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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”

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

The proceedings will be introduced and moderated by:

James Miller, PhD, Frontiers in Biomedical Research
Drew University, Madison, New Jersey 07940

Address inquiries to:
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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.

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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 pharma 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.”

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 nanostructure 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

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

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- Materials Science
- Chemical Engineering

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

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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 program 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 glycochemistry.

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 academically 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."
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Qualifications:
- You should be a toxicologist, DVM or M.Sc. in biology with some years of post graduate education and experience in drug development.
- Experience in regulatory demands and negotiation with regulatory Authorities is highly appreciated.
- It is important, that you are innovative, result oriented, extrovert and flexible with good co-operative ability and have a sense of humour.

If you comply with the abovementioned profile and you are prone for drug development we can offer an interesting, demanding appointment in a creative cross-disciplinary milieu at Novo Nordisk Park, Maaloev, Copenhagen.

Further information can be obtained from
Carl Eistrup. Phone +45 4444 8888, ext. 34521 or direct +45 4443 4521.
Written application should be marked “Toxicologist.7185” and sent to Human Resources, Discovery & Development, Building 9D1.08, Krogshoejvej 55, DK-2880 Bagsvaerd, Denmark.
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 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 A DRUG, WE STILL MUST DEAL WITH DIFFERENT PRESCRIBING HABITS, REGULATORY CLIMATES, COMPETITIVE CONDITIONS, AND MARKET ENVIRONMENTS FROM COUNTRY TO COUNTRY."

—ANNICK SCHWEBIG, BMS
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 licensees 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 Kronor, of which 92 percent are in markets outside Sweden.

ASTRA HÄSSEL
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® (isosorbid-5-mononitrate), Logimax® and Losec® (omeprazole) are drugs developed by Astra Hässle scientists.

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 crystalization, 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.

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.

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.

ASTRA HÄSSEL
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 expertise 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 tackling 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.
Astrais 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.
**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:

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Recruiting Office
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**Applicants elsewhere:**
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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. Mercouwoff, Ens, (33) 01 44 32 31 85, Fax (33) 01 44 32 31 83
 e-mail: wladimir.mercouwoff@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.
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.
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 vitro 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 auctors 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 studies and database management 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 lifestyle 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 biochemical 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:

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FAX (206)521-7872
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Job line: (206) 521-7300

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T A P S P r o g r a m

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 anesthesiologist in the Department, or while concurrently meeting the certification requirements of anesthesiology residency, or any anesthesiology fellowship. Unless candidates have 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 science 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 biochemical 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 training programs in the basic sciences 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 Laborator 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 McNair—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 signaling.

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/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.
Howard Hughes Medical Institute

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 <infell@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

The Howard Hughes Medical Institute, an Equal Opportunity Employer, welcomes applications from all qualified candidates and encourages women and members of minority groups to apply.
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 to dental and medical 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. Basement, 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: www.uthscsa.edu/ depts/csb. The UTHSCSA is an Equal Employment Opportunity/Affirmative Action Employer.

CHAIRPERSON, DEPARTMENT OF BIOLOGICAL SCIENCES
The University of Alabama invites applications and nominations for the position of CHAIRPERSON 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 aspects of 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 graduate 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 programs, and strengthen existing 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 letter of interest, 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. Gray, Chair, Search Committee, Department of Biological Sciences, Box 870344, The University of Alabama, Tuscaloosa, AL 35487-0344. Telephone: 205-348-1019; FAX: 205-348-1786; E-mail: awgray@biology.ua.edu. 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 the position of the College of Science and Technology Dean. For full information see the web site: http://www.sesmo.edu or contact Gerald McDougall, Dean, Harrison College of Business and Chair, Search Committee, One University Plaza, Cape Girardeau, MO 63701. E-mail: Gerald.McDougall@sesmo.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 (NEUOCOM) 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 enzyme systems. The dynamic 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. Applicants 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 the graduate and undergraduate faculty. Send letter of application, accompanied by a curriculum vitae and names of three references, by November 1, 1996 to: John Docherty, Ph.D. Chairperson, Northeast Ohio Universities College of Medicine 4200 State University Drive, Youngstown, OH 44555.

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 are likely to be individuals with strong quantitative and theoretical interests and will be expected to maintain vigorous research programs, obtain extramural funding, and train graduate students, and participate in undergraduate teaching.

To apply, please send curriculum vitae, a statement of research interests, and reprints, and 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. 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/MI/FH/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
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 the administration of the center’s Research and Development programs, including the operation of the Research and Development Committee. Responsibilities include Research Initiatives, Research Program Resources, including non-VA funds; championing investigator opportunities; and assisting investigators in administrative and technical matters. Studies are ongoing in rehabilitation, aging, and biobehavioral research, and public relations are essential. Evidence of extramural funding and teaching experience, preferably at the medical or graduate school level, is 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, 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 on November 15, 1996 and will continue until the position is filled. For more information about our department, visit http://www.medicine.und.nodak.edu/depts/biochem/home.htm.
The University of North Dakota is an Affirmative Action/Equal Opportunity Employer.

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 1, 1997. We are especially interested in candidates 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, and undergraduate research supervision. 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.

MICHIGAN STATE UNIVERSITY

Michigan State University-Department of Energy, Plant and Microbial Biology Faculty Position: 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 sciences are 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 potential for major impact. 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.

Applications should describe 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, 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.

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 research opportunities 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/medbio/gen.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 Academy is seeking a capable herpetologist who applies with primary interests in, and commitment to, collection-oriented research in systematic herpetology who is familiar with and capable of employing both museum and field 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 interests; 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 Chemistry at Western Reserve University School of Medicine. The fields are 1) investigation of nutrient metabolism with stable isotope technology, 2) application of molecular biology to nutrition research, and 3) application of human nutrition research 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.

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 applications 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 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, 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 on November 15, 1996 and will continue until the position is filled. For more information about our department, visit http://www.medicine.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 ASSOCIATE PROFESSOR. Candidates with 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. Successful candidates 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 degree, with research experience, is 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 other individual will focus on developmental and developmental approaches to plant biology, and teach in molecular biology courses. The Division of Biology is a diverse unit, with 13 full-time faculty and 50 graduate students. Applications should be received by November 1, 1996. KSU is an Equal Opportunity/Affirmative Action Employer and encourages diversity among its employees.
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 invertebrate 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.*
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 or TENURED ASSOCIATE or 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 curriculum vitae, a summary of research accomplishments, a description of current and future research interests, and statement of teaching experience and goals to: Professor Phoebe Custodio, Department of Biological Sciences, 8714 Northpoint, Houston, TX 77050-5021 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.

ACADEMIC ASSISTANT/INSTRUCTOR

Direct and develop laboratory/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 $23,000-30,000. M.D. required.

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 or TENURED ASSOCIATE or 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 curriculum vitae, a summary of research accomplishments, a description of current and future research interests, and statement of teaching experience and goals to: Professor Phoebe Custodio, Department of Biological Sciences, 8714 Northpoint, Houston, TX 77050-5021 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.

ACADEMIC ASSISTANT/INSTRUCTOR

Direct and develop laboratory/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 $23,000-30,000. M.D. required.

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 or TENURED ASSOCIATE or 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 curriculum vitae, a summary of research accomplishments, a description of current and future research interests, and statement of teaching experience and goals to: Professor Phoebe Custodio, Department of Biological Sciences, 8714 Northpoint, Houston, TX 77050-5021 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.

ACADEMIC ASSISTANT/INSTRUCTOR

Direct and develop laboratory/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 $23,000-30,000. M.D. required.
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 reference 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

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 vitro 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 benefits package that includes free health club membership, 3 weeks paid vacation, 6 weeks sabbatical after every 5 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 P. San Bruno Blvd., South San Francisco, CA 94080. We value creativity at Genentech, but our scanning equipment does not! Please avoid bold, underlined 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.
Structure: 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. Tamam, Chair, Molecular Physiology and Biophysics Search Committee, Department of Molecular Physiology and Biophysics, 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 engaged in 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 externally 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 include an 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. and postdoctoral experience desirable. For additional information on each position and our department, consult our web page at: http://slage-and.nodak.edu/~dev/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, to Chair, Genetics, and to Cell Structural Biologist Search Committee, Department of Biology, University of North Dakota, Grand Forks, ND 58202-5019; 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, environmental science, and toxicology are encouraged to apply. Training desired in the areas of molecular biology (particularly in marine/aquatic systems), molecular toxicology, and environmental health. Experience 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; 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) 486-1427. 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 CEQs 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

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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

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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, nuclear acid
protein interaction
Dr. David Emerich
Somatic nitrogen fixation
Dr. Milton Feather
Protein glycation and Maillard reaction
Dr. William Folk
Animal cell DNA replication
Plant RNA 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 Randolph
Plant pyruvate dehydrogenases
Plant protein kinases
Dr. John Rogers
Sorting of proteins to plant vacuoles
Dr. Cleophas 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 Sande
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 Weissman
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 Krischmayr, 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 03755-3876.

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 preregister, please submit your resume or CV via fax: (202) 986-6742, or e-mail: bioscience@isun.org. Please remember to bring multiple copies of your CV or resume with you to the Career Fairs, 1 copy will be necessary to register. Admission to the event is free.
Nutritionist
Department of Agriculture (USDA)
Agricultural Research Service (ARS)

Position/Location: The National Program Staff, Agrisearch Products 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 related 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

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/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@stjude.org

St. Jude Children’s Research Hospital is an equal opportunity employer/affirmative action 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.
DIVISION OF BIOLOGY
CALIFORNIA INSTITUTE OF TECHNOLOGY

The California Institute of Technology Biology Division invites applications for one or more TENURE-TRACK ASSOCIATE PROFESSOR positions in the area of immunology. The term of initial appointment is normally four years, and appointment is contingent upon completion of the 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.

Applications 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 recommendation sent to the search committee to coincide with receipt of the application. All materials should be sent to:

Professor P. F. 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), seeks an individual to fill the position of ASSOCIATE/FULL PROFESSOR. 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 in the area of basic physiology to serve as Program Director and Chair of the 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 and with participating research laboratories with faculty in the ACRF, 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 ACRF. Salary negotiable with 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 submitted before November 1, 1996. UAMS is an Equal Opportunity Employer.

ASSISTANT/ASSOCIATE PROFESSOR
DEPARTMENT OF BIOCHEMISTRY
University of Maryland

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 applications from 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, and a strong interest in teaching the full-time 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 S565), University of Illinois College of Medicine, 1819 S. Western Avenue, 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 tenured-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 and one course at the graduate level. The second involves research in Genetics and evolution. Responsibilities will include teaching in the Genetics sequence and the upper-level course in Genetics and evolution. Applications will be accepted until the positions are filled. Please send complete curriculum vitae and two letters of recommendation to: Dr. Peter D. Weigt, for the Genetics position to: Dr. Robert Browne, Department of Biology, P.O. Box 7382, 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 using conventional techniques and genetic and biochemical approaches to solve unique and complex problems. Excellent opportunity to join a growing and dynamic research team.

RESEARCH ASSISTANT PROFESSOR—Fish Ecology and Management. Ph.D. in fish ecology or related field required. Must demonstrate ability to obtain funding; teach; conduct fish population studies; externally funded research; and work with fisheries management agencies and the public. Must also demonstrate the ability to participate at graduate and scientific conferences. Please send curriculum vitae; names, addresses, phone numbers, 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.

Healthcare company, located in Southern California, solicits applications from highly motivated recent Ph.D.'s (preference given to those in medicine or biology) with experience in biomedical research and molecular modeling. Applicants should have a thorough understanding of biologic and molecular principles and their application to disease. Must have experience and interest in molecular modeling to develop novel therapeutic strategies. Innovative mind-set and excellent oral and written communication skills. Experience with computer applications, salaries and benefits package. Cover letter and resume to: S. Maxwell, 520 Washington Boulevard, Suite 420, Marina del Rey, CA 90292. FAX: 310-822-0582; Email: smaxwelgb@aol.com, Equal Opportunity Employer.

ASSISTANT PROFESSOR—Signal Transduction University of Vermont Department of Biology

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 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 courses. 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 interests and should solicit three letters of reference to be sent to: Dr. Judith Van Houten University of Vermont Department of Biology 1204 Marsh Life Sciences Building Burlington, VT 05405-0086

Review of applications 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 plant or plant-animal interactions, beginning July 1, 1997. The candidate is expected to establish an active research program, supervise senior undergraduate research projects, and interact with an active research group with laboratory space 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 post-doctoral experience preferred.

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 1,575 students, is 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 Center for Bioactive Chemicals and Engineering Research (CBER). The positions are equivalent to ASSISTANT, ASSOCIATE and FULL PROFESSOR. Research at CBER is in molecular medicine with emphasis on structure, function, and regulation of membrane proteins. We seek scientist with research programs in trafficking of membrane proteins, interactions of cytoskeletal and matrix proteins, and/or transcriptional regulation of membrane proteins. All positions are 50% lab and 50% field work. Excellent opportunity to join a growing and dynamic research team. The Center for Bioactive Chemicals and Engineering Research 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 obstetrics and gynecology and will have a primary faculty appointment in the UAB School of Medicine. Interested persons should apply to: Harvey L. Iden, Executive Vice-Chairman, Department of Obstetrics and Gynecology, Liberty National Building, Suite 613, 301 20th South Street, Birmingham, AL 35233. Application closing date: October 15, 1996. UAB is an Equal Opportunity Employer.
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: 301-496-1585, Fax: 301-496-2871, Email: theodore@aw.nih.gov

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FAIRFIELD UNIVERSITY

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.

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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.
RESEARCH ASSOCIATE/POSTDOCTORAL TRAINEE

A position is available to study the intracellular mecha-
nisms involved in termination of preterm labor. Salary: NIEF 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, Mail Stop 8264, PO Box 878508, tele-
phone: 919-816-2736; FAX: 919-816-3203. Affirmative
Action/Equal Employment Opportunity. Accommodates indi-
viduals with disabilities. Applicants must comply with the Immi-
gration Reform and Control Act.

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 doc-
toral work, and 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 94305-5285. Affirmative Action/Equal Employment Opportunity.

NMR POSTDOCTORAL POSITION

A POSTDOCTORAL POSITION is available to study proteins and protein complexes involved in tran-
scriptional regulation and cytotoxicity via heteronuclear NMR. Some experience with protein expression and pu-
nification is required. 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 14623. The University of Rochester is an Equal Opportunity Employer.

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 Engi-
neering, College of Engineering, Boston University, Boston, MA 02215.

RESEARCH FELLOWSHIP

TRAUMA/BURN

The University of Texas Medical Branch (UTMB)- Galveston Burn Institute, which is a part of the Texas A&M Health Science Center, will accept applications from highly qualified applicants for POSTDOCTORAL RESEARCH FELLOWSHIPS in trauma and burn research related. Applicants who have attained the Ph.D., D.O., or M.D. degrees are eligible. Fellowship are for two years. The University of Texas Medical Branch and the Burn Institute currently support active investigators working in the fields of wound healing and re- generation, cell biology, and burn disease. Experience in experimental wound healing and/or experience in murine models of burn disease are preferred. Interested applicants should send curriculum vitae and three letters of recommendation to: Dr. David H. Hachmeister, Burn Institute, Galveston, TX 77550. Fax: 409-772-7472. E-mail: dhachmeister@utmb.edu.

POSTDOCTORAL POSITION

GLYCOPROTEIN ENZYMOLYYSIS

A POSTDOCTORAL POSITION is available in the laboratory of Dr. Robert G. Goodwin to study glycopro-
tein endo- and exo-processing and the regulation of glycosylation. Experience in cell culture, protein purifica-
tion, biochemical methods, and microsequencing is required. Send curriculum vitae and three letters of reference to: Dr. Richard J. Aitken, Department of Molecular and Cell Biology, University of California, Berkeley, CA 94720. E-mail: rjaitken@berkeley.edu.

POSTDOCTORAL POSITION

Stem Cell Biology

A position is available in the laboratory of Dr. Robert J. Aitken to study the regulation of glycoprotein endo-
and exo-processing and the regulation of glycosylation. Experience in cell culture, protein purification, bio-
chemical methods, and microsequencing is required. Send curriculum vitae and three letters of reference to: Dr. Richard J. Aitken, Department of Molecular and Cell Biology, University of California, Berkeley, CA 94720. E-mail: rjaitken@berkeley.edu.

POSTDOCTORAL POSITION

Yale University School of Medicine

A postdoctoral position is available in the laboratory of Dr. Stephen J. Tucker to study the regulation of glyco-
protein endo- and exo-processing and the regulation of glycosylation. Experience in cell culture, protein purifica-
tion, biochemical methods, and microsequencing is required. Send curriculum vitae and three letters of reference to: Dr. Robert J. Aitken, Department of Molecular and Cell Biology, University of California, Berkeley, CA 94720. E-mail: rjaitken@berkeley.edu.

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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:

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

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.

CONFERENCE

TIGR Genomic Science Series

IMPACT OF GENOMICS ON IMMUNOLOGY

HYATT REGENCY, HILTON HEAD ISLAND, SC

NOVEMBER 17-20, 1996

PLENARY SESSIONS
Genomics and Immunological Disease, Chemokines, Apoptosis, Signal Transduction, Immune Regulation and Cancer

CONFIRMED SPEAKERS
- Mary Barnette • Joseph Bolen • Carlo Croce
- James Darnell • Vishva Dixit • William Earnshaw
- Igor Egorov • Beverly Emanuel • John Gordon
- Douglas Green • James Ihle • David Kevin • Haodong Li
- Hugh McDevitt • Bernhard Moser • Santa Jeremy Ono
- Barbara Osborne • Larry Rosenwasser • Ruth Sager
- Robert Schleimer • Craig Smith • Ursula Storb
- Jack Strominger • Nancy Thornberry • Ian Tomlinson
- John White • Mark Zoller

CONFERENCE COCHAIRS
Marty Rosenberg and Gordon Moore, SmithKline Beecham Pharmaceuticals and Beverly Emanuel, Children's Hospital of Philadelphia

FOR INFORMATION:
Please contact the Immunology Conference office: TIGR Science Education Foundation, Inc., 9712 Medical Center Drive, Rockville, MD 20850-3319. 
- 501-385-3515/3509 • 501-385-0229 FAX • immune@tigr.org 
- Please check our Web site (http://www.tigr.org) for complete registration materials and agenda updates.

ANNOUNCEMENT

UNIVERSITA' STUDI, SIENA C.N.R. 
CERTOSA DI PONTIGNANO 
SIENA, ITALY

SUMMER SCHOOL FOR
A MULTIDISCIPLINARY ASSESSMENT OF CONTAMINANTS IN THE ENVIRONMENT AND OF RISKS FOR HUMAN HEALTH
May 4 to 17, 1997

Topics of main lectures:

- DISTRIBUTION, LEVELS AND FATE OF CONTAMINANTS; COMPARATIVE ASPECTS OF METABOLISM AND TOXICITY; BIOMARKERS OF ENVIRONMENTAL CONTAMINATION; DAMAGE TO BIOLOGICAL STRUCTURES; RISKS FOR HUMAN HEALTH

Free food and lodging provided for 15 Italian and 15 foreign students. A few fellowships may be available to cover part of the travel expenses for students coming from Less Developed Countries. 

Degree in Medicine or Biology is required. Degrees in related fields will also be considered. 

Official language: English.

Immediately forward a letter of application, curriculum vitae, list of publications, letter(s) of recommendation and a brief abstract of your personal research to:

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

Deadline for application: 31st January 1997
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 variety of interactive areas in the fields of intracellular signaling, ion transport, molecular biology, protein chemistry, metabolic imaging, neural control, and electrophysiology. Several projects focused on the immunology of hypertension, heart disease, and endocrine research are also available. Candidates must be eligible for NIH funding. Send curriculum vitae and addresses of references to: Coordinator, Educational Programs, Department of Physiology and Biophysics, Case Western Reserve University, 10900 Euclid Avenue, Cleveland, OH 44106-7200. http://www.case.edu/PS/POSTDOCTORAL/Postdoc8080/Default.html. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP POSITIONS

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 with addresses of three references to: Dr. Steven L. Bernstein, Department of Ophthalmology, University of Maryland, 22 South Greene Street, Baltimore, MD 21201. Email: sbernst@umabnet.abumed.edu.

POSTDOCTORAL POSITION

A POSTDOCTORAL POSITION is open immediately to conduct research in the areas of molecular and signal transduction. The appropriate candidate would be involved in the functional characterization of novel tyrosine kinases and novel tyrosine phosphatases in neuronal astrocyte and microglial cells. Knowledge of molecular biology and neuronal cell biology is essential for this project. Analysis of tissue samples for abnormalities in signaling pathways will be facilitated through access to multiple sample available tissue banks. 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.

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POSTDOCTORAL FELLOWSHIP POSITIONS

Immediate openings for two full-time POSTDOCTORAL FELLOWS 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 human patients. We seek candidates with experience in cellular immunology. Ongoing projects include the study of breaking immune tolerance to tumor cells by solid tumor antigens and the development of synthetic and recombinant anti-cancer vaccines. Send cover letter, curriculum vitae, and statement of research experience 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

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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 with addresses of three references to: Dr. Steven L. Bernstein, Department of Ophthalmology, University of Maryland, 22 South Greene Street, Baltimore, MD 21201. Email: sbernst@umabnet.abumed.edu.

POSTDOCTORAL POSITION

A POSTDOCTORAL POSITION is open immediately to conduct research in the areas of molecular and signal transduction. The appropriate candidate would be involved in the functional characterization of novel tyrosine kinases and novel tyrosine phosphatases in neuronal astrocyte and microglial cells. Knowledge of molecular biology and neuronal cell biology is essential for this project. Analysis of tissue samples for abnormalities in signaling pathways will be facilitated through access to multiple sample available tissue banks. 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.

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Small Nucleolar RNAs

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

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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 fluorimetry, including time- and frequency-domain measurements, laser energy transfer, chemical sensing, imaging, fiber optics, infrared fluorimetry, two-photon excitation, instrumentation, and fluorescence microscopy. Transport, 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: 410-766-8409; Fax: 410-766-8408; Email: cfs@sg.ab.umd.edu. Deadline for enrollment is February 28, 1997, with later enrollment if space permits.

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