School of Medicine, Box 8086, 660 South Euclid Avenue, St. Louis, MO 63110.** FAX: 314-362-8957.

THE HEISER PROGRAM FOR RESEARCH IN LEPROSY AND TUBERCULOSIS

Beginning **POSTDOCTORAL RESEARCH FELLOWSHIPS** available in amounts up to \$28,000 per year, plus other allowances. Applicants should have M.D., Ph.D., or equivalent degree. Application deadline February 1, 1997, for awards to be activated July through December 1997. For information, write: **The Heiser Program, 450 East 63rd Street, New York, NY 10021.** FAX: 212-688-6794.

POSITIONS OPEN

POSTDOCTORAL POSITION Small Nucleolar RNAs

A position is available to study the role of yeast small nucleolar RNAs (snoRNAs) in ribosome biogenesis. Program aims include defining the functions of snoRNAs required for early pre-rRNA processing events (especially U14 snoRNA), and the mechanism by which snoRNAs provide sequence specificity for ribose methylation of rRNA. Review of applications begins September 9, 1996 and will continue until a suitable candidate is identified. Send résumé, reprints, a description of research experience, and names of three references to: **Dr. Maurille J. Fournier, Department of Biochemistry and Molecular Biology, University of Massachusetts, Amherst, MA 01003. Email: 4nier@biochem.umass.edu.**

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

POSTDOCTORAL or RESEARCH ASSOCIATE. Molecular biology studies of gene and protein regulation in leukemia cell differentiation with a novel differentiation factor. Participation in prostate cancer gene regulation studies. Candidate must have a recent Ph.D. degree with a molecular biology background. Send curriculum vitae and names of three references to: **Professor J. W. Chiao, Department of Medicine, New York Medical College, Valhalla, NY 10595.**

COURSES AND TRAINING

Short Course on Time-Resolved Fluorescence Spectroscopy

The Center for Fluorescence Spectroscopy (CFS), at the University of Maryland School of Medicine, is offering a short course on Principles and Applications of Time-Resolved Fluorescence Spectroscopy in Baltimore, March 24 to 28, 1997. The course will cover basic and advanced topics in fluorometry, including time- and frequency-domain measurements, Förster energy transfer, chemical sensing, imaging, fiber optics, infrared fluorometry, two-photon excitation, instrumentation, and fluorescence microscopy. Textbook, course materials, lunches, and refreshments will be provided. The instructors include Drs. J. R. Lakowicz, I. Gryczynski, and R. B. Thompson. For further information, a schedule, and fees, please contact: Ms. Mary Rosenfeld, Ms. Suzy Rhinehart, or Professor J. R. Lakowicz at the CFS, Department of Biochemistry and Molecular Biology, 108 North Greene Street, Baltimore, MD 21201. Telephone: 410-706-8409; FAX: 410-706-8408; Email: cfs@sg.ab.umd.edu. Deadline for enrollment is February 28, 1997, with later enrollment if space permits.

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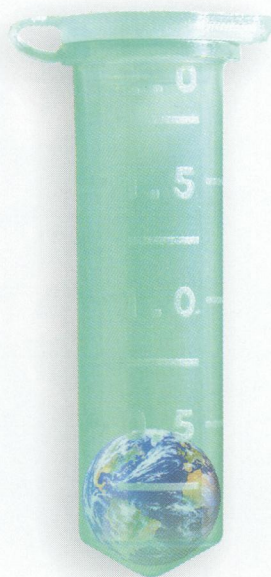
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