An environment whose parameters are shaped by the extraordinary is essential for the challenge of modern science. Success in research and development requires the most sophisticated technology available and a culturally diverse atmosphere that encourages teamwork and fosters the personal and professional development of its scientists. The integration of these influences creates a workplace that is spirited, supportive and focused on finding solutions to global health problems.

This is the environment of SmithKline Beecham. Our history has been marked by pioneer discoveries and commercial success in each of our business sectors. In Pharmaceutical Research and Development, these include the phenothiazine tranquilizers, semisynthetic penicillins and the H2-receptor antagonists for gastrointestinal diseases. Our Animal Health sector discoveries include the world’s first anti-cancer vaccine for the prevention of feline leukemia, and the first full spectrum benximidazole anthelmintic for the control of internal parasites in ruminants. And, our Consumer Healthcare sector is improving its strong portfolio of innovative developments by transitioning several products from prescription to over-the-counter drugs.

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Futures in Academic and Industrial Science for BS & MS Scientists
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BS and MS scientists face a wide menu of career choices.

On that menu one can find the biotech and pharmaceutical industries; college and university degree programs; contract research organizations (CRO's); private and nonprofit research institutions; temporary employment agencies; and government science.

Each choice leads to a complex, interactive path, self-guiding, with no two paths exactly alike. Below, a broad range of scientists discuss the paths they have taken and why.

"Critically Important" Scientists. We imagine the scientist as the PhD star with a BS/MS supporting cast. While the PhD is the better-paid and more glamorous degree, the fact remains that most science jobs are held by non-PhD scientists. David W. Robertson, vice president of discovery research at Ligand Pharmaceuticals Inc., La Jolla, California, says, "These scientists are critically important for our industry, both in the conduct of science and in the generation of ideas." More than 20 managers, CEO's, and human resource officers interviewed for this article agreed. Non-PhDs work throughout the corporation, the academy, and government science labs. Some work for a year or two before moving on to medical school or a higher degree: some rise to positions of great responsibility, managing laboratories, publishing papers, and gaining PhD-level respect; some migrate out of the lab and into management, marketing, patent law, and sales.

According to the National Science Board, in 1991 (the latest year available), 337,675 bachelor's degrees and 78,368 master's degrees were awarded in engineering and science. From there, about a third went directly into higher-degree programs. Almost all of the remaining two-thirds got jobs (even in the rough job market of the past five years, science majors have experienced only 2.3 percent unemployment). Many combined work with further education, either taking night courses or working part-time.

Ed Bocko, a biotech consultant, reminds us that in industry "you still see the classic positions for BSs in chemistry and biology: research technicians or research associates doing work in R&D discovery. That's still a strong market. Companies continue to look for degrees from schools with more advanced programs, schools that teach the latest techniques. They're looking for people who can bring with them newer technologies." While research job numbers have held steady or declined slightly in the past two years, manufacturing and production employment is growing. "In process development," Bocko says, "there's a continuing market for the BS in chemical engineering and biochemistry." Growing most quickly of all is the service side—product development, marketing, and sales.

Salaries. According to the National Science Board, most scientists work in industry, although the largest single employer is still the U.S. government. Industry pays the best, followed by government, nonprofits, and academia. PhDs earn by far the highest median salaries, averaging about $60,700 for all sectors. Beginning salary offers to non-PhDs, excluding benefits, vary according to field. In 1993, BS biologists averaged a starting salary of $21,558, compared to a salary of $28,002 for chemists and between $30,000 and $38,000 for engineers. MS salaries "average $4,000 to $8,000 more than the BS level," according to Bocko. Prior experience counts. Non-PhD scientists with outstanding laboratory experience can expect to start higher. As one manager told us, "If a BS comes in with MS-level experience and skills, I'll feel fine about starting him or her at an MS level—and so on."

In academic, governmental, or nonprofit science, scientists are more likely to work in jobs closely related to their degree. In industry, however, flexibility is the watchword. "If you're willing to explore other routes, other parts of the company," says one human resources manager, "there's no telling where you could end up. Use your science training to learn a management role, and then the ceilings disappear."

Romancing the Genome at Merck

It's not every day you get to create a new department in a new scientific area.

Such was the opportunity that befell Keith Elliston (BA, environmental studies and biology; MA, genetics), associate director of bioinformatics at Merck Research Laboratories (MRL). Personal history played a role. Elliston was en route (he thought) to a PhD in genetics when he began to consult for Merck, teaching DNA sequencing. When the PhD took a hiatus, Elliston accepted a position with Merck. Enter world history: the Human Genome Project. Merck was already an industry leader in computational analysis of biologic data. Microbiologist Richard Goldberg put together Elliston, sequencing, the Genome Project, and computers.

The result was what Elliston calls "one of the first mature computational molecular biology programs in the country." In the fall of 1993, Merck made it official: the department of bioinformatics—the process of collecting, analyzing, and storing worldwide information relating to the Human Genome Project. That includes tracking, classifying, and storing each discovery until a great mind sees its application. At that point, bioinformatics gives way to genomics, the science of relating human genome information to the treatment of human
Picture a boy of six. A boy whose life takes on dramatic improvement. A boy whose diabetes is now easily managed through an oral drug taken only once a day. Now picture someone else. Imagine a life that's been extended. Or saved. Or a life that, thanks to new medication, no longer includes chronic pain or the need for invasive surgery.

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Elliston's job is to keep different project teams abreast of genomic information of interest. "They then determine how the information fits," Elliston says. "For example, I kept our interleukin-1-converting-enzyme cloning group informed about which aspects had been characterized and which hadn't."

"My experience here has been very positive," says Deborah Deleo-Jones (BS, biology with a chemistry minor; MS, genetics), senior research fellow in the cancer biology section of MRL. "I probably have been given more responsibility here than I ever would have been given in academic science, where you need a PhD. I've been exceptionally lucky in the labs I landed in and when." Those labs included I.B. Weinstein's cancer research laboratory at Columbia University, which she calls "an eye-opening experience," and Edward Scolnick's laboratory at the National Institutes of Health.

Deleo-Jones followed Scolnick to Merck. Her work cloning yeast ras genes was her first breakthrough, and since then, her cancer research has led to a steady series of promotions. Hot fields in her department include ras gene research, growth factor signal transduction pathways, growth factor receptor inhibition, and cell cycle regulation. Still, she doesn't recommend the route she has taken. "If you want to reach the very top in research, go for the PhD. I've been lucky. My experience in the lab is what has stood me in best stead. Hands-on laboratory time is the most valuable thing a beginning scientist can acquire."

Like many companies, MRL has instituted a two-tier promotion system so that non-PhD scientists of distinction do not "take out" but rather move to the PhD track and continue their rise. While non-PhDs usually start at a lower level and take longer to achieve PhD-level goals, it has been done. "Essentially, there need not be a glass ceiling here," says Elliston. "You can find non-PhD scientists all the way up to vice president's level. Good work is recognized here no matter where it comes from."

Susan Jenkins (MS, chemistry), associate director of human resources at MRL, says, "We have many non-PhD people who have discovered leads for many products now on the market." One is Al Alberts, a BS scientist whose staff developed a screening program that identified the activity of lovastatin as an inhibitor of HMG-CoA reductase, a key enzyme in cholesterol synthesis. The result is Mevacor®, one of Merck's most important products.

Jenkins, who spent 15 years at the bench before moving to human resources, thinks that entry-level BS scientists these days are "unbelievably" sharp. "They've gotten the message about lab experience, and they know the job arena is competitive." She gives a familiar recipe for an attractive undergraduate degree. "Start right away looking for a professor, a predoc, or postdoc with whom you can do an independent project—sometimes that can lead to a mention on a publication. Look for summer experience. And stay up on the literature."

Elliston is not only exploring a new science; he's also "about a year away" from completing his PhD. "The thing is to be an independent thinker while working as part of a discovery team. That's the key to good science, at Merck and anywhere else."

Procter & Gamble: Science in Unpredictable Settings

"In clinical development, you're certainly doing science, but you're doing it in the world's most unpredictable model—human beings," says Lisa Allgood (BA, biochemistry; MS, immunocytochemistry), section head of worldwide clinical development, gastrointestinal products, the Procter & Gamble Co., Cincinnati, Ohio.

"You have to have a firm basic scientific understanding of the compound you're testing. You need to know the medical science. And you have to be able to balance what the consumer wants (in terms of aesthetics, ease of use, safety, and efficacy) with FDA guidelines."

With nearly $3 billion in worldwide health care sales, Procter & Gamble makes and markets both prescription and nonprescription products in 60 countries. Leading brands include Macrobid®, a prescription treatment for uncomplicated urinary tract infections; Metamucil® and Pepto-Bismol®, in the OTC gastrointestinal category; the Vicks-NyQuil line of OTC cough/cold products; and the newest OTC pain reliever, Aleve®. The P&G pipeline includes, among other things, products for the treatment of osteoporosis.

Tim Collins, manager of BS/MS technical recruiting, says that "entry-level BS/MS people will most likely start in drug discovery or drug development, working in a lab with a PhD scientist either doing preclinical work or moving a new chemical entity toward the approval process. We also hire BS and MS chemical engineers for manufacturing, process development, and product development assignments." Many BS/MS scientists move into regulatory affairs and into clinical development as clinical research associates (CRA's). Hot fields at P&G include synthetic organic chemistry and biology (with emphasis on in vivo models.
I and everyone. Collins, associate director of synthetic chemistry and drug design, values scientists versed in structural biology, physical chemistry or biochemistry, and protein or oligonucleotide structure determination. Gardner finds that "the skill level of our new people is increasing, and that leads to heightened expectations on both sides." New chemists want more responsibility, and their supervisors are pleased to let them have it. "P&G has an atmosphere that encourages independence," says chemist Mary Lou Baker (BS and MS, chemistry). "I really appreciate that. Within the boundaries of your particular project, they want you to work as much on your own as you can. That has made me a better chemist."

P&G has instituted a technical recognition system whereby outstanding scientists and engineers at all degree levels can advance up the technologist track. "In the old system," Gardner says, "we had just one level—technician—which accommodated everyone from highschool scientists to MS scientists. There wasn't much latitude, and there was a real divider between non-PhDs and the PhD group. Now it's possible for all scientists to reach the very top of the research ladder. Non-PhDs are being promoted to senior scientists and above every year."

Chris Calhoun (BS, chemical engineering), section head of process development in the pharmaceuticals division, initially chose manufacturing management over process development because he had assumed the latter was too lab-bound. While he enjoyed manufacturing, he eventually saw "more technical impact" in process development. "I saw opportunities to learn the fundamentals of making tablets: characterizing materials, selecting and formulating ingredients, not just showing that something works, but also why it works."

Allgood's first job involved setting up a flow cytometry laboratory at a pharmaceutical company. From there she came to Procter & Gamble, where she has risen steadily in five years. Both she and Calhoun stress the interactive, interdepartmental aspect of their jobs. Allgood has a staff of 13, including two MDs and two PhDs. She consults frequently with the regulatory, clinical, and product development groups. Calhoun's group is similarly diverse. "We have industrial pharmacists, chemical engineers, and packaging engineers; we also have various BS and non-BS scientists working as research associates. Plus there's constant interaction with regulatory scientists, analytical chemists, preformulators, and physical chemists."

Allgood, Collins, and Gardner all suggest that the BS candidate get a range of laboratory experience. "Do a different internship each summer," Allgood says. "See as many different kinds of science as you can." Baker says, "If you get a job in industry early on, try to work toward your PhD over time. That way, you're not a starving grad student, and you're getting work experience at the same time." From Baker's joyful independence to Calhoun's pleasure at "being right in the middle of things," the non-PhD scientists at P&G are working toward, in Allgood's words, "the best possible blend of people and science."

Brad Dayton
Senior university relations representative
Hoffmann-La Roche, Nutley, New Jersey

"The BS and MS degrees are very important at Hoffmann-La Roche and throughout the industry. A four-year undergraduate degree, at the very least, is a prerequisite for just about any position in a scientific field today, from research through sales."

**Fields and Skills.** Herbert Weissbach, director, Roche Institute of Molecular Biology, mentions molecular biology, genetics, cell biology, and biochemistry. We therefore need good people with experience in recombinant DNA technology, gene sequencing, genetic manipulations, and a wide variety of laboratory skills. Good preparation includes courses in genetics, cell biology, molecular biology, and biochemistry. We look for crossover, too: chemists who take biology, and biologists with experience in organic and physical chemistry.

**Paydays.** While there's a salary difference between the PhD and non-PhD candidate, the absolute difference, in terms of both salary and advancement opportunity, between an MS and a BS is generally not huge. So our job descriptions typically ask for either a BS- or a PhD-level candidate. But if an MS and a BS are interviewing for the same job, say, in synthetic organic chemistry, the MS may have an edge, because the degree speaks of greater training and experience.

**BS/MS Plateau?** Industrywide, there clearly is a plateau—especially in research. If you want to get to the very top of the research ladder, my advice is to persevere for the PhD—the extra years of work reap definite benefits.
All kinds of people have science in their genes.

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Many words can describe a goal, an achievement, or even an opportunity. But only one word can describe opportunities like these. Genzyme.

DIRECTOR OF PHARMACOLOGY
Build and develop an in vivo pharmacology drug metabolism group at Genzyme. Responsibilities include the development of relevant animal models for targeted inflammatory diseases and assessment of metabolism and pharmacokinetics of drug candidates. Requires a Ph.D., MA, or DVM with 5-10 years of experience in Pharmacology and expertise in the development of animal models for inflammatory diseases. Code LV

SENIOR PROCESS SCIENTIST
A hands-on position to support full scale manufacturing of therapeutic proteins under GMP guidelines. Will assist in implementation of processes from R/D or pilot plant into full scale manufacturing. Duties include validation, start-up, optimization, trouble shooting, and documentation. Will interact extensively with R/D, QA/QC and manufacturing personnel as part of a multifunctional team. Position requires a minimum of a BS in Biological Sciences, Biochemistry or Chemical Engineering. Individual must be experienced in GMP production of therapeutic proteins. Additional skills or experience integrating biomolecular separation techniques into a defined down-stream process is highly desirable. 5+ years' industrial experience necessary. Code LV

DRUG DISCOVERY PROGRAM

• Medicinal Chemists
Genzyme is expanding its recently established Drug Discovery Program and has several positions for highly qualified and motivated synthetic chemists. Candidates must have a BS/MS in Organic Chemistry with 2-4 years' experience. A strong background in synthetic organic chemistry and/or natural products synthesis is essential. Chemists should be able to work as part of an interdisciplinary team with other chemists, pharmacologists, enzymologists, and biologists. Chemists will be expected to carry out the design and synthesis of potent therapeutic agents based on lead molecules. Code PJ

• Assay Development and Drug Screening Research Associate
Develop and implement microplate assays to support the discovery and optimization of novel small molecule drug candidates. This position requires a BS/MS in Chemistry or Biochemistry with a minimum of two years' relevant laboratory experience. The ideal candidate will have experience in high through screening, enzymology, or receptor/ligand studies. Code PJ

• Fermentation Research Associate
This position will support Genzyme's Drug Discovery Program through the production of target proteins in mammalian and insect cell cultures, and the production of natural product leads by microbial fermentation. Requires a BS/MS in Biological Science or Biochemical Engineering and 2-4 years of experience in microbial fermentation and mammalian and/or insect cell culture. Code PJ

RESEARCH SCIENTIST - PHARMACOKINETICS
Play a key role in characterizing the pharmacokinetic and biodistribution of transgenically derived therapeutic proteins. Responsibilities include designing, executing and analyzing pharmacokinetic and biodistribution studies in animals, and writing reports for research, regulatory and publication purposes. The ideal individual will have a Ph.D. in Pharmacokinetics with 0-3 years' industrial experience in a pre-clinical laboratory, and good computer modeling skills. Code SLR

RESEARCH SCIENTIST - CELL CULTURE
Supervise a small R&D group developing mid-scale production processes for the manufacture of recombinant proteins and viruses in mammalian cells for gene therapy Phase I clinical trials. Requires a Ph.D., or equivalent, and experience with anchorage-dependent, suspension and microcarrier based mammalian cell culture systems to the 8 liter scale. Knowledge of GMP essential. Code SLR

RESEARCH SCIENTIST - MOLECULAR BIOLOGY - GENE THERAPY
Opportunities exist within our Molecular Biology group to design and develop gene therapy vectors for Cystic Fibrosis. Current efforts are focused on Adenovirus and Adenovirus-associated virus vectors. Long term vector development based on these and other viruses is a priority. Issues requiring aggressive and imaginative approaches include control of vector gene transcription and protein expression, vector backbone modifications that increase safety, reduction of host response to vector administration, persistence of the vector genome in patients, and novel cell lines for vector production. Close collaboration with Molecular Biology, Animal/Cell Physiology, and Immunology staff is critical. We seek candidates with a Ph.D. or MD degree in Biological Sciences, 2 or 3 years postdoctoral training and experience in molecular virology, molecular biology or cell biology. Code PK

RESEARCH ASSOCIATE - MOLECULAR BIOLOGY
We are seeking research professionals to work on a team developing gene therapy vectors for Cystic Fibrosis. We require a B.A./B.S./M.S. degree and experience in molecular virology, molecular biology, or cell biology. Candidates with experience in animal cell culture will be given preference. Code PK

Please send resumes indicating appropriate code to: Genzyme Corporation, Human Resources, Dept. CC, One Kendall Square, Cambridge, MA 02139. An equal opportunity employer.
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The experiences you gain at the NIH in this program will be valuable wherever your career takes you. Interested candidates should submit a curriculum vitae; bibliography; three letters of recommendation emphasizing your research potential; a statement of your research goals (approximately one page in length) and the type and purpose of training desired; and an official copy of your college transcript to Coordinator of Student Programs, NIH Office of Education.

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Amgen: Holding Science Aloft

It must be nice to be Amgen. In the first quarter of 1994, it posted a 20 percent increase in first quarter earnings per share—not bad in today’s stormy health care environment.

Hsu-Chen started as a research associate. “But my collaborative experiences in the lab convinced me that I was more people-oriented, so when an opening came in human resources, I went for it.” Alberta Chu (BS, general biology), research associate in process development, was studying marine biology at the University of California at San Diego when she took a year abroad in Australia. “That showed me that people were my real focus—and though my job in process development is research-oriented, it’s surprisingly a people job too.”

Giffin’s job, product licensing, involves identifying companies and technologies that “may be synergistic with what Amgen is doing.” The goal: to license especially promising technologies down the line. “We also look for promising molecules at companies that may not want to develop them on their own,” Giffin says. “In those cases, we would assume development and marketing responsibilities.” Such a job calls for a broad knowledge of the industry—and to that end, Giffin has created a database of many biotechnology companies relevant to Amgen’s interests. “I review their research programs, learn all the products in development. I do preliminary reviews on interesting possibilities. I believe that it would be hard to do that without a strong scientific background.”

After working in clinical trials at the oncology ward of the Ohio State Medical School, Dick Preston Bell (BS, microbiology; MBA), research associate in pharmacology, came to Cetus, one of biotech’s first breakthrough companies. “I read about interferon in Omni when it first came out and said, ‘That’s pretty amazing’—and I ended up being one of the people working on it. My boss and I set up a pharmacokinetics lab at Cetus. When he left for Amgen, I followed. Interferon, interleukin-2, many monoclonal antibodies, immunotoxins, and growth factors—about every genetically engineered product that’s been marketed so far—I did the pharmacokinetics. Very exciting, very hard work.” Some here along the line, Bell found the time for an MBA and a sideline in financial services.

At Amgen, Bell combines science, business, and regulatory experience to ensure that the pharmacokinetics department conforms to FDA standards for good laboratory practices (GLPs). “Someone who has actually worked with FDA guidelines, as I have for 11 years, will best know how to meet them in given instances. I do still bench work, especially assay development and spectrometry.”

Giffin recommends that beginning scientists ask themselves some important questions. “For myself, I saw that you could make it in research without a PhD, but you had to be exceptional. I had to ask myself, ‘Is research where your strongest talents lie? Is this where you’re going to be happiest?’” Answering those questions, I realized that I had talents that made me valuable in other roles.”

“Biotech is cutting-edge, and people need to be flexible and adaptable to meet new challenges,” Hsu-Chen says. Amgen offers a wide range of career development programs for those pondering career changes. “If you don’t feel challenged at your current position,” Hsu-Chen says, “we think we’re making a good investment in helping you identify the skills and talents you could use to go in new directions.”

Bell is just beginning to see the full benefit of his BS and MBA: “I’m defining my own career path, creating a niche.” When asked about getting a higher degree, Chu says, “I’m thinking about it,” while Giffin says, “Sometimes an MBA looks interesting—but what’s the benefit? Work is the best school I could find.” Chu is already looking toward a future connecting biotechnology with people: “I think my future lies in educating the public about these breakthroughs in science and how they will change our lives.”

In this people-oriented company, no one should be surprised that Hsu-Chen is tying on an apron for a Friday afternoon chili cook-off, or that Bell plays violin and guitar, has a novel and a book of poems near readiness, and is an accomplished water colorist. “But I’m not the only one,” he says, “Amgen is a place that encourages well-roundedness.”
THE SCRIPPS RESEARCH INSTITUTE:

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The Scripps Research Institute, located on the Pacific coast in La Jolla, California, is the country’s largest private, non-profit biomedical research organization. Its multidisciplinary approach to scientific inquiry has resulted in contributions of international significance, most notably in the basic structure and design of biological molecules. In this arena, the Institute is one of only a handful of the world’s leading centers.

In all areas of research activity — cell biology, chemistry, immunology, molecular biology, molecular and experimental medicine, neurobiology, neuropharmacology, neurosciences, and vascular biology, — the Institute fosters an environment in which the level of scientific investigation is intense, while nurturing close collaborations between disciplines and giving staff members the latitude to perform at the highest levels.

The atmosphere at TSRI is informal and collegial, a place where senior researchers, technicians, postdoctoral fellows and administrative support staff work as a team in the pursuit of scientific excellence. Members of the staff with BS/MS degrees hold positions of responsibility from research technicians to senior laboratory supervisors.

In addition to the more than 2,000 employees at the Institute, including 200 principal investigators and 500 postdoctoral fellows, a program of graduate studies currently houses 100 students enrolled in the doctoral program.

If your desire is to be associated with the highest scientific standards, we would like to tell you more about the career opportunities we offer. To receive further information regarding current opportunities, please write: Dawn Stephens (ref. SCI 894), Department of Human Resources - TPC11, The Scripps Research Institute, 10666 North Torrey Pines Road, La Jolla, CA, 92037; internet stephens@scripps.edu.
The Adrenaline High at Ligand

"This business is very hard work." So says David W. Robertson, vice president of discovery research at Ligand Pharmaceuticals, Inc., La Jolla, California. "Most things don’t work out. Frustration is part of the process. You really have to love it and derive a great deal of satisfaction—a rush, a high—when things succeed. That gives you the adrenaline you will need to persevere when the experiments are not working."

BS and MS scientists are not just the supporting cast at Ligand; they are key players. "We bring them directly into the process," Robertson says. "In fact, we expect that they’ll be contributing to the creative process soon after their arrival.

"Our whole product is information, pure and simple. We’re not in manufacturing, meaning that what we have to offer in return for investment is cutting-edge information that can lead to the creation of novel therapeutics."

Where is that cutting edge? Robertson alludes to antisense technology, now extremely hot throughout the biotech industry. "In terms of hot fields, we’re very excited about apoptosis. Control of the cell cycle is also very hot. Anything you can do to manipulate or interfere with the way the cell regulates its processes, especially programmed cell suicide—which has obvious interest for cancer therapy—is of great interest right now. Another exciting area is ligand-gated transcription factors as a means of modulating gene transmission in a defined manner."

"Not all companies have this commitment to non-PhDs," says Abby Esty, manager of cell science in the research administration department of Ligand. "Where Ligand is good is that if you’re doing PhD-level work, you get a PhD-level position. That keeps a lot of scientists going."

Esty should know. She followed yet another alternative path to a science career, beginning with a BA in mathematics from UC San Diego—and ending up as a core technology expert. After graduation, she worked in the pediatrics department of the UCSD Medical School "because that is where most of the jobs were." After a while, Esty noticed something: "Biology was a lot more interesting to me than math. I don’t think I realized it, but I had started training for a career in science."

Learning techniques in cell and tissue culture and molecular biology, she moved into virology, "cloning genes for just about everything." In the process, her name appeared as co-author on a dozen scientific papers, and she compiled a résumé of PhD-level experience and exposure.

After 12 years at UCSD, Esty heard the call of biotech. "It was the early 1980s, when the scene was just starting to blossom in San Diego, with Hybritech and a lot of start-ups. At Ligand, my experience was valued much more than my degree. I was able to move immediately into a supervisory position, equal to a PhD level right off the bat."

At first, she supervised a small working group that handled cell-related assays in the screening lab. But as Ligand grew, so did the importance of cell culture. "More and more departments came in, with more assays to do—and eventually, I found myself spending 80 percent of my time helping other people set up their experiments. So I went to my supervisor and said, ‘Why don’t we just turn this into my job?’"

By now, Esty is overseeing activities spanning six departments, two buildings, and over 50 people. In addition, she keeps track of the company’s reagent inventory, as well as working with purchasing, facilities, and personnel. "I spend my day dealing with experimental design, in vitro assays, modeling systems, new techniques, new equipment, safety, bringing new cell lines in. My job has expanded into a more companywide management position.

"I don’t see what purpose a PhD would serve right now," Esty says. "Granted, a BS coming in today wouldn’t be able to do what I did just starting out. But if you get experience, anything is possible."

Being Part of the Process at CTI

"Biopharmaceutical" is not a new word, but it has gained new currency as a descriptor for companies besmirching the distinction between traditional pharmaceuticals and biotechnology—companies like Cell Therapeutics Inc. of Seattle, Washington.

"We have many synthetic and analytical chemists working alongside practitioners of the new biology," says Susan Moore, vice president of human resources. "We’re only two years old, but we’re already in the clinic. And we’re always looking for good BS/MS people, in research as well as in clinical and regulatory affairs, quality assurance, and quality control. They really
Lab Support is a new kind of company, on the cutting edge of science. By providing qualified, experienced scientists and lab technicians on temporary assignments, we have risen swiftly; Forbes named us the 58th best small company and we’re Number 22 on Business Week’s Hot Growth list.

Our Account Managers – degreeed scientists themselves – supply skilled scientists to a variety of labs: from small to large, from research to analytical testing. There are over 2,000 science professionals registered throughout our 37 offices waiting to work on short – or long – term assignments. An additional 1400 scientists are working in over 600 laboratories every day. So whether you’re looking for workers or the work, put us to the test ... and DISCOVER THE DIFFERENCE.

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- Laboratory Technicians
- BS/MS Scientists
- Account Managers

Call: 1-800-995-7378
The value of people

Disease has no respect for people. Unleashed, it stalks prey nearly oblivious of racial differences and national borders. Next door or in a country half a world away, people suffer. The challenge of battle with such a formidable foe is enormous, and yet the intrinsic worth of each of us demands that the battle be waged. Without compromise.

This is why we come to work. This is why we do what we do. And this is why we depend on the diverse talents and abilities of all our employees as we search for new and better weapons with which to win the fight. We understand that the variety of backgrounds and experiences of our employees is our richest resource in our quest for innovative products. We believe that from the synergy of these differences will come the means to help alleviate suffering. When each disease is ultimately defeated, accomplished through the concerted efforts of people as varied as those they seek to save.

Eli Lilly and Company

Saving lives through the life sciences

Eli Lilly and Company is a global research-based corporation working to ensure that diseases are prevented, managed, or cured with the maximum benefit and minimum cost to the patient and to society.
DPC is the world's leading independent manufacturer of immunodiagnostic kits. Beginning with the manufacture of isotopic assays (RIA), in recent years DPC has expanded to non-isotopic assays and systems development, most recently the AlaSTAT® Microplate system supported by the MARK 5 Robotic Pipettor, and the fully automated IMMULITE® random access chemiluminescent system.

DPC's product line includes over 300 assays to measure hormones, drugs and other medically important substances present at infinitesimal concentrations in body fluids and tissues. These products provide information vital to the detection and management of thyroid disorders, diabetes, anemia, fertility and infertility, drugs of abuse, allergens, and certain forms of cancer, allowing DPC to successfully compete in major clinical diagnostic areas.

DPC uses molecular biology techniques - including monoclonal antibodies, recombinant DNA and genetic engineering, coupled with well-established expertise - to bring about significant advances in diagnostics. Highly skilled engineers and scientists design and manufacture laboratory instrumentation that provides fast, accurate results and reduces labor and reagent costs - important items to consider in the rapidly changing world of immunodiagnostics.

If you would like to be a part of our prestigious team, and possess a BS, MS or Ph.D. in Chemistry, Biochemistry, Biology or Molecular Biology with relevant industry experience, please send your cover letter and résumé to:

Diagnostic Products Corporation
Human Resources Department
5700 West 96th Street
Los Angeles, CA 90045-5597
Monsanto’s Saflex® brand interlayer — commonly used in car windshields to prevent shattering — protects the enigmatic portrait of the Mona Lisa. That same material was also used in an intricate architectural addition to the Louvre museum itself. And those are just a few examples of how we’ve elevated our science to an art form.

Our researchers have also created one of the best drugs available for treating high blood pressure. Some are developing genetically improved crops — such as insect-resistant cotton. Others at The NutraSweet Company, a Monsanto subsidiary, recently perfected the first all-natural fat substitute.

At Monsanto, there’s a world of opportunity we’re passing on to the best and brightest MBA's. Typical advanced degree entry points at Monsanto — often at the managerial level — include advertising, purchasing, management information, marketing, strategic planning, finance and other business disciplines. These are exciting opportunities to support our work in high-performance chemicals, plastics, coatings and fibers, life-giving pharmaceuticals. Agricultural chemicals and the biotech-based supertechnologies of agrigenetics. You provide the talent and motivation, we’ll provide the tools.

At Monsanto, you’ll hit the ground running. Your assignments will be challenging and meaningful right from the start. You’ll work with management to set goals, determine strategies, and make decisions that directly affect your job. And you’ll be empowered with all the support and responsibilities you need to produce results.

From our $150 million Life Sciences Research Center to a multi-million dollar annual investment in ongoing research, Monsanto is making an enormous commitment to the future. Millions of users and consumers are grateful for our leadership role in hundreds of products and technologies. What will your contribution be?

Please send your résumé to The Agricultural Group, A Unit of Monsanto Company, Department SBS/MS 8.94, 800 North Lindbergh Blvd., Mail Zone C2NB, St. Louis, MO 63167, Attn: V.B. Martinez. An equal opportunity employer, m/f/d/v.
are the backbone, the ones who are helping make things happen.

At smaller, newer companies, starting scientists are likely to be enrolled directly into the entire process of making drugs. James A. Bianco, MD, president and CEO, says, "We want to bring everyone who works here, researchers especially, into the whole process of bringing a new therapeutic entity from discovery to production. Instead of a relay race that goes from group to group, we want to work in parallel, where everyone continually plays a development and a management role."

Hot fields at CTI include genomic research, cell signal transduction, cardiovascular disease, and oncology.

Jody Watkins Rosen (BS, laboratory biology), research associate in cell biology, likes the system. "This philosophy of seeing things all the way through to the clinic is much more apparent here than at other companies. You're never working in a vacuum; you always have your eye on the results of your efforts." Everyone at CTI is constantly encouraged, in Bianco's words, "to become cross-functional in drug development."

Employees represent many diverse backgrounds, and many are exploring new directions for their careers. Rosen, who points out that she "really enjoys doing the science," is looking for her next career move. "I've been interviewing with regulatory, product development, quality analysis, and quality control. I'm getting a feel for where my talents would fit in best."

"Finding a Fit" would be a good title for the early employment story of Allyson Zipp (BA, Japanese and chemistry), quality control analyst. "I found that pure research was a little too esoteric for me, yet when I was working in nonscientific positions—management, retail, teaching—I found I missed the rigor of the science environment. I never really found a place that challenged all of my talents all of the time." She came to CTI—as a temporary employee—to get back into science. After a week spent washing dishes, Zipp moved into the analytical chemistry lab, and in six months she had landed in quality control. Controlling quality involves everything from analytical chemistry to building contracts to FDA guidelines. "I write reports, design protocols, do research, supervise laboratory technicians, and keep in touch with outside contractors and our own clinical, regulatory, and legal departments."

Stephen Faciszewski (BA, chemistry; JD), patent counsel in the CTI legal affairs department, did what he calls "rotgut chemistry" at a small industrial chemical company for six months before moving on to Andersen Consulting, where he learned the arts of management. "It was an atypical path, but it provided me with some great skills and information technologies." Faciszewski got his JD at Georgetown University, partly at night. His job at CTI involves two aims: To define new CTI technologies as precisely as possible and also to procure the broadest possible protection for them under the law. That means working with the inventors of those technologies, learning the science, and understanding the field.

"The BS is just a building block," Moore says. "We're wide open, too young to have set ways of doing things. If you're high-impact, let's put

"We're always looking for good BS/MS people... they are the backbone, the ones who are helping make things happen."

—Susan Moore, CTI

CTI entities at CTI (left to right): James A. Bianco, Allyson Zipp, Jody Watkins Rosen, Stephen Faciszewski, and Susan Moore
PHARMACOPEIA

ABOUT THE COMPANY

PHARMACOPEIA is a dynamic biopharmaceutical company that applies novel encoding to combinatorial synthesis technology producing large, diverse libraries of low molecular weight chemical compounds. The Company's research staff are also designing high-throughput primary screening methods as well as sophisticated functional screens specifically designed for these unique chemical libraries. Via these technologies PHARMACOPEIA will produce a steady stream of new compounds for pharmaceutical and agricultural use. The Company is uniquely positioned to become a leading biopharmaceutical company pioneering the commercialization of this new paradigm for drug and agrochemical discovery.

PHARMACOPEIA is located in Princeton, New Jersey, an area known for its excellent educational and cultural environment. At PHARMACOPEIA we are seeking highly talented, creative and energetic biologists, chemists, analytical chemists, engineers and bioengineers.

**Biologists** should have experience in implementation of high-throughput screens, cloning and expression of biochemically active proteins, or the functional analysis of primary cells and cell lines.

**Chemists** should have a strong background in modern synthetic chemistry and experience with chromatographic and analytical methods including NMR, MS and HPLC.

**Engineers** should have biotechnology or analytical instrument experience. Projects will involve fluidics, microfabrication, optics and image processing.

We are seeking B.S., M.S., and postdoctoral candidates.

Qualified individuals should send a cover letter and resume to:

Human Resources
PHARMACOPEIA, Inc.
201 College Road East
Princeton, NJ 08540

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Opportunities are often available at locations throughout the country for individuals with BS/MS degrees, and typically include:

**Assistant Scientists**
Requires 0-2 years' experience in a microbiology setting, pharmaceutical QA experience and a BA/BS in Microbiology.

**Research Assistants**
Requires a BS/MS in Biology and 0-5 years of experience with a background in pharmacology, cell biology and protein biochemistry. Also requires experience conducting *in vivo* and *in vitro* experiments and the ability to prepare enzymes, and develop and maintain biochemical assays.

**Associate Scientists**
Positions require 0-3 years of lab experience and a BS/BA in Chemistry with the ability to analyze pharmaceutical products and raw materials, assist in developing and improving assay methods, and perform stability studies.

**Regulatory Affairs Associates**
These positions require 2-5 years of regulatory affairs experience and a BS degree in a biological or chemical science. A background in IDE/PMA or IND/NDA/ANDA is preferred.

**Preclinical QA Associates**
You should have 1-3 years' research experience in Pharmaceutical R&D, a working knowledge of GLP regulations, and a BS in the sciences to qualify for these positions.

**Medical Writers**
A minimum of 3-5 years' experience in pharmaceutical R&D, including experience in the preparation and review of clinical documents for regulatory submission, and a BS in the biological sciences are required for these positions.

In addition to an excellent compensation and benefits package, Johnson & Johnson offers a LIVE FOR LIFE Wellness Program with on-site fitness centers, smoke-free workplaces in campus-like settings, and programs that can help you balance your work life with your family life. To apply for these or future opportunities with the Johnson & Johnson family of companies, send your resume suitable for scanning into our state-of-the-art database (i.e., clean/clear, no graphics, and preferably unfolded) to: Dept. 53, Johnson & Johnson Recruiting, Employment Management Center, P.O. Box 16597, New Brunswick, NJ 08906-6597. We are an equal opportunity employer and support diversity in the workplace.
<table>
<thead>
<tr>
<th>Company</th>
<th>Number Enrolled</th>
<th>Degree Field</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td><strong>PHARMACEUTICALS</strong></td>
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<tr>
<td><strong>Abbott Laboratories</strong></td>
<td>~200</td>
<td>Biological and chemical sciences, engineering, computer science</td>
<td>Junior and senior undergraduates; graduate students; strong academic record, communication skills</td>
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<td>Abbott Park, IL</td>
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<tr>
<td><strong>Bristol-Myers Squibb</strong></td>
<td>1) PRI Program: ~65 2) National Pharmaceutical Council: 4-6/year</td>
<td>1) BS through PhD and MD in chemistry, biology, and chemical engineering 2) PharmD candidates, pharmacy students</td>
<td>1) Relevant sequence of courses; lab experience 2) C average; enrollment in US College of Pharmacy</td>
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<td>Princeton, NJ</td>
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<td><strong>Glaxo Research</strong></td>
<td>~170 nondependents of Glaxo employees ~230 dependents ~30 co-ops</td>
<td>All fields, especially biology, chemistry, pharmacology, accounting, finance</td>
<td>Undergraduates and graduates must be enrolled in school for next year</td>
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<td>Triangle, NC</td>
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<td><strong>Hoffman-La Roche</strong></td>
<td>~70 internships; some co-ops for chemical engineering, computer science</td>
<td>Biology and chemistry, pharmacology, chemical engineering, computer science, business</td>
<td>Two or fewer years away from degree; 3.0 GPA or better; computer literacy; strong communication skills</td>
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<td>Nutley, NJ</td>
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<td><strong>Merck</strong></td>
<td>100 for 1994; number fluctuates with need</td>
<td>Biology, biochemistry, chemistry, molecular biology, biomedical engineering,</td>
<td>Completion of junior year or enrollment in master’s program toward PhD; good academic record, lab experience</td>
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<td>White House Station, NJ</td>
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<td><strong>Pfizer</strong></td>
<td>~40, through several programs ~10 co-ops</td>
<td>Biology, medicinal chemistry, pharmacology</td>
<td>Co-ops: BS candidates only w/2 years undergraduate experience; organic chemistry for chemistry co-op</td>
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<td>Groton, CT</td>
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<td><strong>Procter &amp; Gamble</strong></td>
<td>1) Future PhD chemists and life scientists: 30 2) Future chemical engineers: 70-100 3) Research associates: ~10</td>
<td>Chemical and biological sciences, chemical engineering</td>
<td>(1) May-June graduates planning on graduate school 2) Good GPA, recommendations 3) Can be first-, second-, third-year undergraduates</td>
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<td>Cincinnati, OH</td>
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<td><strong>Schering-Plough</strong></td>
<td>~28 for 1994</td>
<td>Biology, chemistry, engineering, biotechnology, toxicology</td>
<td>Sophomores and juniors studying sciences; strong GPA; lab experience</td>
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<td>Kenilworth, NJ</td>
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<tr>
<td><strong>SmithKline Beecham</strong></td>
<td>50 internships 130 co-ops</td>
<td>Biology, chemistry, biochemistry, pharmacology, computer science, environmental science, business, and chemical engineering</td>
<td>Juniors, seniors, graduate students, MD candidates; 3.0 GPA; Applicants for co-ops must certify that school will give course credit</td>
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<td>King of Prussia, PA</td>
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<td><strong>Amgen</strong></td>
<td>90 internships (~20 in business/finance)</td>
<td>Biology, biochemistry, and related science majors</td>
<td>Juniors and seniors majoring in relevant sciences; prior research experience desirable</td>
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<td>Thousand Oaks, CA</td>
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<tr>
<td><strong>Biogen</strong></td>
<td>45</td>
<td>Biology, microbiology, biochemistry, molecular biology, chemical engineering</td>
<td>All undergraduates and graduates; lab skills desirable; 3.0 GPA or better for microbiology majors</td>
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<td>Cambridge, MA</td>
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<tr>
<td><strong>Chiron Corp.</strong></td>
<td>~20</td>
<td>Molecular biology, biochemistry, chemical engineering</td>
<td>Undergraduates with some lab experience</td>
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<td>Emeryville, CA</td>
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<tr>
<td><strong>Genentech</strong></td>
<td>~90 internships 1-2 co-ops ad hoc</td>
<td>Life sciences, biology, biochemistry, chemical engineering, computer science, business</td>
<td>Sophomore year or more and enrolled for coming fall; master’s candidates also accepted</td>
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<tr>
<td>South San Francisco, CA</td>
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<tr>
<td><strong>Genetics Institute</strong></td>
<td>31 interns (19-20 life-science; opportunity to return)</td>
<td>Biology, biochemistry, molecular biology, chemistry</td>
<td>Juniors, seniors; previous lab/intern/research experience desirable</td>
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<tr>
<td>Cambridge, MA</td>
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<tr>
<td><strong>Immunex</strong></td>
<td>20-30 co-ops</td>
<td>Biology, molecular biology, cell biology, chemistry, biochemistry, bioengineering</td>
<td>Undergraduates majoring in science; previous lab experience desirable</td>
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</table>
The Academic Option

No two graduate programs are alike. Each reflects the personality of its directors and student populations.

Each of the five programs mentioned here—Baylor, UCLA, Scripps, the New York University graduate programs in science and medicine, and the Indiana University program in genetic counseling—imagines the student and the science market differently. Before applying, therefore, research graduate programs thoroughly. Ask your professors for advice. Learn programs’ strengths, what labs are doing what work where. And, most of all, decide what you want.

ACCESS to Excellence

For David Meyer, professor of biological chemistry and director of ACCESS, the UCLA graduate program in molecular and cellular life sciences, the idea is “to train independent researchers—that’s what both academia and industry are looking for.”

In years past, biology graduate programs had tended to be “very traditional, ending up ultimately in academia.” But as academia and industry have increasingly collaborated, the aperture has widened, leading to a remarkably flexible graduate program.

ACCESS pools 170 faculty members from 11 departments at UCLA, making them available to students for lab rotations. Incoming graduate students must do three rotations in their first year. They can put off their decision on an area of specialization for a year, at the end of which they choose a mentor and join his or her department.

“What most grad students are looking for is variety: lots of interdisciplinary things going on,” says Steve Finkel, senior graduate student in the department of biological chemistry. “The collegiality and interaction among the faculty at UCLA sealed my choice of graduate school. Since then, my treatment has been very liberal. I’ve been allowed to choose my general area of research, and I’m allowed to pursue my own interests within it. I’ve always felt a great deal of freedom.”

Such freedom counts. “That’s something we treasure as academicians and try to give our students,” Meyer says, “something that might not be there in industry.”
THINKING ABOUT CULTURES has resulted in some fascinating breakthroughs at Merck Research Laboratories.

In this case, it started with a soil culture from Japan. Utilizing sophisticated analysis techniques, Merck scientists discovered, then modified their samples to finally develop ivermectin. This remarkable molecule prevents the leading cause of blindness in Third World countries. It is also the basis for products that have contributed to health in a wide variety of animals.

Science like this can only be the result of the unique contributions of highly-talented scientists working together in an environment that promotes creativity, innovation, and teamwork. If you'd like to be part of this environment, please send your resume to: Merck Research Labs, P.O. Box 200, RY80-A3, Ad#155, Rahway, NJ 07065; or to Merck Research Labs, P.O. Box 4, WP42-2, Ad# A-14, West Point, PA 19486.

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An equal opportunity/affirmative action employer.
Consider an exciting career with a leading health care company committed to world-class research and product development. We have a significant number of openings for motivated professionals to join our growing pharmaceutical research teams in our Cincinnati, Ohio, and Norwich, New York, technical centers.

Procter & Gamble Pharmaceuticals is the ethical drug division of a world leader in the research, development, manufacture and marketing of a wide variety of health care, beauty care, cosmetics & fragrances, food & beverage, laundry & cleaning and paper products. P&G's annual sales exceed $30 billion and our annual R&D investment is more than $1 billion. In addition to being the leading OTC health care marketing company in the U.S., we have a growing prescription drug business in the anti-infective, arthritis, bone, cardiac, gastrointestinal, oral care and respiratory areas.

We have openings for individuals in the disciplines listed here at the BS, MS and PhD level. Candidates selected would begin their P&G careers at one of several levels in our Technical Career System based on demonstrated potential to contribute to our drug discovery and development projects.

By 1995, we will begin occupying our new $282 million Health Care Research Center, located just north of Cincinnati. Through a major commitment to building our strong health care business, the R&D organizations have established aggressive drug development programs that will provide excellent opportunities for personal and professional growth. P&G offers a competitive salary and benefits package placing us among the top 5% of U.S. firms.

Interested applicants are invited to send a letter of introduction and resume to:

For applicants with doctoral degree:
Procter & Gamble
R & PD Technical Recruiting Dept. PGP3
P.O. Box 398707
Cincinnati, Ohio 45239-8707

For applicants with BS or MS degree:
Procter & Gamble
U.S. Recruiting - R & PD
P.O. Box 599 TN-4 Dept. JSC507
Cincinnati, Ohio 45201-0599

No agency referrals, please. * An Equal Opportunity Employer
As for the academia/industry/government decision, Finkel says, "The true branching off for most grad students here will come not at graduation but after your postdoc. My postdoc will be at the Harvard Medical School, but three or four years down the line, who knows what the job scene will look like?" Huan Phan, senior graduate student in molecular biology, says, "Most students here want to pursue an academic route as far as they can."

Both Phan and Finkel worked as technicians at university laboratories for a year after graduation. "That's pretty common among our group," Phan says. "I'd say 30 to 50 percent of us have done that." Meyer says, "Many of our students coming into ACCESS have worked directly in science before coming here. They have the advantage of hands-on research experience." That makes them very valuable for the labs they join.

"In fact, I'd say that research experience is the most highly valued single aspect of an applicant's background here," says Meyer. "It can outweigh lower GPA and GRE scores. The area may not even matter—if you've helped publish a paper, contributed in some way to scientific thinking, then that is a very strong plus. Computer and math skills are the newest advances and gene discoveries. Since some genetic conditions are rare, only one or two labs in the entire country may do a specific test—we have to keep up on who does what. We also must deal with the various ethical, legal, and social issues surrounding the Human Genome Project.

Most genetic counseling students have a background in biology, chemistry, or psychology, including course work in genetics, organic chemistry, and biochemistry. An applicant needs at least a 3.0 GPA (overall and in science) to be accepted; GRE's are required at most schools. We also look for candidates who demonstrate leadership and interpersonal communication skills and who have had experience in situations such as planned parenthood, crisis intervention, or other peer counseling.

Course work at the Indiana University genetic counseling program involves a one-and-a-half-year clinical rotation, in which students work closely with genetics counselors, MDs, PhDs, and postdoctoral fellows. There is also intensive course work in cytogenetics, population genetics, clinical genetics, molecular genetics, psychosocial theory, counseling techniques, and ethics.

The average starting salary of a new graduate is approximately $34,000 to $35,000; some experienced counselors' salaries may exceed $60,000. Although many counselors are working in either a prenatal or a pediatric setting, more and more counselors are beginning to develop expertise in various subspecialties such as cancer genetics, teratology, or muscular dystrophies. Other counselors work in commercial laboratories or in public health clinics. Regardless of specialty, genetic counseling is a career in which a person is guaranteed to learn something new every day. For more information on the profession of genetic counseling, please write to Bea Leopold, MA, executive director of the National Society of Genetic Counselors, Inc., 233 Canterbury Drive, Wallingford, PA 19086-6617.
Howard Hughes Medical Institute

Fellowships for Biological and Biomedical Sciences

The Howard Hughes Medical Institute announces the 1995 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 and regulation, epidemiology, genetics, immunology, neuroscience, or structural biology. Applicants must not have completed the first year of postbaccalaureate graduate study in biology. *Application deadline: early 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: early January.*

**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.*

**1995 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: infolh@nas.edu

*For Other Programs:*
Howard Hughes Medical Institute  
Office of Grants and Special Programs  
Department AL95  
4000 Jones Bridge Road  
Chevy Chase MD 20815-6789
United States of America  
Telephone: (301) 215-8889  
Fax: (301) 215-8888  
Internet: fellows@hhm.org

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.
Baylor’s strengths lie in aquatic biology, terrestrial ecology, and genetics, fields in which there are fewer opportunities for industrial jobs. “So we’re looking more at the academic track,” Wilkins says. “Our aim is to complete the student’s survey of the science and direct him or her to a research topic that is both interesting and valuable.” Students will be taught a core of research methods and techniques, beyond which they will make up their own programs.

Jeffrey Roberts (BS, biology with concentration in ecology) is halfway through his MS in biology and wants to continue through the PhD. “I’d like to be a research professor at a major university. I am already in contact with the University of Saskatchewan and Boise State University, two places that have very strong ecology programs.” Ecology beat out medical studies in Roberts’s heart. His undergraduate thesis was on the breeding behavior of the Eastern screech owl in response to supplemental feeding. For his master’s thesis, he has switched from owls to pocket gophers to broaden his taxonomic base for further study of the behavioral ecology of vertebrates. His teaching experience (in a comparative chordate anatomy lab and in field ecology) has shown him “new ways to approach problems.”

“In biology,” Wilkins says, “science is growing at such a rapid rate that the undergraduate is fortunate to get just one course in each of the subdisciplines. A BS/BA is not well trained in any one occupation but is poised to go in several directions. A graduate program can at least show the possibilities and make sure that he or she has the experience and the critical equipment to be competitive in the jobs market.”

New York and National: Graduate and Doctoral Programs at NYU

New York University is the largest private university in the United States, with approximately 50,000 students. NYU is both New York and national, both a great tradition and a hot spot of the latest research in medicine and the sciences.

Joel D. Oppenheim is associate dean for graduate studies and director of the Sackler Institute of Graduate Biomedical Sciences, the umbrella organization for all the graduate and doctoral programs for the NYU school of medicine. “Our programs,” he says, “tend to stress research, the importance of basic science, and an academic career course.”

Each year between 30 and 40 students are admitted to doctoral programs in biochemistry, cell biology, environmental biology, microbiology, parasitology, pathology, pharmacology, and physiology. In total, there are about 150 PhD candidates, about 65 MD/PhD students, and 600 medical students. As of the 1995 academic year, entrants will encounter an integrated program, within which they may do rotations within any department in the medical school. Students will usually choose their department after the first year. “Students have made it very clear that this initial flexibility is what they really want,” Oppenheim says.

NYU, whose former students include Jonas Salk and Albert Sabin, remains one of the major sources of future American researchers. Most of our American students—about 75 percent—go on to academic science.” Oppenheim says. Applicants should have a strong undergraduate academic background in the sciences, particularly in biology and chemistry. “The latter is vital today,” Oppenheim says, “because most major research breakthroughs are happening on the molecular level.”

There is no absolute baseline GPA, although “we wouldn’t ordinarily look much below a 3.0.” Indispensable includes mastery of science, exposure to research, and a sense that students know what they’re getting into. NYU is filing the net wider for applicants, from Louisiana to California, Michigan to North Carolina, all genders and races, far exceeding national averages in its enrollments of women (more than 40 percent) and minority students (more than eight percent).

**Future Orientation.** Future-seekers will find what they are looking for at NYU: molecular mechanisms involved in disease; neuroscience and neurobiology; molecular biology in general; AIDS, and cell communications. The newly created Skirball Institute of Biomolecular Medicine is devoted to advances in molecular medicine. NYU is bringing in 40 new full-time faculty members and a total of 250 additional scientists, swelling the graduate faculty by 25 percent. “Their research,” says Oppenheim, “will focus on what we perceive to be the hot fields of the future: molecular mechanisms of pathogenicity, neurobiology, structural biology, and developmental genetics.”

AIDS research is a major focus. Designated by the NIH as a major center of AIDS research, NYU not only administers Bellevue Hospital, which has one of the largest AIDS populations in the United States, but also is home to the Aaron Diamond AIDS Research Center.

The **NYU MD.** NYU has a long history of producing academic MDs who teach and do research at medical schools. “We’re much more of a specialty-oriented medical school in every major field in medicine,” says Oppenheim. “Lately, like other places, we’re directing students more toward primary care, but our main concern is to produce specialists with a strong grounding in basic science.” Seventy percent of NYU medical students do research before graduating. Most go on to competitive residency programs at major universities, where research experience is almost a prerequisite. A federally funded honors program guarantees students summer research opportunities. Large lectures have given way to smaller team-taught discussion groups that focus on problem solving with both clinical and basic research applications.

MD/PhDs are a true elite. Out of 200 applicants, only about 15 are chosen each year. Applicants tend to be from larger schools. Stellar grades, excellent MCATs, and extensive undergraduate research experience are required.

“It’s a fascinating, exciting time here,” Oppenheim says. “We’re trying to create an esprit de corps among our students. New York makes that easy: there’s so much cultural diversity, so much going on.” Whether aspiring students to the theater or busing them across town to hear Doctorow or Yeltsin, Oppenheim constantly stresses that “students should not try to isolate themselves from the community around them, but rather allow their graduate experience to engage all their thinking processes.”
To provide students with maximal choice and flexibility in selecting a research specialization, the basic science departments at UCLA offer a combined recruitment, admission and first-year program. This initiative, known as UCLA ACCESS to Programs in the Molecular and Cellular Life Sciences, represents a simple, flexible mechanism for maximizing research choices throughout the first year of graduate study. As part of this program, students are able to select research projects from 150 faculty mentors according to changing perceptions, interests and goals without regard to traditional departmental boundaries. Ethnic, gender and cultural diversity are both a strength and a priority at UCLA and we solicit and encourage applicants who will increase and strengthen our diversity.

All Ph.D. students are fully supported through a variety of sources including the following federally sponsored pre-doctoral training programs:

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Temps

On any given day in the United States, fully 1,635,000 temporary employees of all sorts are at work, according to Bruce Steinberg, spokesman for the National Association of Temporary Services. Although no one has yet determined how many scientists are included in that number, Steinberg says that the technical and medical sectors account for about 18 percent of a payroll that totals $19.3 billion a year. As it has to every other sector of U.S. employment, the word "temporary" has come to science.

Kevin Petersen, marketing manager for Lab Support, a service providing science professionals on temporary assignment, says, "Non-PhD scientists are our business, with close to 75 percent of our employees holding bachelors degrees. The biotech and pharmaceuticals industries provide half our business." Lab Support started out in 1986 emphasizing PhDs, but founders quickly learned that clients wanted the BS in chemistry, biochemistry, or microbiology who had two to four years of lab experience and who could come in for two to three weeks or months and sometimes longer. About 20 percent of Lab Support's scientists stay on permanently with their employers after three to six months on assignment. "That makes sense," says Petersen. If a person is good, why say goodbye? Many of our people have created niches for themselves.

One scientist, whom we'll call Beth (BS, environmental chemistry; MS, environmental science), was working toward a PhD in chemistry and toxicology when her graduate advisor's grant money dried up. Jobs in toxicology were scarce in her area at that time, so she tried Lab Support. Soon she had been hired as a research scientist at Bristol-Myers Squibb.

"I have gotten a chance to get some excellent industrial experience," she says. "Every day here I work full-time with instrumentation. Here I can learn more about GLPs and SOPs—things I had little chance to work with in school. When I look for a permanent job, that will help me." Beth's work involves derivatization and quantitative determination of metabolites.

"In the next one to two years, I need to look for a permanent job. (If this one turns permanent, that would be nice.) Failing that, I'd like to finish my PhD."

The growing use of scientific temps reflects the downsizing in biopharmaceutical companies over the last three years, the changing face of American employment, and changing expectations among scientists. Employers appreciate the lower overhead and lower liability of temporary employees. Using temporary employees also affords flexibility to companies with seasonal or contractual work. And, as Petersen points out, "The traditional 'permanent' job that lasts 30 years at the same company isn't around that much anymore. Because science and industry change so fast, many people are now looking only five to 10 years down the line. True, most of our employees are looking for something stable, but there is a percentage that would prefer for the time being to work on assignment. They like the flexibility and the lifestyle. Many of our people are just out of college or have two to three years of experience and are looking to gain more. Some are unsure of what kind of work they want to do.

This is their chance to experiment with different work situations and different companies.

Some are like Linda Gregory (BS, chemistry), a chemical technician at FMC, Princeton, New Jersey. One of her first jobs was in an organic chemistry laboratory, where she worked with mass spectroscopy, IR, and NMR. "I did purification and made stereoisomers. It was very good basic training. If we wanted to use an instrument, it was there. If we wanted to do a technique, we could."

After a move to New Jersey in 1970, Gregory decided to stay home with the kids. Except for brief stints, there followed 23 years away from science. "When the youngest was old enough, I realized I wanted to ease back into the work force. I liked the idea of a three-year deal— Lima— the chance to get some experience along with the opportunity to update your skills. " Lab Support helped her send out exactly one resume, and, in her words, "Wow!" After three days, Gregory went from part-time to full-time. In six months on the job, she has already been trained on a size exclusion chromatograph, a supercritical fluid extractor, and a nitrogen analyzer. "It's so diversified," she says, "you have to be willing to say, 'Yes I can do that, yes, I can learn.'"

Temporary work is not for everyone. Many temporary services do not offer benefits. "If you need to support a family," Gregory says, "it could be a very insecure, very stressful mode of existence. On the other hand, if you're flexible and have an open mind, temporary employment is a good way to keep diversifying and upgrading your skills. You could work for a year learning mass spectrometry or doing scale-up reactions for pilot plants—a whole spectrum of things. Most people my age would be thinking about retirement—but I can start thinking about starting my career."

"What are Linda Gregory's future plans? "Hard to say," she says, laughing "They keep saying here that I'm not leaving."
they're increasingly very can't and And they'll great to use a biosanalytical, process development, product development, and validation phases to CRO's."

"It is the trend; it's where biotech and pharmaceuticals are going and where they'll continue to go," says Lisa Bailey Radebaugh, clinical operations liaison at Pharmaco LSR, one of the largest CRO's in the world, employing over 1,700 people. "CRO's have sprung up over the past decade out of a need for pharmaceutical companies to outsource their work. We can take their compound all the way from Phase I to FDA submission. We're like a mini-pharmaceutical, except we don't do the discovery research and we don't manufacture."

Carol Breslauer, associate director of clinical development services, says, "When you consider the setbacks of the last two to three years, it makes a lot of sense to contract with companies like us. With all the good people we're hiring—and we've been very impressed with the sharp, excellent BSs we've seen—we can provide quality that matches or exceeds the standards of our most demanding clients." To keep those standards high, Pharmaco LSR has a rigorous in-house training program.

CRA's. Pharmaco LSR hires many BS- and MS-level people to be CRA's and project managers. Radebaugh emphasizes the need for experience in clinical work—either at a pharmaceutical company or another CRO. "If you know your way around the forms and protocols, you have a real advantage over the competition in landing a job. We have nearly 100 CRA's, of whom one-third to one-half have a medical background. The rest are from a varied background: BSs in pharmacy or medical technology; physician's assistants; BSs in biology with clinical experience." Breslauer says, "The BS itself need not be in a clinical field per se. If you have been productive, if you have held positions of responsibility, and if your work has been recognized in awards and good references, we take those things extremely seriously."

Besides a strong science background, CRA's must have extremely good organizational skills. Sixty to seventy percent of the job is travel. "You have to be able to work over the phone in airports," Breslauer says. CRA's ensure that the nurses, MDs, and coordinators at the testing site are following the clinical protocol and complying with FDA requirements. "The trick is to be cohesive yet correct, to build the team while producing solid data for the study," says Radebaugh. Required: the human touch. "You have to be able," says Breslauer, "to question decisions without being threatening and while building rapport." The job pulls on two potentially opposite characteristics—detail orientation (can you read page after page of data, alert for small errors?) and big-picture orientation (can you be warm, engaging, humane, team- and project-oriented?).

Project Managers. Both BS and MS scientists work as project managers; the latter are coveted for their experience and training—and they're hard to find. "Project managers have to be able to
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Pharmaco LSR, solicited expertise from a wide, very diverse group," Breslauer says. They coordinate the investigative team's work with the goals of both the client company and Pharmaco LSR. That includes PhD scientists, administrative assistants, PhD-level regulatory experts, executive directors, and vice presidents. The project manager thus must combine clinical expertise with charm and the ability to think quickly.

"As a rule," Radebaugh says, "a BS can rise higher in our company than at a traditional pharmaceutical firm." Both Radebaugh and Breslauer are good examples. Radebaugh has a BS in health care sciences. "I've thought about an MS," she says, "but in the business end of things, to tell you the truth, it's not so crucial to have the advanced degree. It's the experience that counts." Breslauer, who was sleuthing around in the lab when I was 15, has a BS in medical technology and an MS in public health. "This job is fun, and very diverse. It's not the job—and not the kind of company—for the employee who likes sameness day to day."

Nonprofit Science at Scripps

"I wouldn't want to have a different job," says Bonnie Bradt, senior research associate, department of immunology, at the Scripps Research Institute, La Jolla, California. "I get to do the work, while someone else writes the grant proposals."

After getting her BS in zoology and MS in biology, both at UC Davis—"with a concentration in entomology, if you can believe that"—Bradt followed yet another unconventional route to her present position.

Her lab, under the direction of Neil Cooper, is studying the reaction of the human immune system to the family of herpesvirus, including Epstein-Barr virus, cytomegalovirus, and herpes simplex. "My training seems so long ago—

Bradt is also the continuity person, the memory of her lab. "When our postdocs leave, they take with them the technologies they've developed. I make sure that these techniques are written down thoroughly, and I learn them myself. I've been here for 22 years—that alone makes me the one people come to with questions about equipment and techniques.

Scripps hires about 130 entry-level technicians each year, positions that require a BS or the equivalent. Paula Dean, vice president of human resources, says, "The very best BS or MS can rise as far as the technical head of a laboratory, and they'll publish along with their principal investigator. That takes a long time, but while the number of non-PhDs who have stayed with us to achieve that level are few, they are among our most valuable, most crucial people here.

Scripps, funded primarily through the NIH and other federal agencies, is a haven of the latest basic biomedical research—in immunology, molecular biology, cell biology, chemistry, neurobiology and neuroscience, and vascular biology. What's hot at Scripps is what's hot. Job-seekers with experience in cloning techniques, isolation, hybridization, library screening, PCR, and sequencing—the skill set for the new biologies—are especially highly valued. Immunology labs prize those with experience in antibody production, ELISA, Western blotting, and tissue culture. "We look at lab experience very closely," says Dean. If we have 100 job applications right out of college, we'll screen them first for lab skills and techniques.

Richard McClintock, research assistant in the department of experimental hemostasis and thrombosis, originally wanted to study oceanography at Florida State University. "But the year I entered, they announced they were closing the oceanography department." After taking his BA in chemistry at Florida State, McClintock attended California State University at San Diego, where he did research on HPLC. "My teaching experience was almost as important as my scientific experience," he says, "both in sharpening my own problem solving and in helping me work with postdocs and technicians in the lab."

Before he had finished his degree, McClintock got a job in the peptide biology laboratory at the Salk Institute, where he spent a decade becoming an expert on the use of HPLC in purifying peptides and peptide natural products. McClintock was at the lab that first isolated corticortropin releasing vector, GRF, and somatostatin. When a friend at Scripps asked him if he knew of an HPLC specialist in protein purification, he suggested himself. For five years McClintock has worked in the fields of hemostasis and thrombosis, investigating von Willebrand factor and the biology of blood clotting in Zaverio Ruggieri's lab. "My techniques apply pretty well to this field, so that part was easy. I did have to learn another aspect of science—taking apart a molecule and figuring out what part does what. Also, there is a good deal of E. coli cell cultue work. There has been a fair amount of having to learn while doing."

Such learning has led Bradt to what she calls "a very great deal" of responsibility. "My boss depends on me: I take care of the lab, train new technical people—everything from ordering what the postdocs need to helping people learn how to drive. There's paperwork, meeting deadlines for renewal of animal and human subject protocols, keeping track of the money—in addition to all of the experiments."

When she has time, entomology is still a passionate hobby. "People in the labs just play bring me bugs from their backyards."

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

Advertising Supplement
Careers in Science 1994

Profiting at Scripps:
(Right to left)
Richard McClintock,
Bonnie Bradt,
Paula Dean

McClintock, Bradt, and Dean.
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"Development Of New Refrigerant And Other Substances For Efficient Use Of Energy"

Outline of the Research Work to be Entrusted
Recently, ozone-depleting substances such as CFC have become regulated by international agreement in consideration of global environmental issues. Therefore, the purpose of this project is the research and development of new substances, mainly for refrigerant blowing agents and solvent applications, which have not only low global warming potential and zero ozone depletion potential, but also will contribute to saving energy at the same time.

Procedures for Application
● Qualification Criteria
All companies or research organizations who meet the following qualification criteria may submit an application to participate in the above projects:
1. The applicant must have previous research and development experience in the field covered by or related to the project and possess the organizational structure, human resources and research facilities required to carry out the project work.
2. The applicant must be in sound financial condition and have the ability to manage its finances and facilities as necessary to smoothly carry out the project work.
3. The applicant must be able to comply with NEDO's instructions, if such are necessary, to fully carry out the project work.
4. The applicant must have attended the explanatory meeting held by NEDO as set forth in item below or been represented at the meeting by a responsible agent or representative who is capable of accurately conveying the contents of the meeting in detail.

● Explanatory Meeting
An explanatory meeting will be held on the date shown below in order for NEDO to fully explain the details of the project's research and development work to be entrusted and the application documents to be submitted. All companies or research organizations who are interested in submitting an application to participate in a project are required to attend this meeting or to send an agent or representative to attend on their behalf. Japanese will be the only language used during the meeting.

Date: Thursday, September 8, 1994
Time: 14:00 to 15:00
Place: Syouyu Kaikan 1st Floor
3-1-1, Kasumigaseki, Chiyoda-ku, Tokyo
Tel: 03-3593-3421

● Further Information
For further information regarding the research and development work to be entrusted under the above project, please contact NEDO by telefax as follows: ... New Energy and Industrial Technology Development Organization

Contract Division, Accounting Department
28th Floor, Sunshine 60 Building
1-1, Higashi-ikebukuro 3-chome
Toshima-ku, Tokyo 170 Japan
Telefax: 03-5992-1184
### MOLECULAR IMMUNOLOGIST
The Department of Medical Microbiology, University of Manitoba, invites applications for a tenure-track position at the ASSOCIATE PROFESSOR or ASSISTANT PROFESSOR level, beginning January 1, 1995. Appointment is subject to final budgetary approval.

The successful candidate will hold a Ph.D. and/or M.D. and must have an established independent research program with superb publication record in the area of molecular immunology and immune recognition. Advanced skills in molecular biology and peptide chemistry are expected. Duties include the establishment of an active independently funded research program in the area of microbial virulence and immunopathogenesis, and participation in undergraduate and graduate teaching. Salary will be commensurate with experience and qualifications.

Applicants should send their curriculum vitae and summary of research interests together with the names of three referees to: Dr. R.C. Brunham, Professor and Head, Department of Medical Microbiology, University of Manitoba, Room 543, 730 William Avenue, Winnipeg, Manitoba R3E 0W3, Canada. Informal inquiries may be directed to Dr. Robert Brunham at 204-789-3524 or FAX: 204-783-5255. Closing date for receipt of applications is November 1, 1994.

The University of Manitoba encourages applications from qualified women and men, including members of visible minorities, with disabilities. The University provides a smoke-free work environment, save for specially designated areas. This advertisement is directed to Canadian citizens and permanent residents.

### TENURE-TRACK ASSISTANT/ASSOCIATE PROFESSOR
**MICHIGAN STATE UNIVERSITY**

**CHEMISTRY**

Applications are invited to head a newly funded transgenic core facility in the Physiology Department at Michigan State University at the ASSOCIATE or ASSOCIATE PROFESSOR level. The successful candidate will supervise the construction of transgenic animals, i.e., mice, and oversee staff in the production and maintenance of transgenic lines. Significant experience in the generation of transgenic animals is required. The goal of this facility is to provide transgenic animals for use by investigators both within the Physiology Department and in other units at the University. Successful applicants will be expected to develop a vigorous externally funded research program and participate in departmental teaching programs. Interested individuals should provide a complete curriculum vitae, a brief statement of research interests, experience in construction of transgenic animals, bibliography and copies of key publications or reprints. Applications should be sent to: Chairperson, Transgenic Animal Search Committee, Department of Physiology, Michigan State University, East Lansing, MI 48824-1101. Applications accepted until position is filled.

### DEPARTMENT OF BOTANY UNIVERSITY OF WASHINGTON ASSISTANT PROFESSOR, PLANT SYSTEMATICS
**ASSISTANT PROFESSOR**, Department of Botany, University of Washington. Applications are sought for a tenure-track position in Plant Systematics at the level of ASSISTANT PROFESSOR. Applicants should be committed to excellence in teaching and to an active, externally funded research program. The successful candidate must be qualified to teach undergraduate and graduate courses in plant systematics, develop a rigorous research program in molecular plant systematics/evolution, and curate the herbarium. Teaching load, research support, and time for research and teaching interests, and up to three publications, and arrange to have three letters of recommendation forwarded to: Professor Raleigh W. Hickok, Chair of Search Committee, Department of Botany, KB-15, University of Washington, Seattle, WA 98195. Priority will be given to applications received by November 30, 1994. The University of Washington is building a culturally diverse faculty and strongly encourages applications from women and minority candidates. Affirmative Action/Equal Opportunity Employer.

### DEPARTMENT PLANT BIOLOGY THE UNIVERSITY OF TENNESSEE
The Department of Botany invites applications for a tenure-track ASSISTANT PROFESSORSHIP in development plant biology to begin August 1, 1995. Applicants should have a Ph.D. with postdoctoral experience preferred. A commitment to excellence in research and teaching is required. The successful applicant will be expected to establish a vigorous externally funded research program using modern molecular and, or cellular approaches in the study of plant developmental biology and to supervise graduate students at the M.S. and Ph.D. levels. Candidates will be evaluated on the basis of research accomplishments and teaching effectiveness. Application materials should include curriculum vitae, a statement of research goals/plans, and a statement of teaching interests and philosophy. In addition, three letters of reference should be sent to: Dr. Les Hickok, Developmental Plant Biology Search, Botany Department, University of Tennessee, UTI 84066, Knoxville, TN 37996-1100. Review of applications will begin November 15, 1994. University of Tennessee, Knoxville is an Equal Employment Opportunity/Affirmative Action/Title IX/Section 504/ADA Employer.

### EXPERIMENTAL MYCOLOGIST UNIVERSITY OF GEORGIA
The Department of Botany invites applications for a tenure-track faculty position at the ASSISTANT PROFESSOR level beginning September 1, 1995. The successful candidate will be a strong graduate or postdoctoral training in mycology, a knowledge of fungal diversity, and a demonstrated ability to conduct independent research. The position involves teaching undergraduate and graduate courses, maintaining an active research program, and supervising research students. Salary will be commensurate with experience and qualifications.

Applications should include the following: 1) curriculum vitae; 2) statement of teaching and research interests; 3) three letters of reference from more than three individuals. Applications should be mailed to: Dr. David Porter, Chair of Search Committee, Department of Botany, University of Georgia, Athens, GA 30602. The University of Georgia is an Equal Opportunity/Affirmative Action Employer.

### FISHERIES AND WILDLIFE BIOLOGY UTAH STATE UNIVERSITY
The Utah State University Faculty/Staff Campus has an entry-level position to teach three courses or approximately 15 credit hours per quarter in fisheries and wildlife and natural resource management. Review of applications will begin February 10, 1995 and continue until position is filled. A Ph.D. in Wildlife Biology or related field is required. Applicants should submit a resume, three letters of reference (one from a supervisor), and three of letter of interest to: Wildlife Biology Search Committee, School of Forest, The University of Montana, Missoula, MT 59812.

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

### ASSISTANT PROFESSOR BIOLOGICAL CHEMISTRY/CELLULAR BIOLOGY THE DEPARTMENT OF BIOCHEMISTRY, COLLEGE OF MEDICINE, UNIVERISTY OF CALIFORNIA, IRVINE Invites Applications for a Tenure-Track Faculty Position

The Department of Biological Chemistry, College of Medicine, University of California, Irvine invites applications for a tenure-track appointment at the ASSISTANT PROFESSOR level. The successful applicant will have an established research program in areas of molecular biology and biochemistry and will be expected to teach both undergraduate and graduate courses. The position involves teaching, conducting independent research, and participating in the departmental activities. Salary will be commensurate with experience and qualifications. Applications should include a curriculum vitae, a statement of research interests, and the names and addresses of three references. Applications should be sent to: Dr. Wendy O. F. Goedde, Department of Biological Chemistry, University of California, Irvine, CA 92697.

The University of California is an Equal Opportunity/Affirmative Action Employer.
Call For Papers
Life Sciences & Space Medicine Conference '95

Bringing Space Benefits Down to Earth
Houston, Texas
April 3-5, 1995

Life Sciences & Space Medicine Conference '95, a joint effort of the National Aeronautics and Space Administration/Johnson Space Center (NASA/JSC) and the American Institute of Aeronautics and Astronautics (AIAA), hereby issues an official Call for Scientific and Technical Papers.

Submissions for presentation will be considered on the following topics: Medical Sciences and Systems, Biological Sciences and Systems, Human Factors Engineering, Space Physiology, Extra-Vehicular Activity, Applications of Technology to Life Sciences, and International Cooperation in Life Sciences.

Send your abstract of at least 600 words no later than 19 September 1994 to:
AIAA, The Aerospace Center, Dept. A1
370 L’Enfant Promenade SW, Washington, DC 20024-2518. For more information, call 1-800-615-0190.
ASSOCIATE LECTURER OR LECTURER
Tenured or Tenurable Appointment

Salary: Associate Lecturer $429,117 - $439,495 per annum or Lecturer $441,574 - $449,370 per annum. Level of appointment and commencement salary are dependent on qualifications and experience.

Applications are invited for appointment as Associate Lecturer or Lecturer in the School of Anatomy. The School is responsible for teaching gross anatomy, histology, neuroanatomy and embryology to medical and science students.

It also has an active research program in all these areas with particular strengths in neuroanatomy and developmental neurobiology.

Applicants should have experience in teaching one or more of the above areas, as well as possessing a developed research program with the potential to attract external funding. The minimum qualification is a medical degree or a relevant PhD. A knowledge and understanding of COAA principles is required.

A clinical loading of $413,673 per annum will also be payable to an appointee with medical qualifications registrable in New South Wales.

The position is available from January 1995. Appointment will either be on a tenure or on the basis of a contract with provision for conversion to tenure. A tenurable appointment for an Associate Lecturer, comprises an initial contract period of three years, with the possibility of a further two year contract and provision for conversion to tenure.

Membership of an approved University superannuation scheme is a condition of employment for this position.

Enquiries may be directed to Associate Professor David Tracey on telephone (02) 385 2471, facsimile (02) 313 6252, email D.Tracey@unsw.edu.au.

Applications close 16 September 1994.

PLEASE QUOTE REF 4235CI

APPLICATION PROCEDURE

Written applications systematically addressing the selection criteria QUOTING REFERENCE NUMBER, and a complete résumé should be sent to: The Recruitment Officer, Human Resources, The University of New South Wales, Sydney 2052 Australia by applications close date. Include business and private telephone numbers; (copies of academic transcript and qualifications where appropriate); and the names, addresses, and preferably facsimile numbers of at least two referees. People from EEO groups are encouraged to apply.

Equality of employment opportunity is University policy.
The University is a smoke free work environment.

30056

ENDOWED CHAIR
BASIC CANCER RESEARCH

Tulane University Medical Center seeks an emblem scholar for the Zimmerman Chair in Basic Cancer Research and Associate Director for Basic Research of the Tulane Cancer Center.

Candidates should hold the Ph.D. and/or M.D. with credentials suitable for appointment with tenure at rank of Associate Professor or Professor in a basic science department of Tulane University Medical Center. Candidates should have significant and recognized scientific accomplishments in the molecular biology of cancer and demonstrated administrative ability to develop and focus research programs in cancer biology.

The Cancer Center interacts with Graduate Program in Molecular and Cell Biology, Center for Bioenvironmental Research, Tulane Primate Research Center, School of Medicine, and School of Public Health and Tropical Medicine. Resources include, in addition to an endowed chair, generous research space on a newly-opened cancer research floor, extensive core equipment, and the opportunity to participate in the recruitment of additional basic science faculty. Send letter & CV: Roy S. Weiner, M.D., Director, Tulane Cancer Center, 1430 Tulane Avenue SL-68, New Orleans, LA 70112-2699.

An Affirmative Action / Equal Opportunity Employer

ASSISTANT PROFESSOR
OF GENETICS

Applications are invited for a tenure-track position in the Department of Genetics with primary research and teaching interests in the molecular genetics of eukaryotes. Those with research interests in fungal genetics or molecular genetics approaches to cellular and developmental biology are especially encouraged to apply. The candidate will be expected to develop a strong creative research program and have a commitment to teaching at the undergraduate and graduate levels. The appointment could begin as early as September 1, 1995. Apply before December 5, 1994 by sending a curriculum vitae, list of publications, brief statement of research interests and three letters of reference solicited by the applicant to:

Dr. Robert Ivane
Search Committee
Department of Genetics
University of Georgia
Athens, GA 30602-7223

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

The Department of Genetics at the University of Georgia consists of 14 faculty members, including three members of the National Academy of Sciences. In addition to its vibrant research atmosphere, the department takes pride in the quality of its graduate student training program which is supported, in part, by NIH/NIGMS grant. The selected candidate will be provided start-up funds, equipment and excellent laboratory facilities in a recently completed, state-of-the-art research building. Athens, located 70 miles from Atlanta in the rolling hills of northern Georgia, provides a pleasant college-town, living environment. For additional information, contact Professor Robert Ivane, chairperson of the search committee, at telephone number (706) 542-1424, fax number (706) 542-3910, or e-mail address: ivane@bascr.uga.edu.
Chief, Toxicology and Molecular Biology Research Branch. The National Institute for Occupational Safety and Health (NIOSH) within the Centers for Disease Control and Prevention (CDC), is seeking applications for the Chief of the Toxicology and Molecular Biology Research Branch (TMBRB) within the newly created Health Effects Laboratory Division. The purpose of TMBRB is the development of new, innovative and molecular programs which examine the toxic effects of workplace exposures/agents on human, animal and cellular systems. This includes the leadership of the following specialized areas: toxicology, including immunotoxicology, neurotoxicology, genetic and reproductive toxicology; microbiology, including bacteriology, mycology, parasitology, and virology; cellular and molecular biology; immunology; and animal and human biology.

NIOSH is seeking a leader in the field of occupational safety and health who has the ability to direct a highly technical scientific research program which develops strategies to identify, prevent, ameliorate, and control occupational diseases. This program has national and international effect in that it deals with occupational hazards found in virtually all facets of employment within the United States and abroad. The ability to interact with representatives of other Federal, state and local agencies, labor groups, private industry, foreign occupational health organizations, and academia is required. An MD/Ph.D. is desirable. CDC/NIOSH is an equal opportunity employer and offers a smokefree environment. Please send resumes or requests for additional information regarding this position to the Morgantown Human Resources Office, NIOSH, 1095 Willowdale Road, Morgantown, West Virginia 26505.

Chief, Exposure Assessment Branch. The National Institute for Occupational Safety and Health (NIOSH) within the Centers for Disease Control and Prevention (CDC), is seeking applications for the Chief of the Exposure Assessment Branch (EAB) within the newly created Health Effects Laboratory Division. The purpose of EAB is to develop and establish new and innovative programs which examine the toxic effects of workplace airborne particulates and chemical, physical and biological agents and exposures. This position supervises a group of the following specialized areas: toxicology, microbiology, industrial hygiene, chemistry, etc. This program has national and international effect in that it deals with occupational hazards found in virtually all facets of employment within the United States and abroad.

NIOSH is seeking a leader in the field of occupational safety and health who has the ability to direct a substantial segment of a highly technical scientific research program which develops strategies to identify, prevent, ameliorate, and control occupational diseases. The ability to interact with representatives of other Federal, state and local agencies, labor groups, private industry, foreign occupational health organizations, and academia is required. An MD/Ph.D. is desirable. CDC/NIOSH is an equal opportunity employer and offers a smokefree environment. Please send resumes or requests for additional information regarding this position to the Morgantown Human Resources Office, NIOSH, 1095 Willowdale Road, Morgantown, West Virginia 26505.

Chief, Analytical Support Branch. The National Institute for Occupational Safety and Health (NIOSH) within the Centers for Disease Control and Prevention (CDC), is seeking applications for the Chief of the Analytical Support Branch (ASB) within the newly created Health Effects Laboratory Division. The purpose of ASB is to provide analytical services to all workplace and laboratory studies performed at NIOSH which are used by NIOSH research and service programs in the development of strategies to identify, prevent, and control workplace hazards and occupational disease. The position supervises a state-of-the-art analytical laboratory staffed with a team of professionals of various specialties which provide a wide range of analytical services for NIOSH programs, such as: agriculture; biotechnology; construction; indoor air quality, infectious diseases, etc. NIOSH research and the resulting recommendations, which are predicated in part upon the laboratory analysis conducted by this Branch, directly influence the health and well-being of workers around the country.

NIOSH is seeking a leader in the field of occupational safety and health who has the ability to plan, direct, and execute the analytical activities and services of the Branch and provide overall guidance to a staff of highly qualified research personnel. The ability to interact with representatives of other Federal, state and local agencies, labor groups, private industry, and academia is required. An MD/Ph.D. is desirable. CDC/NIOSH is an equal opportunity employer and offers a smokefree environment. Please send resumes or requests for additional information regarding this position to the Morgantown Human Resources Office, National Institute for Occupational Safety and Health, 1095 Willowdale Road, Morgantown, West Virginia 26505.

Chief, Engineering and Control Technology Branch. The National Institute for Occupational Safety and Health (NIOSH) within the Centers for Disease Control and Prevention (CDC), is seeking applications for the Chief of the Engineering and Control Technology Branch (ECTB) within the newly created Health Effects Laboratory Division. The purpose of ECTB is to develop and establish engineering solutions for the control of occupational disease including the development of personal protective equipment, computerized workplace simulations, mathematical models, industrial fabrication and systems for preventing/minimizing worker exposure to hazardous chemical, biological, and physical agents. The position directs a substantial segment of a highly technical scientific research program which develops strategies to identify, prevent, ameliorate, and control occupational diseases.

NIOSH is seeking for a leader in the field of occupational safety and health who has the ability to plan, direct, and execute the engineering activities and services of the Branch and provide overall guidance and direction for this program to a staff of highly qualified professional personnel. The ability to interact with representatives of other Federal, state and local agencies, labor groups, private industry, foreign occupational health organizations, and academia is required. An MD/Ph.D. is desirable. CDC/NIOSH is an equal opportunity employer and offers a smokefree environment. Please send resumes or requests for additional information regarding this position to the Morgantown Human Resources Office, NIOSH, 1095 Willowdale Road, Morgantown, West Virginia 26505.

Chief, Pathology and Physiology Research Branch. The National Institute for Occupational Safety and Health (NIOSH), within the Centers for Disease Control and Prevention (CDC), is seeking applications for the Chief of the Pathology and Physiology Research Branch (PPRB) within the newly created Health Effects Laboratory Division. The purpose of PPRB is to examine the effects of workplace exposures on human and animal body functions through the use of state-of-the-art research methods and approaches in a focused, applied and preventive multi-faceted laboratory program. The position supervises highly technical scientific research work in such areas as: cellular, molecular, organ and whole body pathobiology; whole body and cellular physiology; cell biology; imaging; microscopy; molecular probes; animal pathology and physiology, histology; cellular and organ structure/function; pharmacology. The work managed and personally performed by this position has substantial public health implications for workers both in the United States and abroad.

NIOSH is seeking for a leader in the field of occupational safety and health who has the ability to plan, direct, and execute the investigative activities and services of the Branch and provide overall guidance to a staff of highly qualified research personnel. The ability to interact with representatives of other Federal, state and local agencies, labor groups, private industry, foreign occupational health organizations, and academia is required. An MD/Ph.D. is desirable. CDC/NIOSH is an equal opportunity employer and offers a smokefree environment. Please send resumes or requests for additional information regarding this position to the Morgantown Human Resources Office, NIOSH, 1095 Willowdale Road, Morgantown, West Virginia, 26505.
ASSISTANT PROFESSOR
DEPARTMENTS OF BIOCHEMISTRY AND HUMAN GENETICS
UNIVERSITY OF LOUISVILLE
SCHOOL OF MEDICINE

Candidates for ASSISTANT PROFESSOR (tenure-track) must hold a Ph.D. or equivalent degree, have at least one year of postdoctoral training, and be highly capable in research and teaching. Individuals working in the areas of polymorphisms in drug-metabolizing or detoxifying enzymes, in DNA repair capacity, in genetic predictive or environmental related diseases, or alterations of oncogenes and/or tumor suppressor genes are especially encouraged to apply. The position is associated with the supported Core Center on Environmental Health Sciences. The School of Medicine has core facilities for the synthesis and sequencing of peptides, flow cytometry and mass spectrometry. The successful candidate will be expected to develop and maintain an independently funded research program and to participate in the training of medical, dental, and graduate students. Interested individuals should submit a curriculum vitae, list of four persons familiar with the candidate’s qualifications, and a brief statement of research interests to: Search Committee, Department of Biochemistry, University of Louisville School of Medicine, Health Sciences Center, Louisville, KY 40292. Applications will be accepted until November 1, 1994, or until a suitable candidate is identified. The University of Louisville is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR OF ENTOMOLOGY

Insect Behavior/Insect/Plant Interactions: 12-month, tenure-track position (33% teaching, 67% research). Incumbent will develop and teach behavior as part of an undergraduate course and will develop and teach a graduate course. Incumbent will develop an active graduate and research program stressing the behavioral basis of insect-plant interactions and/or the behavioral ecology of important arthropod pests. Expertise in either molecular, organic, population, or community approaches will be advantageous and postdoctoral experience is desirable. Applicants with interest in position regard to teaching and research. Send transcriptions and résumé that includes publications and professional activities along with five selected published papers (maximum), and names and address of four references to: Insect Behavior Search Committee, c/o Dr. Ray Frisbie, Professor and Head, Department of Entomology, Texas A&M University, College Station, TX 77845-2478. Closing date: October 15, 1994. Texas A&M University is an Equal Opportunity/Affirmative Action Employer.

MOLECULAR CANCER IMMUNOLOGIST
at the University of Arizona Health Sciences Center.

The position is at the level of ASSISTANT PROFESSOR with an appointment in the Department of Microbiology and Immunology at the Arizona Cancer Center. Applicants should have a Ph.D. or M.D. and have demonstrated expertise in the field. The successful candidate will be expected to develop an independent, competitive research program in cancer-related molecular immunology. An interest in the application of state-of-the-art immunological techniques to clinical problems would be an advantage. Women and minorities are encouraged to apply.

Submit a curriculum vitae and three letters of recommendation to: Dr. Garth Powis, Director of Basic Science, Arizona Cancer Center, Tucson, AZ 85724. Applications are due by September 1, 1994, until the position is filled. The University of Arizona is an Equal Employment Opportunity/Affirmative Action/ADA Employer.

POSTDOCTORAL ASSOCIATE
POSITION, Laboratory of Molecular Biophysics, National Institute of Environmental Health Sciences, Research Triangle Park, NC. Available December 1994 to study the free radical metabolism and toxicity of xenobiotics and metals. Required background is in one of the medical sciences and at least three years of postdoctoral experience in animal metal toxicity and the application of electron spin resonance spectroscopy (including spin trapping) to in vivo detection of free radicals. Salary range $40,000 to $50,000 annually. Send curriculum vitae and three letters of reference by September 1, 1994, to: Israel Wiss, M.D., Laboratory of Molecular Biophysics, Research Triangle Park, NC 27709, NIH is an Equal Employment Opportunity Employer.

ASSOCIATE DIRECTOR of Vincent Center for Reproductive Biology is sought to manage day-to-day affairs of the Center. Candidate must be a M.D. and/or Ph.D. with demonstrated expertise in Reproductive Biology and assisted reproductive technologies. Salary and medical school faculty appointment commensurate with training. Please send curriculum vitae to: Isaac Schiff, M.D., Chief, Vincent Memorial Gynecology Service, Massachusetts General Hospital, Boston, MA 02114-7954. 617-726-7584. Massachusetts General Hospital is an Equal Opportunity Employer.

FIELD BOTANIST

The Biology Department at Loyola Marymount University invites applicants for a tenure-track position at the rank of ASSISTANT PROFESSOR beginning August 1995. The applicant will be expected to teach courses in two or more of the following areas: plant or general ecology, plant population or systematics, and plant physiology or plant physiological ecology. The applicant will also be expected to contribute to the Department’s general biology course offerings, teach undergraduate seminars in their area of expertise, and participate in undergraduate research. Development of an active research program and pursuit of extramural support will be expected. A Ph.D. is required and a publication vita, statement of teaching and research interests, and names of three references by Oct. 10, 1994; to: Dr. Howard Towerner, Department of Biology, Loyola Marymount University, 3710 West 80th Street, Los Angeles, CA 90045-2699. Telephone: 310-338-7776; FAX: 310-338-4479; Email: htownser@lmu.edu. Loyola Marymount University is an Affirmative Action/Equal Opportunity Employer and especially welcomes applications from women, minorities and persons with disabilities.

The Department of Biological Sciences and Biomedical Sciences invite applications for a joint faculty position at the rank of ASSISTANT PROFESSOR. Salary and set-up costs to be determined. The successful candidate will be expected to establish an active research program with promise of external funding in an area of structural, biochemical, or molecular biology. Experience in the area of fruit fly research, population dynamics and/or animal behavior and computer modeling is desirable. A Ph.D. is required. Applicants should send curriculum vitae, statement of research and teaching interests, and names of three references by Oct. 11, 1994; to: Dr. Robert Parks, Search Committee, Department of Biological Sciences, University of Alaska, Fairbanks, AK 99775. Telephone: 907-474-7200; FAX: 907-474-7013; Email: bparks@uaf.arizona.edu. The University of Alaska is an Affirmative Action/Equal Opportunity Employer.

DIRECTOR, UCR/UCLA PROGRAM IN BIOMEDICAL SCIENCES
DIVISION OF BIOMEDICAL SCIENCES
UNIVERSITY OF CALIFORNIA, RIVERSIDE

Responsible for leadership of the research and educational programs of the Biomedical Sciences at the University of California, Riverside (UCR). Duties include leadership of and active participation in the research activities of the Division and the Ph.D. program in Biomedical Sciences; supervision of an accelerated seven-year educational program leading to the B.S. degree from UCR and the M.D. degree from the UCLA School of Medicine; serving as Chairperson of the Division of Biomedical Sciences (15 ladder-rank faculty positions in basic Medical Sciences disciplines at UCR and seven adjunct positions at the associated Harbor/UCLA Medical Center teaching facility); and maintaining liaison among UCR, UCLA, Harbor/UCLA Medical Center, the UC Office of the President, and other applicable state and national agencies. Applicants must have: (a) a Ph.D. or M.D. degree; (b) A strong and active research program in biomedical sciences; (c) Familiarity with medical school basic sciences instruction; (d) Evidence of success in managing strong academic programs; (e) Qualification for appointment as a Full Professor in the University of California system. Starting date: July 1, 1995. Please send nominations or letter of application, résumé, and names of at least three references by October 1, 1994, to: BMS Program Director Search Committee, Division of Biomedical Sciences, University of California, Riverside, CA 92521-0121.

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

The Department of Biological and Environmental Science at Georgia College is seeking applicants for the position of CHAIR AND ASSOCIATE PROFESSOR OF ENVIRONMENTAL SCIENCE. The successful candidate must have demonstrated excellence in undergraduate education and research, and a record of achievement within the candidate’s area of specialization, is important selection criteria. Administrative experience is desirable. The selection process will begin November 22, 1994, and continue until a successful candidate is identified. The appointment date is July 1, 1995. This is a 12-month tenure-track position that also involves substantial undergraduate and graduate teaching and graduate master’s thesis supervision. The department is staffed by 12 full-time and three part-time faculty members and serves 200 undergraduate majors and 30 graduate students. Georgia College is located in historic Milledgeville, the antebellum capital of the state, and the student population totals 5800. Applicants should submit: 1) a letter of application detailing reasons for being interested in the position, academic/teaching philosophy, a statement of the applicant’s leadership style, and names and telephone numbers of four references; 2) a curriculum vitae; and 3) letters of recommendations. Full consideration of applications will be given after November 30, 1994. Transcripts of all Colleges or Universities attended will be required of those finalists invited for an interview. Send nominations for candidates to: Chair, MATEL Department Search and Recruitment Committee, Department of Biological and Environmental Sciences, CBX 81, Georgia College, Milledgeville, GA 31061-1067. Telephone: 478-443-0860. Georgia College is an Affirmative Action/ADA/Equal Opportunity Employer. African-American, women, and other minorities are encouraged to apply.
Public Announcement Regarding New Research and Development Projects on a $^{13}$C-MRS System for Non-invasive Measurement of Metabolism in the Brain, an Esophageal Vocalization Aid System, a Robot for Carrying Food Trays to the Aged and Disabled and a Multi-media System for the Handicapped

Announced by the New Energy and Industrial Technology Development Organization on August 26, 1994

In order to promote the research and development of industrial technologies, the New Energy and Industrial Technology Development Organization (NEDO) would like to inform all interested companies and research organizations regarding the four research and development projects described below. These new projects are being undertaken as part of the Research and Development Program on Medical and Welfare Equipment Technology of the Agency of Industrial Science and Technology, Ministry of International Trade and Industry of Japan.

**Themes of the Research and Development Projects**

1. “R&D of a $^{13}$C-MRS System for Non-invasive Measurement of Metabolism in the Brain”
2. “R&D of an Esophageal Vocalization Aid System”
3. “R&D of a Robot for Carrying Food Trays to the Aged and Disabled”
4. “R&D of a Multi-media System for the Handicapped”

**Outline of the Research and Development Work to be Entrusted**

1. **R&D of a $^{13}$C-MRS System for Non-invasive Measurement of Metabolism in the Brain**
   The purpose of this project is to develop a MRS (Magnetic Resonance Spectroscopy) System using a carbon-13($^{13}$C) labeled compound which will clearly indicate the metabolism of glucose, amino acids, etc. in the brain and enable an early diagnosis of brain troubles such as senile dementia.

2. **R&D of an Esophageal Vocalization Aid System**
   The purpose of this project is to develop an aid system for esophageal vocalization which enables laryngectomees with the ability to make esophageal speech to communicate even in a noisy environment. The system will consist of small microphone, a thin speaker, a specially designed IC, battery, etc.

3. **R&D of a Robot for Carrying Food Trays to the Aged and Disabled**
   The purpose of this project is to develop a mobile robot system for delivering meals to reduce the burden on care takers at facilities for aged and disabled people. This robot system, which will operate autonomously and also through remote supervisory control and have interactive functions, will consist of a mobile unit, a compact manipulator and a device to recognize surrounding conditions.

4. **R&D of a Multi-media System for the Handicapped**
   The purpose of this project is to develop a system which will assist the visually impaired in the use of multi-media systems through a graphical user interface (GUI). The system will consist of hardware such as tactile devices, and software for controlling auditory and tactile devices as well as software to transform visual information into auditory and/or tactile information.

**Procedures for Application**

(1) **Qualification Criteria**
   All companies or research organizations who meet the following qualification criteria may submit an application to participate in the above projects:
   1. The applicant must have previous research and development experience in the field covered by or related to the project and possess the organizational structure, human resources and research facilities required to carry out the project work.
   2. The applicant must be in sound financial condition and have the ability to manage its finances and facilities as necessary to smoothly carry out the project work.
   3. The applicant must be able to comply with NEDO’s instructions to fully carry out the project work.
   4. The applicant must attend the explanatory meeting held by NEDO as set forth in item (2) below or be represented at the meeting by a responsible agent or representative who is capable of accurately conveying the contents of the meeting in detail.

(2) **Explanatory meeting**
   An explanatory meeting will be held on the date shown below in order for NEDO to fully explain the details of each project’s research and development work to be entrusted and the application documents to be submitted. All companies or research organizations who are interested in submitting an application to participate in a project are required to attend this meeting or to send an agent or representative to attend on their behalf. Japanese will be the only language used during the meeting.

   **Date:** Friday, September 9, 1994  
   **Time:** 14:00 to 16:00  
   **Place:** NEDO’s Head Office  
   30th Floor, Sunshine 60 Building  
   1-1, Higashi-Ikebukuro 3-chome  
   Toshima-ku, Tokyo Japan

(3) **Further Information**
   For further information regarding the research and development work to be entrusted under the above projects, please contact NEDO by telefax as follows:

   New Energy and Industrial Technology Development Organization  
   Contract Division, Accounting Department  
   28th Floor, Sunshine 60 Building  
   1-1, Higashi-Ikebukuro 3-chome  
   Toshima-ku, Tokyo 170 Japan  
   Telefax: +81-3-5992-1184
The National Institutes of Health (NIH), Office of the Director, invites applications for the exciting and challenging position of Director, Office for Alternative Medicine, GS-601/601-15. This office is responsible for reviewing current programs and offering recommendations to implement unconventional medical practices. The incumbent serves as the senior staff specialist, spokesperson and coordinator for a national program to enhance public understanding of biomedical research and to stimulate greater interest in unconventional medical practices.

The formal vacancy announcement which describes the specific duties and necessary qualifications may be obtained by calling (301) 402-4111 and referring to announcement number: #OD-94-1077. Applicants are required to submit an application for Federal employment (SF-171), available at all Job Information Centers and Federal Personnel Offices to:

National Institutes of Health
Building 31, Room 1C27
31 CENTER DR MSC 2264
BETHESDA, MD 20892-2264

U.S. Citizenship required
NIH is an Equal Opportunity Employer

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THE NATIONAL RESEARCH COUNCIL in cooperation with the
U.S. Environmental Protection Agency
is offering
Postdoctoral and Senior Research Associateship awards
at the EPA's ENVIRONMENTAL RESEARCH LABORATORY, ATHENS, GA

Research opportunities are available in the areas of:
- Biodegradation of pesticides, PCB's pentachlorophenol and creosote wastes.
- Modeling of anaerobic degradation processes in soils and sediments.
- Biodegradation of crude oils in wetland environments—process studies and modeling.
- The role of soil and plant enzymes in degradation of hazardous waste.

Applications must be submitted directly to the NRC, and are accepted on a continuous basis throughout the year. Those postmarked by January 15, 1995 will be reviewed in the February competition, by April 15 in June, and by August 15 in October.

For application materials contact:

The National Research Council
AssOCIATESHIP PROGRAMS (TJ 2094/E9)
2101 Constitution Avenue
Washington, DC 20418
FAX: (202) 334-2759

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SCIENCE's 1994 Recruitment Advertising Calendar of Events

2 September: Frontiers in Medicine Editorial Focus.

16 September: NIH Research Week; Meeting Bonus Distribution, Bethesda, MD.

23 September: CAREERS IV Editorial Focus; La Jolla, CA & Cambridge, MA Biotech/Pharmaceutical Job Fair Distribution.


7 October: Human Genetics Meeting Bonus Distribution, Montreal, Canada.

28 October: Frontiers in Biology Editorial Focus.

4 November: Science Education Editorial Focus; Bonus Distribution to 18 Major Minority Science Organizations; Medica '94 Meeting Bonus Distribution, Dusseldorf, Germany.

For Advertising Information call Janis Crowley in the U.S. at (212) 496-7704 or fax to (202) 682-0816. In Europe, call (44) 0223 302067 or fax to (44) 0223 302068.
POSTDOCTORAL SCIENTIST
Structural Studies of Steroid Receptors
Harvard Medical School/Children's Hospital has a three-year Post-doctoral Research opening available. This scientist will be responsible for the crystallographic structural studies of steroid receptors. This research will involve protein purification, crystallization, biophysical characterization and crystallographic structure determination. The major focus is steroid binding and activation of these therapeutically important proteins.

This project is in collaboration with scientists at the Glaxo Inc. Research Institute located in Research Triangle Park, North Carolina and will involve an initial period of work at Glaxo. Good funding is available.

Please send curriculum vitae, statement of research interest and 3 letters of recommendation to:

Stephen C. Harrison, Ph.D.
CHILDREN'S HOSPITAL
Enders 673
320 Longwood Avenue
Boston, MA 02115

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The Robert A. Welch Foundation
38th Conference on Chemical Research
Chemical Dynamics of Transient Species
October 24-25, 1994
Westin Oaks Hotel, Houston, Texas

Monday, October 24

Richard J.V. Johnson, Chairman of the Board of Directors
Yuan T. Lee, Introductory Remarks

SESSION I

Dudley Herschbach, Discussion Leader

Daniel M. Neumark, "Studies of Transient Species Using Negative Ion Photodetachment"

William H. Miller, "Quantum Theory of Chemical Reactions"

Henry F. Schaefer, III, "[10] Annulene: Was Hückel Right After All?"

Richard N. Zare, "Competition Between Abstraction and Insertion in the Reaction Family M(Br, Cs, Ca, Sr, Ba) + HX(F, Cl, Br, I)→ MX + H"

SESSION II

James L. Kinsey, Discussion Leader

C. Bradley Moore, "Energy States and Energy Flow near the Transition States of Unimolecular Reactions"

Edward W. Schlag, "ZEKE Spectroscopy of Transient Species"

Robert E. Wyatt, "Quantum Dynamics of Energy Flow in Molecules"

Ahmed Z. Zewail, "Transient Species at Femtosecond Resolution"

Tuesday, October 25

SESSION III

John C. Polanyi, Discussion Leader

Sylvia T. Ceyer, "Transient Species in Surface Chemical Dynamics: Bulk H in Catalytic Hydrogenation and F Atoms Abstracted by Si"

W. Carl Lineberger, "Time-Resolved Dynamics in Large Molecular Cluster Ions"

Gilbert M. Nathanson, "Bouncing Gases off Liquids: Molecular Beam Studies of Transient and Not-So-Transient Solvation"

J. Peter Toennies, "Novel Diffraction Techniques for Probing the Transition State in Surface Diffusion and Transients in the Condensation of Helium"

1994 Welch Award in Chemistry Luncheon

F.A. Cotton, "Windows of Opportunity: The Postwar Emergence of Inorganic Chemistry"

Jack Halpern, "Some Mechanistic Aspects of Asymmetric Catalysis"

SESSION IV

Richard E. Smalley, Discussion Leader

John L. Brauman, "Intermediates and Transition States in Gas-Phase Ionic Reactions"

Robert W. Field, "Caught in the Act of Isomerization"

Helmut Schwarz, "Oxidation of Hydrocarbons by "Bare" Transition-Metal Oxides"

ADVANCE REGISTRATION FORM

__________________________________________________________

I will attend the conference. I will attend the luncheon.

Dr. Mr. Mrs. (Last) (First) (Middle)

Position

Organization

Department

Address

The conference is open to all and there is no registration fee. Advance registration will be acknowledged and accepted in order of receipt, to within the capacity of the available space. Prior to October 10, 1994 make your hotel reservations directly with The Westin Oaks Hotel. Their telephone nos. are 800-228-3000 or 713-960-8100.

Return the above form by October 10 to: The Robert A. Welch Foundation

4605 Post Oak Place, Ste. 200

Houston, TX 77027
COKER COLLEGE

THE J. C. DANIEL CHAIR IN CHEMISTRY

Coker College invites applications for the recently endowed J. C. Daniel Chair in Chemistry. The person holding the CHAIR must have the Ph.D. and be an experienced organic chemist who excels in the teaching of undergraduates. Applicants must have demonstrated success in undergraduate teaching, in directing undergraduate research, and in obtaining extramural funding. Responsibilities include student recruitment and instruction in upper-level chemistry courses in specialty areas during the regular academic year plus supervising undergraduate research and in involved in professional development. This is a tenure-track, 11-month position; the initial appointment will be for three years at the Associate Professor rank. In addition, the endowment provides $7,000 per year to support research activities and $5,000 for undergraduate research stipends. Interested applicants should send a curriculum vitae, three letters of reference, and a description of their teaching philosophy and research plans by October 1994. Applications should be directed to: Search Committee for the J. C. Daniel Chair, Coker College, Hartsville, SC 29505.

DIRECTOR

Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, Maine, invites applications for the position of DIRECTOR. Bigelow is an independent, nonprofit organization conducting multidisciplinary research on processes affecting the productivity of the oceans, coastal seas and estuaries. Bigelow is pursuing an ambitious long range plan to expand its scientific staff and facilities. Development of educational opportunities and endeavors in applied research are important components of the plan. The Director will be an accomplished, respected research scientist with an outstanding reputation for excellence in the fields of role, and management. Responsibilities include the appointment of the Laboratory, and with an established research program. Demonstrated abilities applicable to current operation and pursuit of Bigelow's divulgation goals will be important qualifications.

Letters of application should include research interests, professional goals and a curriculum vitae, and be sent to: Directors Search Committee, Bigelow Laboratory, P.O. Box 475, West Boothbay Harbor, ME 04575. Candidate selection will begin October 1, 1994, and the search will remain open until an appointment is made. Bigelow is an Equal Opportunity Employer.

FACULTY POSITION: Biochemistry department seeks a Ph.D. with postdoctoral experience who is able to (1) establish an independent basic research program that complements existing departmental programs in the structure and function of blood and matrix macromolecules, and (2) serve as an M.B.A. student to graduate students through a program with George Washington University, and (3) attract outside funding to the Laboratory and (4) work on three research plans and names of three references by September 15, 1994, to: Biochemistry Search Committee, Bigelow Laboratory, P.O. Box 475, West Boothbay Harbor, ME 04575. Candidate selection will begin October 1, 1994, and the search will remain open until an appointment is made. Bigelow is an Equal Opportunity Employer.

The Departments of Molecular and Human Genetics, and Pediatrics are jointly recruiting a DIRECTOR for the Baylor College of Medicine Mental Retardation Research Center (MRRC). The Baylor MRRC was founded in 1988, and is one of the top four NIH-supported Centers dedicated to the study of the prevention, treatment, and amelioration of mental retardation and developmental disabilities. The Baylor MRRC currently supports eight core laboratories, has 48 investigators from 13 departments, and one New Project Development Awardee. The successful applicant will be a Physician Scientist with an outstanding reputation in the molecular biology of mental retardation. Board certification in a Medical Genetics specialty and Pediatrics is desirable; however, the commitment to mental retardation research and a current curriculum vitae, and should request that three letters of reference (including three letters of recommendation) be sent to: Dr. Melvin L. Krasnow, Chairman, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030. Baylor College of Medicine is an Equal Opportunity/Affirmative Action Employer.

The Departments of Molecular and Biological Biology invites applications for a tenure-track FACULTY POSITION in the neurosciences. Candidates should have broad knowledge of the nervous system and experimental neurobiology and be able to develop an independent research program. Strong emphasis will be placed on candidates able to combine molecular studies with cellular and/or systemic techniques. The department has extensive facilities that include confocal and electron microscopy, FACS, oligo-nucleotide/peptide synthesis and a transgenic mouse facility. Postdoctoral experience in the Mo- lecular Biology as well as the Neuroscience Graduate Pro- grams. Ph.D.s or M.D.s with postdoctoral research expe- rience should send summary of research interests and three letters of reference to:

Neurobiology Search Department of Molecular Biology Princeton University Princeton, New Jersey 08544

Princeton University is an Equal Opportunity/Affirmative Ac- tion Employer.

FACULTY POSITION: The Institute of Chemical Toxicology, Wayne State University invites applications for a tenue-track ASSISTANT PROFESSOR position. The successful candidate should have an M.D., extramu- ral funding and will be expected to maintain an indepen- dent extramurally funded research program in chemical- and gender-mediated gene expression during development. The candidate will be expected to develop translational research programs be- tween basic science and clinical investigators with a focus on molecular toxicology research and to play a leading role in the Human Applications Research Component of an NIH-funded Center. Applicants should submit their curricu- lumbi, copies of three publications, a statement sum- marizing their research interests and three letters of recom- mendation to: Dr. Raymond F. Novak, Director, Insti- tute of Chemical Toxicology, 4001 St. John Ave. Room 4000, Detroit, MI 48201. Applications will be accepted through October 1, 1994. Wayne State University is an Affirmative Action and Equal Opportunity Employer.

ASSISTANT/ASSOCIATE/FULL PROFESSOR DEPARTMENT OF MOLECULAR BIOLOGY AND CHEMISTRY

The Department of Molecular Biology and Biochemistry at Rutgers, The State University of New Jersey, New Brunswick (Busch campus), invites applications for a FACULTY POSITION. The Department has a scientifi- cally diverse faculty and is especially interested in applica- tions in the areas of RNA processing, DNA replication, transcriptional control, signal transduction, cell cycle con- trol, and/or development. In addition, other areas will be also considered. The department is an important part of the expanding program in molecular biology. The Rutgers Center for Ad- vanced Biotechnology and Medicine, the Waksman Insti- tute and the Robert Wood Johnson Medical School are also located. We have a strong, consolidated, interdepart- mental graduate programs in molecular biosciences. The position offered is highly competitive with regard to start- up funds, laboratory space and salary. Please send curricu- lumbi, vitae, list of publications, summary of research ac- tivities, a research plan, and three letters of recommenda- tion to: Dr. Robert M. Krug, Chairman, Department of Molecular Biology and Biochemistry, The State University of New Jersey, Center for Advanced Biotechnology and Medicine, 679 Hoes Lane, Piscataway, NJ 08855-1179.

Rutgers University is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITE DE BRUXELLES (BELGIUM)

The department of chemistry of the Faculty of Science invites applications for a FULL-TIME POSITION at the postdoctoral level (‘chargé de cours’ dans the area of organic chemistry (synthesis).

Candidates must have a Ph.D. degree, have demonstrated ability for creative research and be fluent in French. This person will complement the current Organic Chemistry faculty. Duties include teaching at the under- graduate level. Applicants must send a curriculum vitae, a list of publications, reprints of five papers that are most outstanding, and a research statement. Letters of application will begin on the 15th of October 1994. Applications must be sent to the Rector of the University: ULB, CPI 130; avenue Roosevelt, 50; 1050 Brussels (Belgium).
ANIMAL BEHAVIOR: INTERDISCIPLINARY TRAINING AT THE UNIVERSITY OF CALIFORNIA, DAVIS

Opportunities are available for Graduate Training and Undergraduate Summer Fellowships through the Research Training Group in Animal Behavior, supported by the National Science Foundation. The aim of the program is to provide broadly interdisciplinary training for outstanding students to address problems in the study of animal behavior. A second explicit aim of the program is to increase representation of underrepresented groups in the behavioral and biological sciences. Selection will be based on academic accomplishment and promise of ability to benefit maximally from interdisciplinary training.

GRADUATE TRAINING: 4 years of support, annual 9-month stipend of $9,324 plus payment of tuition and education fees (applicants must apply separately to a PhD graduate program at UC Davis). DEADLINE: December 15, 1994.

UNDERGRADUATE SUMMER FELLOWSHIPS: 2-month research internships, $750 stipend plus, room, board and roundtrip transportation to Davis. DEADLINE: January 15, 1995. All applicants must be US citizens or permanent residents. The University of California is an Equal Opportunity/Affirmative Action Employer. To receive an application contact: Jeni Trevitt, Animal Behavior Program, University of California, Davis, CA 95616, Phone (916) 752-4863, fax (916) 752-8391. e-mail jmtrevitt@ucdavis.edu (please specify graduate or undergraduate application).

POSTDOCTORAL FELLOWS

At the Glaxo Inc. Research Institute, located in Research Triangle Park, N.C., the focus is drug discovery and development through novel research. As part of our commitment to research, our Postdoctoral Fellowship Programs support scientific endeavors and scholarships through the development of researchers at the early stage of their careers. We are currently seeking to fill four openings for Postdoctoral Fellows in the following areas:

MEDICINAL CHEMISTRY

We seek a recent Ph.D. in Synthetic, Organic or Medicinal Chemistry to design and prepare affinity labels for ligand-receptor mapping. Please refer to Job # ASC911720 on all resumes.

MOLECULAR BIOLOGY

BONE MECHANO-SENSITIVITY

Individual will clone, express, and functionally analyze mecha-sensitivereceptor systems from bone tissue. The prospective fellow will interact with an interdisciplinary team of physiologists, molecular, and cellular biologists concentrating on the biology of osteoporosis. The ideal candidate must have a strong background in molecular biology and an interest in mechano-transduction and/or bone biology. Experience with receptor/cellular signaling or the biology of ion channels would be very beneficial. Please refer to Job # ASC911721 on all resumes.

GLUCOSE TOXICITY & INSULIN RESISTANCE

Individual will use molecular biology techniques to explore the role of cytosolic O-linked glycosylation in desensitization of the insulin responsive glucose transport system. The successful candidate should have a strong background in molecular biology, experience in cell biology and signal transduction, and demonstrable oral and written communication skills. An interest in Type II diabetes, insulin resistance, genetics, and adipocyte/muscle physiology is desirable. Please refer to Job # ASC911722 on all resumes.

MEMBRANE TRAFFICKING & GLUCOSE TRANSPORT

Individual will study mechanisms regulating membrane trafficking of the glucose transporter GLUT4. A strong background in cell biology and biochemistry is required. Experience in membrane trafficking and signal transduction is desired. The candidate should have a keen interest in Type II diabetes. Please refer to Job # ASC911723 on all resumes.

These Fellowship openings offer you the opportunity to strengthen your scientific reputation and career advancement by publication and presentation of outstanding research conducted in an excellent environment. In addition, Glaxo is proud to offer a highly competitive compensation package. Applicants should send their curriculum vitae, a statement of research interest, a list of professional references, and the Job # of interest to: Human Resources Department, Glaxo Inc., P.O. Box 13398, Research Triangle Park, N.C. 27709. (No Phone Calls or Agency Referrals, Please.) An Equal Opportunity Employer M/F/DV.
STATE UNIVERSITY OF NEW YORK
POSTDOCTORAL FELLOWSHIPS

These Fellowships are funded by a training grant from NINDS and are available to support research training at SUNY at Stony Brook in Molecular, Cellular, Systems and Behavioral Neuroscience. Applicants must be US citizens or permanent residents. Women and minorities are especially encouraged to apply. Salary in accordance with established NIH guidelines. For further information concerning opportunities contact faculty members listed below directly or the Program Director, Dr. Lorne Mendell, Department of Neurobiology & Behavior, State University of New York at Stony Brook, Stony Brook, NY 11794-5230. Tel. 516-632-8616, Fax 516-632-6661. An Affirmative Action/EEO employer.

Paul Adams
David Amaral
Peter Brink
Paul Brehm
John Cabot
Albert Carlson
William Collins
James Davis
Howard Eichenbaum
Craig Evinger
Marian Evinger
Joseph Fetcho

Michael Frohman
James Gnadt
Simon Halegoua
Robert Hitzemann
Maurice Kemen
Mary Kitter
Edward LaGamma
Joel Levine
Gali Mandel
Gary Matthews
David McKinnon

Susan McLaughlin
Lorne Mendell
Larry Morin
Peter Rapp
Nisson Schechter
Jakob Schmidt
Murray Sherman
James Trimmer
Benjamin Walcott
Stephen Yazulla

RESEARCH OPPORTUNITIES IN BIOMOLECULAR SIMULATIONS

The Molecular Theory Group in the Department of Physiology and Biophysics of Mount Sinai School of Medicine covers a diverse research program in computational molecular biophysics. Projects include electrostatic effects in proteins, electronic structure of biomolecules, metalloproteins, Monte Carlo simulations of molecular assemblies, structure and function of membrane proteins, protein-DNA interactions, radiation damage to DNA, Ca-binding proteins, and sensitivity analysis in molecular simulations.

Openings for postdoctoral associate and graduate students are currently available in the laboratories of R. Osman, H. Weinstein, and C.F. Wong. Applications are invited from candidates with experience in one or more computational approaches including Quantum Chemistry, Brownian and Molecular Dynamics, and Macromolecular Structure Analysis and Modeling.

Research topics will include:
1. Structural and dynamic properties of radiation damaged DNA (Osman; Wong)
2. Structure, function, and signal transduction in membrane proteins (Osman; Weinstein)
3. Protein-DNA interactions in regulation of gene expression (Osman; Weinstein)
4. Structure-function relations in EF-hand types of Ca-binding proteins (Weinstein)
5. Structure-function relationships by sensitivity analysis of biomolecular simulations (Wong)
6. Enzymatic repair of radiation-damaged DNA (Osman)

Please send your CV indicating areas of interest and names of three references in confidence to: Department of Physiology and Biophysics, Box 1218, The Mount Sinai Medical Center, One Gustave L. Levy Place, New York, NY 10029-6574. An Equal Opportunity Employer.

The Mount Sinai Medical Center of New York

PENN
UNIVERSITY OF PENNSYLVANIA

Director
Institute for Medicine and Engineering

The University of Pennsylvania seeks outstanding candidates for the position of Director of the newly created Institute for Medicine and Engineering. The successful applicant will be of international stature in his/her chosen area of research and will provide academic leadership to establish a premier institute that interfaces medicine and engineering. Applicants should have demonstrated qualifications in education, research, and administration, and be eligible for a faculty appointment with tenure. The University of Pennsylvania is searching simultaneously for a Director of the Institute for Medicine and Engineering and a Chair of the Department of Bioengineering. It is expected that these individuals will work closely together.

The University is an equal opportunity, affirmative action employer. Women, minority, and international candidates are encouraged to apply. Letters of interest, CV, and names of reference should be sent to:

Arthur K. Asbury, M.D.
Chair, Search Committee
Professor and Acting Chair,
Department of Neurology
University of Pennsylvania
3 West Gates
Philadelphia, PA 19104-4283

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

Massachusetts Institute of Technology

Faculty Positions
Department of Earth, Atmospheric, and Planetary Sciences

1. The Department seeks to expand research, faculty interaction, and teaching in the area of fluid-rock systems. The position is in the general area of fluid transport within all geological systems in the earth's crust, ranging from petroleum and ground water reservoirs to magma systems and active faults. Particular emphasis will be placed on candidates involved in the dynamic modeling of fluid-rock systems.

2. The Department also seeks to expand research in the area of surface processes on both the earth and the terrestrial planets. Areas of interest include dynamic geomorphology, the surface geology of active tectonic areas, and the study of climatic processes.

We hope to attract candidates who will interact with other areas of strength within the Department, particularly in geology, geophysics, geochemistry, paleoclimatology and meteorology. Preference will be given to junior applicants; minority and female applicants are particularly encouraged to apply.

Interested individuals should send curriculum vitae, a statement of research and teaching interests, and references to:

Professor Thomas H. Jordan, Head, Department of Earth, Atmospheric and Planetary Sciences, Room 54-918, MIT, Cambridge, MA 02139; email: thj@mit.edu.

MIT is an Equal Opportunity/Affirmative Action Employer
MIT is a non-smoking environment

Mount Sinai
BIOMOLECULAR ATOMS
RESEARCH OPPORTUNITIES

The Molecular Theory Group in the Department of Physiology and Biophysics of Mount Sinai School of Medicine covers a diverse research program in computational molecular biophysics. Projects include electrostatic effects in proteins, electronic structure of biomolecules, metalloproteins, Monte Carlo simulations of molecular assemblies, structure and function of membrane proteins, protein-DNA interactions, radiation damage to DNA, Ca-binding proteins, and sensitivity analysis in molecular simulations.

Openings for postdoctoral associate and graduate students are currently available in the laboratories of R. Osman, H. Weinstein, and C.F. Wong. Applications are invited from candidates with experience in one or more computational approaches including Quantum Chemistry, Brownian and Molecular Dynamics, and Macromolecular Structure Analysis and Modeling.

Research topics will include:
1. Structural and dynamic properties of radiation damaged DNA (Osman; Wong)
2. Structure, function, and signal transduction in membrane proteins (Osman; Weinstein)
3. Protein-DNA interactions in regulation of gene expression (Osman; Weinstein)
4. Structure-function relations in EF-hand types of Ca-binding proteins (Weinstein)
5. Structure-function relationships by sensitivity analysis of biomolecular simulations (Wong)
6. Enzymatic repair of radiation-damaged DNA (Osman)

Please send your CV indicating areas of interest and names of three references in confidence to: Department of Physiology and Biophysics, Box 1218, The Mount Sinai Medical Center, One Gustave L. Levy Place, New York, NY 10029-6574. An Equal Opportunity Employer.

The Mount Sinai Medical Center of New York
SmithKline Beecham Pharmaceuticals, a worldwide leader in pharmaceutical research, has two challenging opportunities within the Department of Molecular Virology and Host Defense, a 46-member group whose activities encompass basic and applied research on many aspects of molecular virology and the immunology of infectious diseases including discovery of novel anti-virals, viral pathogenesis, immunomodulation and hematopoietic cytokine research.

**Experimental Hematologist**

As a Senior Investigator, the successful candidate will have responsibility for new research initiatives in collaboration with multidiscipline/multinational program teams investigating natural and synthetic hematopoietic agents/cytokines and their application to infectious disease and oncology. A Ph.D. or equivalent in a biological science and a minimum of 4 years postdoctoral experience investigating differentiation of hematopoietic stem cells and/or lineage-committed progenitor cells at the cellular and molecular levels are required. Candidates with specific interests in signal transduction events and regulation of apoptosis in response to hematopoietic cytokines and growth factors are encouraged to apply. Outstanding applicants with broader backgrounds in other aspects of cell biology relevant to hematopoiesis will also be considered. Refer to Job #H0295.

**Scientist**

Working with a Senior Investigator, you will carry out experimental strategies for evaluating the mechanism of action of hematopoietic compounds, and will establish new assays for studying signal transduction events in hematopoietic cells. The qualified candidate will have a BS or MS in a biological science with a least 3 to 6 years graduate experience. Excellent laboratory skills are required including experience with cell and tissue culture, small animal models, cell isolation and purification, receptor binding assays and a working knowledge of basic molecular and biochemical techniques preferably applied to the study of hematopoietic lineage cells. Experience with data analysis and good communication skills are a must, with industry experience preferred. Refer to Job #H0295.

Located in our state-of-the-art research facility in suburban Philadelphia, SmithKline Beecham offers a competitive compensation and benefits package, including relocation, and a stimulating work environment in which to grow and excel. For confidential consideration, please send resume with salary history to: SmithKline Beecham Pharmaceuticals, Job #_, PO Box 679, Conshohocken, PA 19428. We are an Equal Opportunity Employer, M/F/D/V.

SmithKline Beecham Pharmaceuticals

Challenging the natural limits.

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**A future with CTI could be therapeutic for your career.**

If you’re an energetic, flexible player in the biopharmaceutical community, CTI can give you the potential you’ve been looking for. Founded on a critical discovery, we’re succeeding in finding new ways to develop safer and more effective therapeutics than previously existed. If you’re comfortable with a fast pace and entrepreneurial atmosphere, consider these opportunities at CTI.

We anticipate year-end expansion in the following areas:

- **Immunology**
- **Inflammation**
- **Lipid Biochemistry**
- **Quality Control**
- **Regulatory Affairs**
- **Clinical Research**

Located in metropolitan Seattle, CTI is in the heart of the technology corridor within one of the world’s most spectacular natural settings. Our competitive reward programs are tailored to encourage and recognize outstanding contributions and achievements.

For consideration, please send CV to: Cell Therapeutics, Inc., 201 Elliott Avenue West, Suite 400, Seattle, WA 98119.

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CTI

Cell Therapeutics, Inc.
An equal opportunity employer.
**POSITIONS OPEN**

**FACULTY POSITIONS UNIVERSITY OF MASSACHUSETTS MEDICAL CENTER**

Immediate openings for senior tenured or junior tenure-track positions in an interdepartmental Molecular Medicine Program can be programmed to commence with ability and experience. The appointments will be in one of the basic science departments. The laboratories for the Program are housed in a new building that contains approximatively 80,000 square feet of modern research space. Core facilities for tissue-culture, media preparation, DNA synthesis, digital imaging microscopy, peptide synthesis, fluorescence microscopy, and transgenic mice are available. The position will be highly competitive with regard to start-up funds, laboratory space, and salary.

**FACULTY POSITION, BACTERIAL PATHOGENESIS UNIVERSITY OF MIAMI SCHOOL OF MEDICINE**

The Department of Microbiology and Immunology at the University of Miami School of Medicine invites applications for a tenure-track faculty position at the ASSISTANT PROFESSOR level. An individual utilizing a molecular approach to study any aspect of bacterial pathogenesis is sought. All applicants should have several years of postdoctoral experience and a commitment to establishing an externally funded independent research program. Experience in several areas of molecular attributes of bacterial pathogenesis will be a plus. Applicants should have a Ph.D., M.D., or equivalent degree. The appointee will be expected to have a curriculum vitae, statement of research achievements and future research goals, relevant reprints, and the names of three references to send to: Bacterial Pathogenesis Search Committee, University of Miami School of Medicine, Department of Microbiology and Immunology (R-138), P.O. Box 0164, Miami, FL 33101. A review of applications will continue until the position is filled. The University of Miami is an Equal Opportunity/Affirmative Action Employer.

**CHAIRPERSON DEPARTMENT OF ANATOMY**

Rush Medical College is seeking an academically accomplished Chairperson for the Department of Anatomy. The department includes 8 full time faculty members and has major responsibility for teaching Rush Medical students in the pre-clinical years. The candidate should have demonstrated ability and interest in teaching and administration, and proven research skills to establish a strong independent research program. Candidates should qualify for appointment at the level of PROFESSOR at Rush Medical College. Closing date for applications is November 1, 1994. Letters of interest with current curriculum vitae or letters of nominations should be sent to: Theodore Mazzone, M.D., Chairman, Search Committee for Chairperson of Anatomy, Rush-Presbyterian-St. Luke’s Medical Center, 1653 West Congress Parkway, Chicago, IL 60612. Rush is an Equal Opportunity/Affirmative Action Employer.

**POSTDOCORAL FELLOW**

A position is immediately available for a POSTDOCTORAL FELLOW in the Department of Experimental Pathology. The position will study signaling transduction of fibroblast growth factors. Experience in molecular biology, protein phosphorylation, and protein kinase analysis is required. Qualified candidates should send a curriculum vitae, addresses and phone numbers of three references to: Xi Zhang, Ph.D., Department of Experimental Pathology, Holland Laboratory, American Red Cross, 15001 Crabbs Branch Way, Rockville, MD 20855, Equal Opportunity Employer, Male/Female/Disabled/Veterans.

**FACULTY POSITIONS WAYNE STATE UNIVERSITY**

Wayne State University Chemistry Department invites applications for two FACULTY POSITIONS beginning in the fall of 1995. It is anticipated that these appointments will be in (1) the area that spans the analytical/ physical interrelation involved with areas related to materials chemistry. The department is particularly interested in increasing its expertise in instrumental areas of analytical/physical chemistry. A recent study has been directed toward the possibility of demonstrating a commitment to teaching in our program from the undergraduate through graduate levels and to establishing an outstanding program of original research. Appointments are likely to be at the assistant professor level although more senior appointments are possible for exceptional candidates. Candidates should send a curriculum vitae, a proposed research program and arrange to have three letters of recommendation sent to: Chairman, Faculty Search Committee, Department of Chemistry, Wayne State University, Detroit, MI 48202. An initial deadline for receipt of applications is October 24, 1994. Wayne State University is an Equal Opportunity/Affirmative Action Employer. Women and minority candidates are encouraged to apply.

**FACULTY POSITION PLANT-MICROBE INTERACTIONS**

The Botany Department of the University of Toronto invites applications for a tenure-track position in Plant-Microbe Interactions at the ASSISTANT PROFESSOR level. The successful candidate should have a Ph.D. and, preferably, postdoctoral experience. Research areas of particular interest include parasitic interactions at the molecular, cellular, genetic, biochemical, ecological and evolutionary levels. Areas of research can be expected to include interactions of plant-microbe interactions will be considered. Teaching responsibilities will include participation in team-taught undergraduate and graduate courses in appropriate areas of biology such as plant-microbe interactions, plant pathology, cell or molecular biology. Applicants should submit a curriculum vitae, statement of research and teaching interests, and arrange for three letters of reference to be sent to: Professor V.J. Higgins, Chair, Department of Botany, University of Toronto, 25 Willcocks Street, Toronto, Ontario M5S 1A1, Canada by October 31, 1994. In accordance with Canadian Immigration regulations, this advertisement is directed towards Canadian Citizens and permanent residents of Canada. In accordance with its Employment Equity Policy, the University of Toronto encourages applications from qualified women or men, members of visible minorities, Aboriginal peoples and persons with disabilities.

**POSTDOCORAL POSITIONS**

Two open for recent Ph.D. graduates with extensive experience in structural/functional/structural biochemistry and/or molecular biology. Doctoral research is expected to be in the areas of mechanisms of action of neurotransmitters, or enzymes. Applications are invited from qualified scientists who wish to work with Dr. Peter J. White. Excellent research facilities are available. Please send curriculum vitae and names of three references to: Dr. Peter J. White, Department of Anatomy, University of Miami, P.O. Box 0164 Miami, FL 33101. A review of applications will continue until the position is filled. The University of Miami is an Equal Opportunity/Affirmative Action Employer.

**POSTDOCORAL POSITION DEPARTMENT OF MOLECULAR BIOLOGY AND BIOCHEMISTRY**

A position is available to participate in research on the regulation of pre-mRNA splicing and of the nuclear export of mRNAs. A particular emphasis is on the mechanism by which the splicing factor N51 protein regulates these two posttranscriptional processes (Genes Dev., 8, 1817, 1994; J. Biol. Chem., 268, 2425, 1993; J. Biol. Chem., 268, 2433, 1994). Please forward a letter of interest and three letters of reference to: Dr. Robert M. Krug, Chairman, Department of Molecular Biology and Biochemistry, Rutgers, The State University of New Jersey, Center for Advanced Biotechnology and Medicine, 679 Hoes Lane, Piscataway, NJ 08855-1179. Rutgers University is an Equal Opportunity/Affirmative Action Employer.

**FACULTY POSITION—IMMUNOLOGY**

The University of Maryland Cancer Center and the Department of Microbiology and Immunology, University of Maryland School of Medicine invite applications for a tenure-track faculty position at the level of ASSOCIATE OR FULL PROFESSOR for our joint research program in immunology. Applicants must have a Ph.D. and/or M.D. degree, extensive research experience in molecular, cellular biology, molecular biology, immunology, and/orhemopoietic systems, and a strong record of research accomplishments with sustained extramural funding. Successful candidates will be expected to lead independent research programs, to participate in the development of collaborative research projects, and to contribute to teaching of medical and graduate students. Minorities and women are encouraged to apply.

Applications should submit their curriculum vitae, an outline of current and future research interests, selected reprints, and names of three references to: Kristin M. Abraham, Ph.D., Chair, Immunology Search Committee, Department of Microbiology and Immunology, School of Medicine, 655 West Baltimore Street, Bresler Research Building 13-007, Baltimore, MD 21201. The University of Maryland at Baltimore is an Equal Employment Opportunity/Affirmative Action/ADA Employer.

**POSTDOCORAL POSITION**

Available to study isozymes of human aldehyde dehydrogenase. Recent graduates with experience in protein chemistry and/or enzymology or in cDNA cloning are encouraged to apply. Salary commensurate with experience. Submit curriculum vitae and letters of reference to: Dr. Regina Pietruszko, Center of Alcohol Studies, Rutgers University, P.O. Box 696, Piscataway, NJ 08855-0969. Rutgers University is an Equal Opportunity/Affirmative Action Employer.

**POSTDOCORAL ASSOCIATE**

McLaughlin Research Institute

A POSTDOCORAL POSITION is available at the McLaughlin Research Institute (MRI) in Great Falls, Montana. Position description: Submit curriculum vitae and three letters of reference to: Dr. Ronald Hoff, McLaughlin Research Institute, 1520 23rd Street South, Great Falls, MT 59406. Salary and benefits are negotiable.

**MOLECULAR NEUROBIOLOGY POSTDOCORAL POSITION**

Available now to study role of MEF2C, an SR-F related transcription factor, in development of cerebral cortex. Experience in cell culture, transfections, in situ hybridization, and/or immunostaining preferred. Please send curriculum vitae and three letters of reference to: Dr. Dana Leifer, LCI 7, Department of Neurology, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06511. Affirmative Action/Equal Opportunity Employer.
Senior Research Associate

NeoRx Corporation develops targeted biopharmaceuticals that detect and treat human diseases with an initial focus on cancer.

We currently have an opening for an experienced research associate who will provide technical expertise in the area of radiopharmaceuticals. This individual will also be responsible for radiolabeling and analysis of patient specimens.

The selected candidate will have:

— A university degree in biological science, chemistry, or biochemistry
— A minimum of five years focused training in biochemistry immunochemical evaluation of monoclonal antibodies.
— Demonstrated skills in chromatography, HPLC/FPLC, and handling of high level radioactivity.
— Experience in the handling of radiopharmaceuticals with good clinical technique is essential.

Special consideration will be given to those candidates with experience in oncology research, especially using monoclonal antibodies to target drugs to tumors.

For consideration, forward resume and a one page cover letter to:

Human Resources
NeoRx Corporation
410 West Harrison Street
Seattle, Washington 98119-4007

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

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Harvard School of Public Health

Announces Two Positions for Assistant/Associate Professors

Position 1:

Applicants are being accepted from persons with graduate training, postdoctoral experience and proven accomplishment in nutrition or the following sciences related to nutrition: biochemistry, or cell or molecular biology. Applicants must demonstrate the ability to develop an independent research program and to participate in the teaching of a course on the biochemical bases of human nutrition. Preference will be given to candidates whose research has a biochemical, cellular or molecular orientation. It is hoped to make an appointment as early as the first half of 1995.

Position 2:

Applicants are being accepted from persons with graduate training, postdoctoral experience and proven accomplishment in nutrition or the following sciences related to nutrition: biochemistry, or cell or molecular biology. Applicants must demonstrate the ability to develop an independent research program and to participate in the teaching activities of a nutrition department. Preference will be given to candidates whose research has a potential for interaction with the other ongoing research in our department, which includes work in cell and molecular biology, lipid metabolism, and nutritional epidemiology. It is hoped to make an appointment as early as the first half of 1995.

Expression of interest is particularly invited from qualified women and minority candidates.

Send curriculum vitae, a summary of past accomplishments, a statement of future interests in research and teaching, and the names and addresses of three references to:

Dr. Donald Harn, Chair
Search Committee for Assistant/Associate Professor of Nutrition
Department of Nutrition
Harvard School of Public Health
Building II, Room 313
66 Huntington Avenue
Boston, MA 02115

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Lectureship in Educational/School Psychology
(Ref: 93/94-96)

Applications are invited for the post of Lecturer in Educational/School Psychology in the Department of Psychology. The appointment will be made on a fixed term contract of three years, tenable from January 1, 1995 and with a possibility of renewal.

Applicants should be scholar-practitioners, preferably with a PhD and be licensed school psychologists or chartered educational psychologists, or be eligible for such registration. They should be able to teach postgraduate courses primarily on statistics and research methods, and also assessment and intervention of children with special needs, and related subjects. Some teaching at the undergraduate level is also required.

Annual salary (under review) [non-supervisible but attracting 15% (taxable) terminal gratuity] is on an 11-point scale with starting salary depending on qualifications and experience: HK$377,220 - HK$630,180 (approx. US$48,990 - US$81,842; US Dollar equivalents as at 26 July 1994). At current rates salaries tax will not exceed 15% of gross income. Children’s education allowances, leave, and medical benefits are provided; housing or tenancy allowances are also provided in most cases at a charge of 7.5% of salary.

Further particulars and application forms may be obtained from the Appointments Unit, Registry, The University of Hong Kong, Hong Kong (fax: (852) 559 2058; E-mail: APPTUNIT@HKUVM1.HKU.HK). Particulars are also available on the University’s listserv accessed by E-mail as listserv@hkuvml.hku.hk (specify “get appointment filelist” for list of vacant posts, and “help” for details of listserv commands). Closes 14 October 1994.

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Research Officer

Montreal, Quebec

Your Challenge

You will be responsible for the scientific direction of the Enzyme Engineering Group of the Pharmaceutical Biotechnology Sector. The Group is currently involved in several multidisciplinary projects that focus on the understanding of the molecular basis of enzyme activity and specificity and on the application of this knowledge in the pharmaceutical field.

Your Credentials

A PhD in Biochemistry or a related field, with many years of experience and a significant publication record in enzymology with emphasis on applications in the pharmaceutical field. You must also have supervisory experience. Knowledge of English and French is essential, and a security screening will be required.

Salary range: Commensurate with qualifications. Relocation expenses may be negotiable.

To explore this opportunity, send your resume before September 16, 1994, indicating reference number RB-94-18-SC, to: The Recruitment and Staffing Group, National Research Council Canada, Ottawa, Ontario K1A 0R6.

NRC is an equal opportunity employer. We thank all those who apply and advise that only those selected for further consideration will be contacted.

Vous pouvez obtenir ces renseignements en français.
knock, knock.

(That's opportunity knocking. Hint: Turn to page 1,262.)

Open the door to new possibilities by turning to the special advertising section in the SCIENCE 26 August B.S./M.S. Careers issue. Inside, you'll find information about exciting career opportunities from pharmaceutical and biotechnology companies as well as graduate school programs at leading scientific and medical institutions. The key to a rewarding future is knowing when opportunity knocks. Every week SCIENCE gives you the chance to review available scientific positions from all around the world in our weekly recruitment advertising section and in our special sections, such as B.S./M.S. Careers. Unlock your career potential by reading SCIENCE. Sometimes opportunity knocks just once.
UNIVERSITY OF ILLINOIS AT CHICAGO  
COLLEGE OF MEDICINE

DIRECTOR AND HEAD

Transplantation Biology Initiative/Program

Applications are invited for the position of Director and Head of a new program in Transplantation Biology within the College of Medicine of the University of Illinois at Chicago. Candidates for this position should possess the Ph.D. and/or MD degree, a distinguished record of scholarly activity, a nationally recognized research program with an emphasis on tolerance induction, antigen presentation and xenografts, as well as the ability to administer and foster an interdisciplinary research program. The University and College of Medicine will commit considerable resources to this initiative as part of its strategic planning process. The incumbent will have the opportunity to plan and develop the program inclusive of the remodelling of new space, equipment acquisition and the recruitment of additional faculty and key personnel. The nationally respected animal Biological Resources Facility as well as a newly constructed 150,000 sq. ft. Molecular Biology Facility will be integral components of the research program. The Director and Head will be appointed at an appropriate faculty rank.

Interested individuals should submit a letter of application and curriculum vitae which includes a summary of their research program and accomplishments to:

Raymond Pollak, M.D., Chair
Transplant Biology Program Search Committee
Associate Professor and Chief
Division of Transplantation
University of Illinois at Chicago
801 S. Paulina, Room 411 (MC 960)
Chicago, Illinois 60612

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

RADIATION ONCOLOGY  
RESEARCH SCIENTIST IN MEDICAL PHYSICS

The Division of Radiation Oncology is pleased to offer a position in Medical Physics at the level of Research Scientist in the Arthur G. James Cancer Hospital and Research Institute at the Ohio State University Medical Center.

Applicants should have a minimum qualification of a Ph.D. - ABD, with a Medical Physics specialization in Radiation Therapy. A minimum of 2 years of experience in Medical Physics at a Clinical Radiation Oncology department through at least a clinical internship is required. This must include experience with quality assurance, calibration, and treatment planning for external beam treatments, brachytherapy, radiosurgery, patient dose compensation, and intraoperative radiotherapy; and use of the Therplan Treatment Planning system at the level of system administration. Previous experience of accepting at least one set of the following radiophysical equipment is also required: linear accelerator (with electrons and photons), Radiosurgery equipment, Simulator; along with fitting the measured electron and photon beam data into 2D and 3D treatment planning systems. At least 2 years experience with administration of UNIX workstations is required.

The applicant should also have at least 10 publications in refereed journals and peer-reviewed conference proceedings, of which at least 3 should be in archival journals. The Ohio State University has a multidisciplinary group involved with research in Boron Neutron Capture Therapy and applicants are required to have at least 3 years of previous research involvement in this area: specifically with design and fabrication of moderator assemblies for accelerator neutron sources, neutron spectroscopy, dosimetry, treatment planning, normal tissue tolerance, mixed field dosimetry, and the MCNP Monte Carlo code. The successful candidate would be expected to also initiate research projects in different areas of conventional radiotherapy.

All of the above experience could be obtained before, during, or after obtaining a degree. This is a full time position requiring 40 hrs/week, 8 AM to 5 PM, Monday-Friday. Salary range $50,000-$55,000 per year.

Applicants for this position should direct inquiries to:

Reinhard A. Gabbauer, M.D.
Professor & Director
Division of Radiation Oncology
Arthur G. James Cancer Hospital and Research Institute
The Ohio State University Medical Center
300 West Tenth Avenue
Columbus, OH 43210
(614) 293-8415

The University of Texas Southwestern Medical School announces
Program of Excellence in Post Graduate Research (PEPR)
Independent Research Fellowships for Physician-Scientists

The University of Texas Southwestern Medical School has established a program that is designed to replace or supplement the usual postdoctoral fellowship. This program will provide three years of support for independent research carried out by Physician-Scientists in any aspect of biomedical science including the fields of Biochemistry, Genetics, Pharmacology, Molecular and Structural Biology, Immunology, Pathology and Physiology.

Fellowship Terms
Three years of support will be provided for a fundamental research project that will be carried out in laboratories at Southwestern Medical School.

- $50,000-$60,000 annual stipend, depending on qualifications.
- $40,000-$70,000 research support, which includes salary for a Research Assistant.
- $120,000 for laboratory start-up.
- Access to core facilities for tissue culture, large equipment, etc.
- 800 sq. ft. lab adjacent to other PEPR fellows in new facility (1993).

Junior Faculty Appointment.
Independent laboratory space.

Eligibility
People holding both M.D. and Ph.D. degrees required with the first of these degrees awarded no earlier than four years prior to application.

Application
Please submit a one-page abstract of the research proposal, together with a curriculum vitae and the names, addresses and telephone numbers of three references. Based on review of these materials, finalists will be invited to submit a more detailed research proposal, not more than eight pages in length.

Applications and inquiries should be addressed to:
PEPR Fellowship Selection Committee
R. Sanders Williams, MD, Michael S. Brown, MD, Alfred Gilman, MD, PhD, and Joseph Goldstein, MD
The University of Texas Southwestern Medical Center
6323 Harry Hines Blvd., Dallas, TX 75235-8573
Telephone (214) 648-1400 FAX (214)648-1450

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

Wayne State University

CELL AND DEVELOPMENT BIOLOGY

The Department of Biological Sciences invites applications for four tenure track positions at the assistant, associate and full professor level. We are seeking individuals with their primary research interest in molecular analyses of signal transduction pathways, molecular genetic analysis of development, and developmental neurobiology, although all areas of cell and developmental biology will be considered. We are particularly interested in candidates who bring a broad interdisciplinary approach to their research. The department is undergoing a significant expansion and expects to be recruiting in other areas of biology in the near future.

Substantial space and start-up funds will be made available to the successful candidates. The department occupies a new seven story research building with animal rooms, greenhouses, microscopy facilities and Drosophila support facilities.

Applicants must have demonstrated excellence in research and the potential for the highest quality teaching. Candidates will be expected to establish and maintain an extramurally funded research program and participate in both undergraduate and graduate 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 Lillie
Chair, Department of Biological Sciences
Wayne State University
Detroit, MI 48202

Wayne State University is an equal opportunity/affirmative action employer.
Wayne State University - People working together to provide quality service.
POSTDOCTORAL POSITION

On the molecular pathogenesis of adenovirus. Research on the molecular mechanisms by which adenovirus proteins affect cell killing (apoptosis) induced by oncolytic, TNF, and vaccinia virus is being pursued by TNF, EGF, and with adenovirus vectors. Experience in molecular and cellular biology and/or immunology is desirable. Send curriculum vitae and names of three references to:

William Wold, Director of Molecular Virology and Immunology
St. Louis University School of Medicine
1402 South Grand
St. Louis, MO 63104
Equal Opportunity Employer.

POSTDOCTORAL POSITIONS available. NIH and VA funded positions in skin disease and cancer research available for Ph.D.s or M.D.-Ph.D.s. Prior training in molecular and cellular biology or molecular genetics. Projects include: (i) linkage analysis of familial polyposis coli (FPC), (ii) identification of epidermal differentiation genes by positional cloning (Genomics, 21:359-363, 1993), and (iii) cellular function of CaV1A, a Type II nuclear suppressor gene (PNAS, 89:2504, 1992). Send curriculum vitae and references to: Dr. Michael W. Johnson, Department of Genetics, Perdido Street, New Orleans, LA 70112. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS available. Send curriculum vitae and names of three references to: Dr. S. Marshal, Department of Biochemistry and Molecular Biology, LSU Medical Center, 1901 Perdido Street, New Orleans, LA 70112. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL position available immediately to study mechanisms of lymphoid interstitial pneumonia in lentivirus infected sheep. Qualifications include Ph.D. and expertise in retrovirology, immunology, molecular biology and virology, and experience with sheep. Send curriculum vitae, summary of research experience and interests, and names/address of three references to: Dr. Janet C. Delehanty, Department of Pathology, Colorado State University, Fort Collins, CO 80523. Telephone: 303-221-1364; FAX: 303-491-0603.

POSTDOCTORAL POSITION, University of California, Irvine

Two POSTDOCTORAL POSITIONS and an ACademlc ASSISTANT RESEARCHER POSITION are available in the laboratory of Patricia H. Ho with the following research interests: (i) studies on cytochrome P450 system of lungs, liver and CNS supported by NIH grants. This ongoing research program seeks to characterize the molecular mechanisms of P450 inducible, free radical generation from P450 and their contribution to the development of bronchopulmonary dysplasia of the young preterm infant. Applicants should have a strong background in genetic or biochemical purification techniques. Please send curriculum vitae and names/address of three references to: Dr. Patricia H. Ho, Department of Pharmacology, University of California, Irvine, CA 92717-5305. The University of California is an Equal Opportunity Employer.

POSTDOCTORAL POSITION

in Molecular Biology available immediately for a postdoctoral scientist with a strong molecular biology background to characterize flavonol-stimulated pollen development. High probability of publication and publication coinventors important for entry into host cells and assembly of progeny virions. Candidates will also receive state-of-the-art training in molecular biological and biochemistry techniques. Interested candidates should send curriculum vitae and the names of three references: to Randall J. Owens, Ph.D., Department of Virology and Molecular Biology, St. Jude Children’s Research Hospital, Danny Thomas, Founder, P.O. Box 318, Memphis, TN 38101-0318. Telephone: 901-523-2379; FAX: 901-523-2622. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in Molecular Biology available immediately for a postdoctoral scientist with a strong molecular biology background to characterize flavonol-stimulated pollen development. High probability of publication and publication coinventors important for entry into host cells and assembly of progeny virions. Candidates will also receive state-of-the-art training in molecular biological and biochemistry techniques. Interested candidates should send curriculum vitae and the names of three references: to Randall J. Owens, Ph.D., Department of Virology and Molecular Biology, St. Jude Children’s Research Hospital, Danny Thomas, Founder, P.O. Box 318, Memphis, TN 38101-0318. Telephone: 901-523-2379; FAX: 901-523-2622. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS available to study genes that determine the yeast replicative life span, their human homologs and age-responsive promoter elements (Genomics, 1993, 1318-216-224, 1994); 269:15451. J. Biol. Chem. [1994], 269:18638). Experience in molecular techniques essential and in yeast genetics helpful. Send CV and names/address of three references to: Dr. Samuel J. Marzinski, Department of Biochemistry and Molecular Biology, LSU Medical Center, 1901 Perdido Street, New Orleans, LA 70112. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION

in Molecular Biology available immediately to study the molecular mechanisms of P450 inducible, free radical generation from P450 and their contribution to the development of bronchopulmonary dysplasia of the young preterm infant. Applicants should have a strong background in genetic or biochemical purification techniques. Please send curriculum vitae and names/address of three references to: Dr. Patricia H. Ho, Department of Pharmacology, University of California, Irvine, CA 92717-5305. The University of California is an Equal Opportunity Employer.

POSTDOCTORAL POSITIONS available. Send curriculum vitae and names of three references to: Dr. Michael W. Johnson, Department of Genetics, Perdido Street, New Orleans, LA 70112. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION

This position will investigate viral hepatits and liver cancer. Experience in molecular biology or cellular immunology is preferred.

Qualified candidates should submit curriculum vitae and three professional letters of reference to: University of Texas Medical Branch, Department of Pathology, Attention: Dr. Chiao Shih, Galveston, TX 77555-0605.

The University of Texas Medical Branch (UTMB) is an Equal Opportunity/Affirmative Action Employer. Male/Female/Heterosexual/Veteran. UTMB is a smoke-free/drug-free workplace. UTMB hires only individuals authorized to work in the United States.

POSTDOCTORAL POSITION

in BACTERIAL PATHOGENESIS

Immediate opening for a Ph.D. and/or M.D. with research experience in molecular biology for a postdoctoral fellow in molecular mechanisms of bacterial pathogenesis. Research involves recombinant DNA techniques for studying gram-positive pathogens, in particular, Staphylococcus, and developing genetic techniques for studying potential virulence determinants. Please send curriculum vitae and names/address of three references to: Dr. James E. Michel, M.D., Ph.D., Channing Laboratory, 180 Longwood Avenue, Boston, MA 02115. Telephone: 617-436-2683; FAX: 617-731-1541. Equal Opportunity/Affirmative Action Employer. Women and minorities are equally encouraged to apply.

POSTDOCTORAL POSITIONS

UNIVERSITY OF MINNESOTA

AQUATIC SCIENCES

Two opportunities are available immediately at the Gray Freshwater Biological Institute (GBI), which is located on the shores of Lake Minnetonka, 35 miles west of the University of Minnesota campus in the Minneapolis/St. Paul metropolitan region. The mission of the GBI is to study chemical-biological interactions in freshwaters. All individuals hired for this position are in good standing with the GBI. The mission are encouraged to apply. Current faculty research includes organic biogeochemistry, microbial ecology, and biological limnology. Send curriculum vitae, three letters of recommendation, and reprints to: Robert W. Sterner, Gray Freshwater Biological Institute, Box 100, County Roads 15 and 19, Navarre, MN 55392.

POSTDOCTORAL RESEARCH POSITION

available immediately at Shriners Hospital, Portland, Oregon to study regulation of chondrocyte-specific gene expression. Experienced molecular biologist preferred. Send curriculum vitae and names of three references to: Dr. Kurt Doerge, Shriners Hospital for Crippled Children, 3101 S.W. Sam Jackson Park Road, Portland, OR 97201; or FAX: 503-221-3451. No phone calls please. Shriners Hospitals for Children is an Equal Opportunity Employer and maintains a drug/alcohol-free workplace.

POSTDOCTORAL POSITION

available immediately at the University of Minnesota to study gene delivery technology toward applications in cancer gene therapy. Candidates should have expertise in molecular biology, including basic mammalian gene expression and recombinant DNA technology. Previous experience in cellular immunology and cancer immunotherapy is highly desirable. Agracetus Inc. is an Equal Opportunity Employer and maintains a drug/alcohol-free workplace.

POSTDOCTORAL POSITION

available immediately at the University of Wisconsin, Madison. We offer an excellent compensation and benefits package. Send resume with three references to: Human Resources, Agracetus, Inc., 8520 Unitarian Way, Green, Middleton, WI 53562. FAX: 608-836-9710. Equal Opportunity Employer.
DNA PROBE DIAGNOSTICS

Digene Diagnostics, Inc. is a rapidly growing company dedicated to the development and marketing of DNA probe-based diagnostics. As a result of recent scientific breakthroughs, Digene is expanding its research and development programs. We are seeking creative, energetic and motivated individuals who thrive in a fast-paced team environment to participate in our growth. We currently have the following opportunities.

Senior Scientist - Human Genetics
Successful candidates will design and develop probe-based diagnostic products for the human genetics marketplace. Responsibilities include cloning and characterization of probes for targeted applications, optimization of assay performance characteristics and the transfer of new products into manufacturing. The position requires hands-on benchwork and creative, critical scientific abilities. Applicants must have a Ph.D. in biochemistry, molecular biology or microbiology with 2-4 years relevant industrial or academic experience.

Mid-Level Scientist - Molecular Biology
Responsibilities include design of specimen processing methods, identification of new DNA probes and creation of new infectious disease assays. Applicants must have a Ph.D. or M.S. degree in Molecular Biology with 2 years experience in molecular virology or clinical microbiology.

Manager - Technical Transfer
Responsibilities include technical and managerial support for the transfer of Digene's DNA probe products from R&D to manufacturing. Expertise in clinical immunoassay scale-up and production is required. Applicants must have a Ph.D. or M.S. in microbiology, molecular biology or immunology and 2-4 years of relevant industrial experience.

Please forward your resume to: Digene Diagnostics, Inc., Attn: Maurine Mazzeo, 2301-B Broadbirch Drive, Silver Spring, MD 20904. An Equal Opportunity Employer.

Our graduate programs offer comprehensive training in emerging as well as traditional disciplines in Plant Biology. As one of the most highly ranked botany departments in the US, our faculty provide exceptional educational and research opportunities in the biochemical, cellular, developmental, ecological, evolutionary and systematic, genetic, molecular and physiological aspects of plants and fungi. We invite applications from persons interested in studies leading to M.S. and/or Ph.D. degrees in these fields. Students are admitted to the program with full financial support from a number of sources including Graduate School Assistantships. Funds for research and scholarship are also from:

The Frank U. Palfrey Endowment Fund
Mechanisms of Plant Evolution Training Grant
Mycology Training Grant
Research Grants from DOE, NIH, NSF, USDA, Rockefeller Foundation and Agrochemical Companies.

More information and application materials can be obtained via gopher, world-wide web, e-mail (admit@dogwood.botany.uga.edu) or by contacting: Graduate Admissions Committee, Department of Botany, University of Georgia, Athens, GA 30602-7271. Telephone: 706-542-3792; Fax: 706-542-1805.

Incyte Pharmaceuticals is an energetic, entrepreneurial biotech company focused on using high throughput cDNA sequencing technologies and bioinformatics for development of the next generation of pharmaceuticals and diagnostics. The following positions present a unique opportunity for talented professionals to join a strong group of molecular biologists developing methods that will alter how medicine will be practiced in the very near future!

SCIENTISTS

Two positions are currently available for candidates with a Ph.D. in biology or biochemistry and several years of post-doc training. Excellent communications skills are essential. A background in immunology or neuroscience would be helpful.

The first position will be responsible for generation of RNA from limited numbers/amounts of cells or tissues to be used in cDNA library construction. Candidates will need proven skill in basic molecular biology techniques with training in electrophysiology, anatomy and in situ transcription/hybridization. Reference GMS

The second position will initially focus on production of normalized/subtracted cDNA libraries. A strong hands-on background in RNA methodology and library construction is required. Reference PMB

RESEARCH ASSOCIATE/ASSISTANT

To qualify for this B.S./M.S.-level position, you must have a minimum of one year of laboratory experience following receipt of your degree. Experience in basic molecular biology techniques, including RNA methods and transcription assays, is essential. Excellent communication abilities are a must. Reference AMS

Incyte offers a premier work location in the foothills of Palo Alto, California, along with competitive salaries, an excellent benefits package and equity participation. Please forward your c.v. in confidence, indicating reference code for the position of your interest, to Human Resources, Incyte Pharmaceuticals, Inc., 3330 Hilview Ave., Palo Alto, CA 94304. Incyte is an equal opportunity employer.

Incyte Pharmaceuticals, Inc.
POSITIONS OPEN

POSTDOCTORAL FELLOW/ RESEARCH ASSOCIATE
NUCLEAR HORMONE RECEPTORS

A POSTDOCTORAL POSITION is available immediately for studies to determine mechanisms of action of 1,25(OH)2D3. One area of particular interest is the use of genetic systems in yeast to identify target genes induced in bone by 1,25(OH)2D3. Applicants should have expertise in recombinant DNA technology. Tissue culture experience is desirable. Send curriculum vitae and the names and addresses of three references to: Dr. Donald S. Mathews, Director, Duke University Medical Center, Box 3813, Durham, NC 27710. Duke University is an Equal Opportunity/Affirmative Action Employer.

IMMUNOLOGY

Two POSTDOCTORAL FELLOWS positions are available to study antigen presentation process in the immune system. Research focuses on in vitro animal models, and takes a multidisciplinary modern biological approach, including conditional gene targeting. Applicants should have a strong background in molecular biology and/or biochemistry. Experience in gene targeting is not required. Please send curriculum vitae and three letters of recommendation on letterhead paper to: Dr. Khalid A. Sheibani, Division of Immunology, NIAID, Room 139, 12441 Parklawn Drive, Rockville, MD 20852. FAX: 301-480-2618. NIH is an Equal Opportunity Employer.

POSTDOCTORAL/RESEARCH ASSOCIATES


SENIOR SCIENTIST/MOLECULAR GENETICS
ANIMAL & PLANT ANALYSIS

DataGenetics is a DNA laboratory which contracts with plant and animal breeding companies and undertakes human/biomedical projects. Applicants need a Ph.D. or equivalent with expertise in plant and animal molecular genetics, practical breeding issues, and population genetics. Emphasis on RE. Senior scientist position involves directions of data production and interpretation, client liaison, project design. Send resume to: DataGenetics Corporation, Humano Resources, 1930 Medical Street, No. 207, San Antonio, TX 78215 (Principals only).

POSTDOCTORAL POSITION IN NEUROSCIENCE

Projects related to receptor localization and circadian biology. Emphases include in situ hybridization, immunocytochemistry, electrophysiology, and neuroanatomy. Send curriculum vitae and names of references to: Dr. Scott Rikvde, Riley Hospital, Room 5984, Indiana University School of Medicine, 702 Barnhill Drive, Indianapolis, IN 46202. FAX: 317-274-3882. Equal Opportunity Employer.

CHEMICAL/BIOENGINEER

is sought to direct research efforts for the intravenous membrane oxygenator development program at the University of Pittsburgh. M.S. or Ph.D., minimum of three years of experience working in a medical device development required; expertise in oxygenator technology or respiratory physiology desired. Send letter of application with salary requirements and list of references to: Patricia Sawzik, Suite C-700, Presbyterian University Hospital, 200 Lothrop Street, Pittsburgh, PA 15213.

RESEARCH ASSOCIATE POSITION. Heineman Medical Research Laboratory is seeking an individual with a doctorate degree in microbiology and experience in fluid mechanics of prosthesis, bioprosthetic, or natural heart valve. Individuals who have studied flow patterns in the heart valves are preferred. The appointment is for one to two years with a possibility of extension. Heineman Laboratory offers an excellent environment for scientific development. Interested candidates should send curriculum vitae and references to: Dr. Mano J. Thubrikar, Heineman Medical Research Laboratory, Carolina Medical Center, 1000 Blythe Boulevard, Charlotte, N.C. 28203. Telephone: 704-355-2668; FAX: 704-355-7164.

POSITIONS OPEN

PREDOMOCRAT TRAINING IN NEUROSCIENCE

INTERDISCIPLINARY PH.D. PROGRAM IN NEUROBIOLOGY

Louisiana State University School of Medicine
New Orleans

Established in 1992, this program offers intensive training in neuroscience. Research conducted at the Louisiana State University Louisianet at East New Orleans focuses on several areas of neuroscience, including sensory systems in flies, vertebrates, and humans; and/or other areas in modern biological neuroscience. Students are recruited from the medical school, the School of Biological Sciences, the School of Public Health, or other programs in these disciplines. Interested candidates should send a curriculum vitae, a statement of research interests, and names of three references to: Dr. John W. Davis, Director, Interdisciplinary Graduate Programs, School of Biological Sciences, Box 8056, Louisiana State University, Baton Rouge, LA 70808. Telephone: 504-388-2731. Fax: 504-388-4624. Equal Opportunity/Affirmative Action Employer.

ONTOGENY, INC.

Ontogeny is a well-financed new biotech company specializing in developmental biology. The company will make use of molecular biology to identify signals that induce cell differentiation and tissue development. We seek highly motivated individuals, at the B.S., M.S., or Ph.D. level, to join our team of researchers in a stimulating environment.

CELL BIOLOGISTS. Applicants should have experience in cell culture. Experience with skin, nerve or pancreatic cells would be an advantage.

MOLECULAR BIOLOGISTS. Applicants should have experience in library screening, expression systems and protein production.

BIOCHEMISTS. Applicants should have experience in protein chemistry and protein purification.

Ontogeny is located at the center of Cambridge and offers excellent salary, benefits and incentive stock plans. Please forward your resume by FAX to 617-225-0096. Alternatively, write to: Ontogeny, 1 Kendall Square, Building 600, Cambridge, MA 02139. An Equal Opportunity Employer.

SYSTEMATIC ENTOMOLOGIST

The Center for Biodiversity, Illinois Natural History Survey, has an opening available 1 January 1994 for an ASSISTANT or ASSOCIATE PROFESSIONAL SCIENTIST. Candidates should be well versed in modern systematic and phylogenetic theory, maintain an active externally funded research program in systematic entomology, and have expertise in one or more of the following: (a) developing and enhancing collections, such as through field work and/or revisionary or evolutionary studies; and (b) population biology. Affiliate appointment with the University of Illinois possible. Ph.D. in an appropriate discipline required. Postdoctoral experience preferred. Send letter of application, curriculum vitae, statement of research interests, reprints of two most recent publications and, the names, addresses, and telephone numbers of three references by October 14, 1994, to: Ms. Jacqueline Sanders, Personnel Officer, Illinois Natural History Survey, 607 East Peabody Drive, Champaign, IL 61820. Telephone: 217-244-7790. The Illinois Natural History Survey is an Equal Opportunity Employer and an American with Disabilities Employer.

RESEARCH ASSOCIATE IN OCULAR IMMUNOLOGY

Position available immediately at the POSTDOCTORAL OR INSTRUCTOR level to participate in established research program in (a) cytokine regulation of ocular inflammation; (b) early stages of uveitis; (c) cell-based therapy for AIDs-related cytomegalovirus retinitis. Ph.D. or equivalent required with a strong background in molecular biology. Salary range commensurate with experience. Send curriculum vitae, brief statement of research interests, and names of three references to: Dr. Scott Cousins and Dr. Richard Dix, P.O. Box 016880, Box 016880, Pembroke, FL 33101. An Equal Opportunity/Affirmative Action Employer.

RESEARCH ENGINEER

Responsible for creating mathematical models of the human body using the Kane’s Method of Dynamics which predict joint reaction and muscle forces. Creates computer programs to simulate effects of testing orthopedic devices and assists in the design and functioning of devices. Performs scientific experiments including cadaveric and fluoroscopic testing for application of orthopedic devices including implants and computer generated simulations. Assists in developing performance standards for orthopedic products; prepares and presents research reports to and conducts research to applicable groups; serves as a liaison between in-house and outside research groups and suppliers; and serves as a liaison to sales and marketing personnel; and serves as an expert in the field. Candidate must possess a background in physiology and/or orthopedics; working knowledge of Kane’s Method of Dynamics along with two years of experience in and ability to apply same to the human body (experience may be acquired either in school or in the workplace); experience in and ability to mathematically model soft tissues and rigid bodies; experience in and ability to utilize FORTRAN software; publication and preparation of technical research papers is required as is ability to work with cadavers; must be able to work a flexible schedule, travel, and work outside of normal business hours. Equal Opportunity Employer.

POSTDOCTORAL RESEARCH FELLOW

Developed projects related to role of PI 3 kinase activation in uveal melanoma. Experience in vitro work with adenoviruses in adenosines, or regulation of brain ins. 1,4,5-Tetracalcium phosphate formation. Applicants must have Ph.D. degree and are expected to pursue permanent research career. PI is interested in extending opportunity for funding. Contact: Dr. John N. Fain, Department of Biochemistry, University of Tennessee, Memphis, TN 38163. FAX: 901-448-7360. The University of Tennessee is an Equal Opportunity/Affirmative Action/Titles VII and IX/Sex/ADA Employer.
AMERICAN SOCIETY FOR MICROBIOLOGY FELLOWSHIP PROGRAMS

The American Society for Microbiology offers predoctoral and postdoctoral fellowships in the following areas:

- Biology
- Infectious Diseases
- Biomedical Science
- Microbiology

Application deadlines range from December 1, 1994 to May 1, 1995.

For more information contact:
Office of Education and Training,
American Society for Microbiology,
1325 Massachusetts Avenue, N.W.,
Washington, D.C. 20005.

BIOTECHNICAL / PHARMACEUTICAL JOB FAIRS

La Jolla, California
Cambridge, Massachusetts

Friday, September 23, 1994
Friday, September 30, 1994

Saturday, September 24, 1994
Saturday, October 1, 1994

Interviewing Companies to date—

- Depotech
- Genzyme
- Gen-Probe
- Serono Laboratories
- Systemix
- Sugen
- AMVAX (North American Vaccine)
- FDA—Center For Drug Evaluation & Research
- FDA—Center For Biologics Evaluation & Research

CAREER CONNECTION, the nation’s leader in industry specific Job Fairs, provides a unique forum in which Biotechnical employers interview, in private suites, experienced candidates with diversified levels of skill in: Biotechnical and Pharmaceutical Research & Development, Manufacturing, QA/QC, Validation, Marketing & Sales, Clinical Research, Regulatory Affairs, and many other positions in biology and chemistry. Candidates can pre-register by sending or faxing their resume to CAREER CONNECTION. Attending Candidates should bring extra resume copies and please dress in business attire. Admission is free. For more information please call:

CAREER CONNECTION
Dept. SC-994, P.O. BOX 7451, Thousand Oaks, CA. 91359
(805) 374-8777 or (800) 967-0020 FAX (805) 494-1870
Pre-clinical and Clinical Appointments:

Applications are invited for the following appointments in the Faculty of Medicine:

ANATOMY:
(8 posts)
Professor/Associate Professor/Assistant Professor
- Human Gross Anatomy
- Neuro-anatomy
- Microscopic or Developmental Anatomy

BIOCHEMISTRY:
(7 posts)
Professor/Associate Professor/Assistant Professor
- Nucleic Acid Specialist(s)
- Protein Biochemist(s)
- Membranes biochemist(s)
- Endocrinology oriented biochemist

COMMUNITY MEDICINE AND BEHAVIORAL SCIENCES:
(5 posts)
Professor/Associate Professor/Assistant Professor
- Social Psychologist (1)
- Environmental and Occupational Health (1)
- Community Medicine and Epidemiology (1)
- Occupational Epidemiology (1)
- Biostatistics (1)

MICROBIOLOGY:
(4 posts)
Professor/Associate Professor/Assistant Professor
- Clinical Microbiology (Medically qualified) (1)
- Clinical Immunology (1)
Associate Professor/Assistant Professor
- Parasitology (1)
- Clinical Virology (1) - preferably MRCPath

PATHOLOGY:
(7 posts)
Associate Professor/Assistant Professor
- Histopathology (1)
- Hematology (2)
- Cytopathology (2)
Assistant Professor
- Clinical Chemistry (1)
Associate Professor
- Cell Biology (1)

PHARMACOLOGY:
(2 posts)
Associate/Assistant Professor
- Neuropharmacology (Established research interest in CNS pharmacology)
- Clinical Toxicologist (Experienced in therapeutic drug monitoring analytical methodology in clinical pharmacology and toxicology)

PHYSIOLOGY:
(5 posts)
Associate/Assistant Professor
- Endocrine Physiology (1)
- Renal Physiology (1)
- Respiratory Physiology (1)
- Neurophysiology (1)
- General Physiology (1)

MEDICINE:
(8 posts)
Professor/Associate/Assistant Professor
- Therapeutic
- Clinical Hematology
- Infectious Diseases
- Respiratory Medicine

NUCLEAR MEDICINE:
(8 posts)
Professor/Associate/Assistant Professor
- Clinical Nuclear Medicine Physicians (1)
- Nuclear Medicine Physicists (2)
- Radio Immunoassay Scientist (1)

OBSTETRICS AND GYNECOLOGY:
(8 posts)
Professor and Chairman Reproductive Medicine (1)
Professor
- Gynecological Oncology (1)
Associate Professor
- Perinatal Medicine & Gynecological Urology (2)
Assistant Professor
- Obstetrics & Gynecology (4)

PEDIATRICS:
(9 posts)
Professor/Associate/Assistant Professors
- Pediatric Neurology
- Clinical Genetics
- Pediatric Nephrology
- Pediatric Allergy & Clinical Immunology
- Pulmonary Medicine
- Pediatric Critical Care Medicine
- Neonatologist
- Emergency Medicine
- Pediatric Cardiology

PRIMARY CARE:
Professor/Associate/Assistant Professor
- Family Practice
- General Practitioner
(MRCGP or equivalent, knowledge of Arabic language will be an advantage)

(continued on next page)
RADIOLOGY:
(2 posts)
Assistant Professor
Clinical Radiologist
(Interest in Color Flow Doppler Ultrasound Scanning and/or interest in stereotactic techniques in relation to breast cancer)

SURGERY:
(12 posts)
Professor (1) Vascular Surgery
Professor (1) Transplant
Professor (1) /Associate Professor (1) /Assistant Professor (2)
General Surgery
Professor (1) /Associate Professor (1)
Orthopedics
Professor (1) /Assistant Professor (1)
Urology
Professor (1) /Assistant Professor (1)
Anesthesia

REQUIREMENTS FOR APPOINTMENT:
Qualifications: Applicants should possess a Ph.D. or an equivalent high professional qualification, i.e. FRCS/MRCP/MRCOG/MRCPath/MD/American Board in their respective specialty and have conducted and published research in their field. Professors should have at least 14 years experience, 4 as an Associate Professor, or its equivalent. Associate Professor should have at least 9 years experience, 4 as an assistant professor or its equivalent.

CONDITIONS OF APPOINTMENT:
Salaries: Total monthly salaries will be within the following scales according to qualifications and experience (1 KD = 2.1 St. pounds, US$ 3.4 approximately). Increment per year KD 20/-.

Professors:
With clinical appointments = KD 1210-1370 (8 increments)
Medically qualified with a
Ph.D. in Medical Science = KD 1140-1300 (8 increments)
Non-Medically Qualified = KD1070-1230 (8 increments)

Associate Professors:
With clinical appointments = KD 989-1149 (8 increments)
Medically qualified with a
Ph.D. in Medical Science = KD 932-1092 (8 increments)
Non-Medically qualified = KD 875-1035 (8 increments)

Assistant Professors:
With clinical appointments = KD 768-928 (8 increments)
Medically qualified with a
Ph.D. in Medical Science = KD 724-884 (8 increments)
Non-Medically qualified = KD 680-840 (8 increments)

OTHER ALLOWANCES: Social allowance will be paid in addition to the monthly salary as per the University regulations. Clinical allowances from the Ministry of Public Health for 10 months a year (i.e., the University academic year from September to the end of June) for clinical service commitments are as follows:

Professor and Chairman: KD 450/-
Professor: KD 400/-
Associate Professor: KD 300/-
Assistant Professor: KD 200/-

OTHER BENEFITS: Conference attendance. Gratuity. Furnished Accommodation (electricity and water free of charge). Free medical treatment in Kuwait. Free annual round-trip air tickets from country of citizenship or permanent residence for self and family up to three dependent children. Baggage and freight allowance. Education fees for maximum of three children in Kuwait from elementary through high school. No taxation. Currency is transferable without restriction. 60 days paid annual leave.

METHOD OF APPLICATION: Curriculum vitae in duplicate which should include the names of three referees; personal particulars; copy of the relevant pages of passport; qualifications with dates; career history, teaching experience, research accomplishments and clinical experience, where appropriate, should be sent to:

The Vice-Dean of Administration
(Recruitment Office)
Faculty of Medicine
University of Kuwait
P.O. Box 24923
Safat, 13110, Safat KUWAIT
or
Fax: 5318454
Pharmacology/Toxicology Scientist

Somatogen, a biopharmaceutical company located in Boulder, Colorado, currently engaged in the clinical trials of a recombinant human hemoglobin as a human substitute, has an exciting opportunity available for a Scientist in our Pharmacology/Toxicology Department.

Responsibilities include designing and managing preclinical studies pertaining to pharmacology, pharmacokinetics, drug metabolism and toxicology. Requires a Ph.D. in a related field plus a minimum of 2 years of relevant experience in industry.

A competitive salary, relocation and benefits package complement this offer. Interested candidates may submit their resume to:

SOMATOGEN
Dept. 708
2545 Central Avenue
Boulder, CO 80301

Somatogen is an equal opportunity employer.

G-Protein Coupled Receptor

COR Therapeutics, Inc. is a publicly-held biopharmaceutical company located in the San Francisco Bay Area. We specialize in the discovery and development of novel pharmaceutical products for the treatment and prevention of severe cardiovascular disease. We currently have an exceptional opportunity for an experienced Senior Scientist to lead our G-Protein Receptor Coupled research team.

This individual will be responsible for directing the efforts of existing groups of biochemists, molecular, and cell biologists involved in research programs in the G-protein coupled receptor area. The Program Team Leader will also be responsible for coordinating and evaluating outside collaborations and interacting with individuals involved in pharmacology, drug screening and medicinal chemistry efforts directed at these G-protein coupled receptors.

The successful candidate will have a Ph.D. in Molecular or Cell Biology or a related field. The position also requires 7-10 years of experience focused on the biology of G-protein coupled receptors. Previous experience in these areas related to cardiovascular disease would be a plus. The candidate should also have recent experience in state of the art technology in molecular biology and biochemistry and their applications to drug discovery. Additionally, the candidate should have demonstrated superior management skills and be able to successfully function in a highly collaborative atmosphere.

COR Therapeutics, Inc. offers competitive salaries, benefits and attractive equity positions to its employees combined with the challenge and opportunity to make significant research contributions. To apply, please send curriculum vitae to: COR Therapeutics, Inc., Human Resources (Job Code #R36-94-S), 256 East Grand Avenue, South San Francisco, CA 94080. COR is an equal opportunity employer.

PROGRAM TEAM LEADER

Together with all the Boehringer Ingelheim companies world wide, we are committed to Value Through Innovation as our driving ambition.

As a major international pharmaceutical company, we have made a commitment to innovation through world class R&D facilities, programs and scientific staff. The following opportunity exists in our drug discovery group:

PULMONARY PHARMACOLOGIST

We require a Ph.D. with post-doctoral experience in pulmonary pharmacology and/or physiology to help design and implement models of inflammation-based pulmonary disease. The ideal candidate will have experience with methodologies appropriate to assess respiratory function in both small and large animal models with primate experience highly preferred. Two or more years relevant experience in the pharmaceutical industry is desired.

Located on a campus-like setting in a beautiful area of Western Connecticut, we offer an excellent compensation and benefits package, the opportunity to be involved in interesting and challenging work, and a chance to contribute to our innovative discovery program. For confidential consideration, send your resume to: Dept. JC-15-PC, Boehringer Ingelheim Pharmaceuticals, Inc., 900 Ridgebury Road, P.O. Box 368, Ridgefield, Connecticut 06877-0368. We are an equal opportunity employer. As a progressive healthcare company, we have a non-smoking environment.

Research Associate

At Amgen, you’ll discover a research environment that emphasizes collaboration, intellectual honesty, scientific integrity, and a supportive culture. This unique approach has helped us grow into a global biotechnology leader in just thirteen years.

INFLAMMATION

We seek a Molecular Biologist to study mechanisms of endothelial cell and monocyte activation. BS/MS in Biology or related discipline with 5+ years’ experience in PCR, cDNA library construction and screening. Experience in cell biology is desirable.

At Amgen, you’ll find our approach to scientific research as rewarding as it is effective. We offer a highly competitive compensation and benefits package that includes a retirement and savings plan, an on-site fitness center, and three weeks’ vacation. Please FAX/mail your resume/c.v. to: FAX: (805) 447-1985, Amgen Inc., Staffing, Job Code OA-SC-HL-001, Amgen Center, Thousand Oaks, CA 91320-1789. For additional information regarding Amgen’s recruitment process, please call (805) 447-4150. Principals only, please. EEO-Affirmative Action Employer M/F/D/V. We recognize that diverse perspectives are a key factor in the process of discovery.

Boehringer Ingelheim

COR THERAPEUTICS, INC.

Amgen

Discover a unique approach.
**Fermentation Specialist**

Anheuser-Busch, a Fortune 50 company and America's #1 brewer, currently has an opportunity available for a Fermentation Specialist to join us at our Corporate Headquarters in St. Louis, Missouri.

The ideal candidate will have at least a B.S. in microbiology, biochemistry, or fermentation science, and at least 3 years' industrial experience. Experience in the brewing industry and with yeast fermentations is highly desirable. Must be proficient in statistics, possess confidence and excellent communication skills. In addition, you must have the proven ability to manage projects and work in a team environment.

If you possess the strong work ethic, ambition and work history that this challenging role calls for, the rewards can be outstanding. To apply, please send your resume and salary history to: ANHEUSER-BUSCH, INC.; Corporate Employment; Dept: A-62-RK-134; One Busch Place; St. Louis, MO 63118. Equal Opportunity Employer.

Anheuser-Busch Inc.
ONE OF THE ANHEUSER-BUSCH COMPANIES

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**WORLD HEALTH ORGANIZATION (WHO) INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC)**

IARC has an opening in its laboratories in Lyons, France, for a molecular geneticist with a strong internationally competitive research programme in Genetic Cancer Susceptibility.

The successful applicant should have a Ph.D. or in biochemistry or in molecular biology as well as an extensive experience in the field of human genetics. He/she would have considerable experience in molecular and genetic studies of carcinogenesis including international experience in the planning/development and coordination of collaborative projects and good experience in training/supervising staff. Technical expertise should include genetic mapping of disease susceptibility loci and identification of genetic alterations at the molecular level. Experience in the development of experimental models such as transgenic mice will be appreciated.

The incumbent is expected to head a research unit focusing on genetic susceptibility to environmentally induced cancer. The incumbent is responsible for developing and overseeing original projects aimed at evaluating useful approaches to the role of inherited genetic factors in cancer development. He/she interacts and collaborates with other IARC experimental scientists and epidemiologists and outside collaborators in the implementation of molecular epidemiological studies and their executions and represents the Agency in his/her capacity of expert at scientific meetings. The incumbent has to keep abreast with the methodological development in this field.

The initial appointment will be for two years, the first being probationary, and is renewable.

The annual salary level is US $51,466 p.a. at single rate and US $53,530 for a staff member with dependants plus a cost of living element which is currently 45% of the above figures. Salaries are tax free.

Those interested should write, enclosing a curriculum vitae, to:

Personnel Office
I.A.R.C.
150, Cours Albert Thomas
F-69372 Lyon Cedex 08 FRANCE

Fax no: (33) 72 73 85 75

Applications from women are encouraged.

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The Health and Environmental Review Division (HERD) of the Office of Pollution Prevention and Toxics of the USEPA is seeking health and environmental scientists with a Ph.D. or equivalent education and experience in one or more of the following areas:

1. Developmental/Reproductive Toxicology
2. General Toxicology
3. Inhalation Toxicology
4. Immunotoxicology
5. Ecotoxicology

HERD provides scientific expertise to evaluate data from studies on the effects of chemicals which could result in adverse effects to human health or the environment.

HERD is responsible for formulating, reviewing, and updating procedures and protocols used by industry in performing required testing of chemicals for effects on human health and the environment. The positions involve evaluating data assembled from various sources including literature searches and research projects concerning the effects of selected chemicals and classes of chemicals on human health and the environment. The positions also require developing guidelines to perform laboratory testing of chemicals for effects on human health and the environment. The positions also involve working on interdisciplinary teams in areas pertaining to toxic chemical control, pollution prevention, and the effects of specific industries and specific chemicals. These are non-laboratory positions at the GS 11-13 level. Salary range is from $35,045 to $64,928.

For further information, please submit a completed government form SF-171 or a detailed resume with the names of 3 references and expected salary to:

Ms. Jackie Donaldson
USEPA
Health and Environmental Review Division (7403)
401 M Street, SW
Washington, DC 20460

NO PHONE CALLS PLEASE

"The U.S. EPA is an Equal Opportunity/Affirmative Action Employer."

U.S. Citizens Only
SENIOR SCIENTIST

Roche Diagnostic Systems, Inc., a subsidiary of world-renowned Hoffmann-La Roche, Inc., is a leader in the development, manufacture, and marketing of in-vitro diagnostics for hospitals, laboratories, and physicians. We are seeking a Senior Scientist to be involved with the research and development of immunologically-based diagnostic assays.

The ideal candidate will have a Ph.D. in Chemistry or a Biological Science and zero to three years experience in the development of immunologically-based, in-vitro diagnostic assays. Experience in Hapten Conjugate chemistry and supervisory experience in an industrial setting preferred. The ability to function independently is a must, as are good written and oral communication skills.

We offer a competitive salary, generous benefits package, and a state-of-the-art environment that is conducive to professional success. For consideration, please forward your resume and salary requirements to: Mr. John Mucci, Dept. MCN2, Roche Diagnostic Systems, Branchburg Township, 1080 U.S. Highway 202, Somerville, New Jersey 08876. We are an equal opportunity employer.

ASSISTANT PROFESSOR
MOLECULAR BIOLOGIST

The Department of Physiology at the University of Kentucky College of Medicine invites applications for a tenure track position at the Assistant Professor level. We seek individuals who will establish a strong research program investigating physiological functions at the molecular level and participate in the department's teaching programs. To complement existing strengths, candidates studying the nervous, endocrine, renal, respiratory or cardiovascular systems will be given special consideration, although outstanding candidates in other areas will also be considered. Applicants must have a Ph.D. or M.D. and at least three years of postdoctoral experience. Interactions with other faculty within the College of Medicine, School of Biological Sciences, College of Agriculture, Sanders Brown Center on Aging, the Markey Cancer Center and the Tobacco Health Research Institute provide a stimulating research environment and ample opportunity to collaborate with other researchers.

Applicants should send curriculum vitae, a detailed statement of past experience, future research plans and have letters from three references sent to: Dr. Phyllis M. Wise, Chair, Department of Physiology, College of Medicine, University of Kentucky, Lexington, KY 40536-0084. Review of applications will begin on November 1, 1994. Women and minority candidates are encouraged to apply. The University of Kentucky is an Affirmative Action/Equal Opportunity Employer.

BIOGEOCHEMIST


Applicant should have a strong background in chemistry, geology, soil science, biochemistry, biology or other related fields. The appointee will be expected to develop a nationally-recognized research program in biogeochemistry that relates to basic controls over biogeochemical processes in terrestrial ecosystems and the ways these controls are altered by global changes in climate or land use. Emphasis may be primarily experimental or have a strong process-based modeling component.

Teaching will include participation in undergraduatourses in Environmental Problem Solving and Ecosystem Science.

Submit CV, statement or research interests, copies of transcripts, and names and addresses of four references to:
Chair, Biogeochemist Search Committee
ESPM-Division of Ecosystem Sciences
108 Hilgard Hall
University of California
Berkeley, CA 94720-3110

Applications must be received by November 15, 1994.

For more information and full position description call (510) 642-2210.

The University of California is an Equal Opportunity, Affirmative Action Employer.

CONSERVATION BIOLOGIST


Ph.D. in biology, wildlife biology, ecology, zoology, or other related fields. Experience to include terrestrial vertebrate wildlife biology, with preference given to avian ecology. Research emphasis may include the design of nature reserves, minimum viable population analysis, or other areas of importance in conservation biology.

Teaching will include participation in undergraduate courses in Conservation Biology and Wildlife Management.

Submit CV, statement of research interests, copies of transcripts, and names and addresses of four references to:
Chair, Conservation Biologist Search Committee
ESPM-Division of Ecosystem Sciences
108 Hilgard Hall
University of California
Berkeley, CA 94720-3110

Applications must be received by November 15, 1994.

For more information and full position description call (510) 642-2210.

The University of California is an Equal Opportunity, Affirmative Action Employer.

ASSISTANT PROFESSOR
MGH Cancer Center

The Massachusetts General Hospital Cancer Center and Harvard Medical School have an opening for a tenure track appointment at the level of Assistant Professor. The position will be a joint appointment between the Department of Pathology at Harvard Medical School, the Department of Pathology at MGH, and the MGH Cancer Center. The successful candidate will become a member of the Biology and Biomedical Sciences Program, the recently reorganized graduate training program at Harvard Medical School. The MGH Cancer Center continues to expand its interactive basic research program, and applicants with research experience in all areas of modern biology that relate to cancer research will be considered. Candidates interested in using the genetics of Drosophila, C. elegans, or yeast to study key-regulatory pathways are strongly encouraged to apply.

Applicants should hold the degree of Ph.D., M.D./Ph.D. or M.D. and have sufficient research experience to demonstrate a strong promise of continued success. Resources are available to develop a strong program in contemporary cellular and molecular biology. Applications should include a curriculum vitae, bibliography, and brief statement of research activities. Deadline is November 1, 1994. Send completed applications and three letters of recommendation to:

Search Committee
MGH Cancer Center
Mailcode 149-7330
Building 149, 13th Street
Charlestown, MA 02129

Harvard University/Massachusetts General Hospital are equal opportunity/Affirmative Action Employers. Qualified women and minority group members are encouraged to apply.
Columbia University
Department of Biological Sciences
Faculty Positions

The Department of Biological Sciences of Columbia University announces the first phase of a major expansion of its faculty. Over the next two years we will appoint four new members of the faculty; positions will be at both the junior and the senior levels. If a suitable candidate applies, one senior appointment will be a Chairperson; the successful applicant will be expected to develop and implement an additional expansion. The Department currently is strong in molecular and developmental biology and in neurobiology. We wish to augment and extend these strengths through appointments in these and related fields. Substantial start up packages and well appointed and extensive laboratory space will be made available to successful candidates.

Chairperson: Applications and nominations are invited for the position of Chair. The candidate must be a recognized leader in biological research. Search Committee Chair: Martin Chalfie Molecular Genetics, Biochemistry, Cell and Developmental Biology: Three or four positions are available; the level of appointment may be either junior or senior. Search Committee Co-Chairs: Carol Prives and Miu-ying Foo.

The deadline for applications and nominations is November 1, 1994. Materials should be addressed to Ms. Elsa Yohannes, Department of Biological Sciences, 600 Fairchild, Columbia University, New York, NY 10027 and not to the Chair directly. Nominations and applications for senior positions should be accompanied by a curriculum vitae. Applicants for junior positions should, in addition, provide a statement of research goals and arrange to have 3 letters of reference sent as soon as possible as no application will be considered until the file is complete. Columbia University is an affirmative action/equal opportunity employer.

The Gladstone Institute of Cardiovascular Disease,
University of California, San Francisco.

Postdoctoral positions available in the labs of:

Israel F. Chao, M.D., Ph.D.: Research on the role of monocyte/macrophages in early atherosclerosis. Current projects are focused on the recently cloned receptor for monocyte chemotractant protein 1 (MCP-1) and related receptors in the rapidly emerging family of cytokines known as the chemokines. Methodology includes expression of receptors in Xenopus oocytes and mammalian cells to examine signaling pathways and ligand binding domains, as well as the development of transgenic mice. Experience in molecular biology, signal transduction, or transgenic mice is desirable.

David A. Dichter, M.D.: Research on genetic models and gene therapy approaches to vascular disease. Projects are focused on: 1) somatic transgenic models of vascular disease; 2) the adaptation of gene transfer techniques to the prevention and treatment of arterial pathology; 3) gene regulation in vascular cells in vitro and in vivo. Methodology includes animal models, retroviral and adenoviral vector-mediated gene transfer, histopathology, analysis of recombinant and endogenous gene expression. Experience with animal models of vascular disease and/or analysis of gene expression is desirable.

Thomas L. Intenpary, Ph.D.: Two positions: Study the molecular mechanism and physiology of spod mRNA editing. This would involve the characterization of the recently developed transgenic mice expressing spod mRNA editing activity. The second position will use transgenic animals to investigate the genetic disorder familial defective spod (FDS) and the mutations of spod100 that disrupt LDL binding to the LDL receptor.

Stephen G. Young, M.D.: Research on the structure and function of apolipoprotein B (apo B). Characterization of recently developed transgenic mice expressing large amounts of human apo B, generation of mice with targeted mutations in the apo B gene, and investigation of the molecular mechanism of hypobetalipoproteinemia. Experience with transgenic mice and/or molecular biology techniques is desirable.

Candidates should possess an M.D. or Ph.D. in molecular biology or biochemistry. Competitive salary and benefits. Send C.V. and names of three references to: Postdoctoral Recruitment, Gladstone Institute of Cardiovascular Disease, UCSF; P.O. Box 419100; SF, CA 94141-9100. AA/EOE.

HARVARD MEDICAL SCHOOL
Department of Neurobiology

The Department of Neurobiology invites applications for positions at the level of Assistant Professor. Candidates must hold the degree of Ph.D. or M.D. and have a minimum of two years of postdoctoral research experience. The department's goal is to create a diverse and interactive research environment that includes individuals with expertise in molecular, cellular, physiological, and systems neuroscience. We thus encourage applications from individuals who will develop strong, independent research programs in any area of neuroscience, but who are also interested in an exchange of ideas and information among scientists taking diverse approaches to the study of nervous system development and function. We are especially interested in women and minority candidates.

Applications should send a curriculum vitae, a brief statement of research accomplishments and plans, and the names of three individuals who might write on their behalf, before December 15, 1994 to:

Gerald D. Fischbach
Chairman
Department of Neurobiology
Harvard Medical School
220 Longwood Avenue
Boston, MA 02115

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MOLECULAR GENETICS AND GENE THERAPY
Postdoctoral Research Opportunities
at the University of Iowa

Postdoctoral research opportunities in molecular medicine are available in the new Eckstein Medical Research Building at the University of Iowa to study the molecular genetics and gene therapy of human diseases. Applicants should have a Ph.D. and a strong background in either molecular biology, cell biology or genetics. For prompt consideration, send letter of application, curriculum vitae, reprints and names of three references.

Kevin Campbell - Molecular studies of dystroglycan and its role in muscular dystrophy; gene therapy for autosomal recessive muscular dystrophy (kevin-campbell@uiowa.edu; FAX: 319-335-6957).

Beverly L. Davidson - Gene therapy for metabolic central nervous system diseases including Lesch-Nyahan disease and lysosomal storage disorders (MPS VII). Molecular studies and pathophysiology of Lesch-Nyhan syndrome (beverly-davident@uiowa.edu; FAX: 319-335-7623).

John Donelson - Molecular mechanisms responsible for immune evasion by parasites that cause various tropical diseases such as sleeping sickness, river blindness and Chagas' disease (john-donelson@vaxx.uiowa.edu; FAX: 319-335-6764).

Gary Koretzky - Signal transduction in human lymphocytes, relationship between protein tyrosine phosphatases and protein tyrosine kinases in receptor signaling (gary-koretzky@uiowa.edu; FAX: 319-335-6887).

Jeffrey Murray - Positional cloning and molecular genetic epidemiologic approaches to human craniofacial defects and common trait variation (jeff-murray@uiowa.edu; FAX: 319-335-6970).

Val Sheffielb - Positional cloning and molecular study of human genetic disease loci involved in a variety of disorders including hereditary blindness, obesity and hypertension (val-sheffield@uiowa.edu; FAX: 319-335-3347).

Michael Welsh - Structure, cell biology, and mechanisms of disease involving CFTR Cl channels and Na+ channels (ENaC); gene therapy for cystic fibrosis and other lung diseases (michael-welsh@uiowa.edu; FAX: 319-335-7623).

Eckstein Medical Research Building
The University of Iowa College of Medicine
Iowa City, IA 52242

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**SCIENTISTS**

**Receptor Biochemist:** Ph.D. level scientist with 5-7 years experience in the area of biology and biochemistry of trans-membrane receptors. Training in pharmacology and receptor biochemistry is essential; experience in molecular biology is preferred. Strong management and communication skills (verbal and written) required. Job code: S-RB

**Cell Biologist:** Ph.D. level scientist with minimum 4 years experience in studies on the cellular basis of receptor mediated signal transduction in mammalian systems. Training in molecular biology is essential; experience in assay development is preferred. Strong verbal and written communication skills required. Job code: S-CB

**ASSOCIATE RESEARCH SCIENTISTS**

**Biochemistry:** BS/MS level scientist with minimum 3 years experience in protein analysis and biochemistry. Experience in Western blot, ligand binding and cellular localization analyses is preferred. Job code: S-B

**Molecular Biology:** BS/MS level scientist with minimum 2 years laboratory experience in molecular biology. Expertise in DNA cloning and gene expression (yeast and mammalian) is essential, with expertise in protein analysis preferred. Job code: S-MB

**Yeast Genetics:** BS/MS level scientist with minimum 2 years experience in yeast genetics and/or molecular biology to aid in the development and adaptation of novel yeast strains to high throughput screening format. Job code: S-YG

**Screening:** BS level scientist with experience in the design or development of high throughput screens, operation of BioMek or other robotic systems and/or management of compound libraries. Job code: S-S

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**RESEARCH SCIENTIST DNA Sequencing:** BS/MS with minimum 3 years experience with automated and manual DNA sequencing systems. Strong management and communication skills required. Will coordinate and manage DNA sequencing facility. Job code: S-DNA

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**POSTDOCTORAL SCIENTIST**

**Molecular Genetics**

SmithKline Beecham Pharmaceuticals, a world leader in pharmaceutical research, has a challenging opportunity for a postdoctoral scientist to join the staff of the Department of Molecular Genetics. As a postdoctoral scientist, the selected candidate will join a research team studying the differential expression of genes in normal and diseased tissues. The research project will involve the identification, cloning and functional characterization of novel genes related to cardiovascular physiology and diseases.

Candidates should have a recent Ph.D. in Molecular Biology or related biological science and have a strong background in recombinant DNA techniques, including gene cloning and gene expression. The candidate should have a proven record of scientific achievement as evidenced by publications in peer-reviewed journals, have good communications skills and a desire to work within a multidisciplinary team.

Our state-of-the-art research facility is located in suburban Philadelphia. We offer a competitive compensation/benefits package and a stimulating team environment. For confidential consideration, send your resume to: SmithKline Beecham Pharmaceuticals, Employment Administrator, Dept. H0244, PO. Box 401, Conshohocken, PA 19428. We are an Equal Opportunity Employer, M/F/D/V.

**FREEPORT-McMORAN CHAIR IN ENVIRONMENTAL MODELING**

The University of New Orleans invites applications for the Freeport-McMoran Chair in Environmental Modeling.

The University of New Orleans is the comprehensive urban university of the LSU System, with 15,500 students in six colleges: Business Administration, Education, Engineering, Liberal Arts, Sciences and Urban Studies. The University offers bachelor degrees in 56 areas, Master's degrees in 43, and Doctorates in 13. A growing emphasis on scholarly research is exemplified by increased contract and grant funding and the encouragement of the transfer of technology for the benefit of society.

The holder of the Chair of Environmental Modeling is expected to provide innovative and dynamic leadership in the Freeport-McMoran Environmental Modeling Center and in the University. He or she should have an international reputation in a field of expertise, the ability to organize research teams for doctoral as well as M.S. and Ph.D. students, an international perspective on trends in engineering, science and environmental research, and a proven record of obtaining external funding, with an emphasis on real-world systems.

Candidates must qualify for tenure as a full professor in one or more of the departments of the College of Engineering and/or the College of Sciences. Possible areas of interest include:

- Ecosystems (hydrology, watershed processes, multimedia flow and transport, food chain and aquatic biogeochemistry, environmental quality indicators);
- Resource and/or Waste Management (watershed management, land use, resources development, waste load allocations, risk assessment, environmental regulations, life-cycle models);
- Hydrodynamics (circulation and transport in free surface systems, sea-floor interface, river mechanics and sedimentation, coastal zone processes, diagenesis);
- Global Climate Change (atmospheric and oceanic circulation, atmospheric chemistry, carbon cycle);
- Environmental Monitoring (inverse methods applied to electromagnetic, lidar, seismic-acoustic or satellite data, shallow subsurface geophysics).

Interested persons should write or call the Chair of the Search Committee: Professor Peter Politzer, Chair, FMM Environmental Modeling Search Committee, Department of Chemistry, University of New Orleans, New Orleans, LA 70148. Telephone: (504) 286-6800. FAX: (504) 286-6880.

The application should include curriculum vitae and the names and telephone numbers of five references. Review of applications will begin in November, 1994, but they will be accepted until the position is filled. The appointment will take effect on or after July 1, 1995, with the specific starting date to be negotiated. UNO is an equal opportunity/affirmative action employer.
ASSOCIATE BIOCHEMIST
DowElanco, a leading company in the development of innovative products for crop protection, has an immediate opening for an insect biochemist/pharmacologist. The successful candidate will participate in multidisciplinary teams for evaluating biochemical modes of action of novel chemistries. The position will involve the use of skills in biochemistry, cell biology, neuroscience and pharmacology to study various insect receptor-based systems. The individual will also be responsible for maintaining laboratory facilities as well as conducting mechanism-based screens.

We seek an individual with a B.S. or M.S. degree and a minimum of two years of laboratory experience. Laboratory experience in receptor binding techniques preferred. Computer experience is required.

Send a resume by October 1, 1994 to: Kathy McIntyre, Dept. DJM-1, DowElanco, 9330 Zionsville Road, Indianapolis, IN 46285-1054. An Equal Opportunity Employer.

SCIENCE ADMINISTRATOR
Regeneron Pharmaceuticals, Inc. is at the forefront of research in the use of neuronal growth proteins for the treatment of degenerative and traumatic neurological disorders. Currently, we are seeking a highly effective Administrator to assume a central role in this major project.

Working closely with members of our senior scientific staff and legal team, this newly created position is responsible for coordinating collaborations with investigators at key Universities, Government Laboratories, and Corporations. Duties include directing the flow of information and materials, as well as maintaining follow-up records. Protecting the company's intellectual property is a top priority.

Qualified candidates will have a Master's degree, or a Bachelor's degree with laboratory experience in science with a background in molecular or cellular biology and/or neurobiology. Excellent interpersonal and communication skills, and the ability to perform with a sense of urgency, are essential.

Our modern facility, located 20 miles north of Manhattan on a multi-acre wooded campus in Westchester county provides a supportive, highly collegial setting for decisive career development. As a visible member of our staff you will receive a competitive salary and attractive benefits. For consideration send resume and salary history in confidence to: Human Resources, S.A. Regeneron Pharmaceuticals, Inc., 777 Old Saw Mill River Road, Tarrytown, NY 10591-6706.

PROFESSOR OF BIOCHEMISTRY
The Department of Biochemistry at the University of Minnesota Medical School is seeking applicants for a senior level NMR scientist specializing in the study of the structure of proteins and/or nucleic acids. Instrumentation for the use of multidimensional NMR methods will be available.

Opportunities include interaction with faculty working in molecular biology, bio-inorganic chemistry, physical biochemistry and structural biology. There is an existing macromolecular crystallography laboratory associated with state-of-the-art data collection, and computational and network facilities. The University of Minnesota has access to supercomputer systems available for research projects. A joint and well established graduate training program exists between the biochemistry departments of the Medical School and the College of Biological Sciences.

The candidate should have a well established research program in the area of NMR as applied to biological research problems. The ability to demonstrate the ability to collaborate with other scientists in the area of structural biology and be able to maintain a high level of research activity, including organizing and seeking funds for expanding programs and instrumentation. She/he will be expected to contribute to the graduate teaching program by participating in core courses on spectroscopy and tutorials with advanced students.

The minimum requirements for the position should be a Ph.D. in a biologically related field, evidence of leadership in the field of NMR, a significant record of publication of NMR research in biology, and nationally recognized by his/her peers as a leader in the field of NMR spectroscopy.

Employment will be at the full professor level with tenure. The start date for this position will be January 1, 1995. Please send a letter of application, curriculum vitae, three letters of recommendation and a few representative publications by October 15, 1994. The material should be sent to the following address: Dr. Leonard Banaszak, Chair Search Committee, Department of Biochemistry, 4-225, Millard Hall, 435 Delaware St. SE, Mpls., MN 55455.

The University of Minnesota is an Equal Opportunity educator and employer.
**POSITIONS OPEN**

**MARINE BIOGEOCHEMISTRY POSITION**

Florida International University, the State University of Florida at Miami, seeks one position for an ASSISTANT SCHOLAR SCIENTIST in the field of Marine Biogeochemistry. A Ph.D. and experience in marine inorganic chemistry and/or microorganisms is required. Preference will be given to applicants with experience in: surface water nutrient chemistry, sample collection, interpretation of long-term data, database management and demonstrated ability in research. Responsibilities include: coordination of sampling and data collection for a large marine and estuarine water quality monitoring network in the Florida Keys and adjacent waters. Applicants will be expected to establish an externally funded research program focusing on South Florida ecosystems. To apply, send curriculum vitae, outline of long-term research plans, and names of three references to: Dr. Ronald Jones, Director, Southeast Environmental Research Program (SERP), Florida International University, University Park, Miami, FL 33199. Application deadlines are postmarked on or before September 22, 1994. Florida International University is an Affirmative Action/Equal Access/Equal Opportunity Employer.

DEMI Vehicle Systems, Inc., a newly formed, start-up company, has licensed an exciting and very promising battery technology which is ideally suited as a power source for electric vehicles. A car powered with this battery has gone 250 miles on a single charge. The company has one or more financially rewarding positions open for SCIENTISTS to conduct research and development with a goal of further improving battery performance. Applicants must have working knowledge of the fundamental electrochemistry of batteries. A Ph.D. is required. Send curriculum vitae, a brief description of research accomplishments with reprints of publications, and names of three references to: Vice President, Human Resources, DEMI Vehicle Systems, Inc., 34157 Atryi, Livonia, MI 48150.

**FISHERIES BIOLOGIST**

Manomet Observatory, an environmental research institute, seeks a FISHERIES BIOLOGIST to serve as the Principal Investigator conducting research on fishing effort and by-catch in commercial fisheries in the northeastern United States. Using an extensive observer database, research will investigate the effects of exploitation and/or various fishing technologies on single and multispecies fisheries. To apply, contact: Marine Program, Manomet Observatory, P.O. Box 1770, Manomet, MA 02345. FAX: 508-224-9220. Manomet Observatory is an Equal Opportunity/Affirmative Action Employer.

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**POSITIONS OPEN**

**UNIVERSITY OF MICHIGAN**

**Reatinal Dystrophy Center**

POSTDOCTORAL POSITION available immediately in human ocular genetics with an NIH-funded group cloning and studying X-chromosomal retinal dystrophy genes. Project involves isolating novel genes as disease candidates, using physical mapping, YAC cloning, and exon trapping. Applicants with strong background in some of these techniques are invited to send curriculum vitae, names of references (with telephone/FAX number) and a brief statement of research experience to: Paul Sieving, M.D., Ph.D., Director, Retinal Dystrophy Center, Kellogg Eye Center, 1000 Wall Street, Ann Arbor, MI 48105, USA. FAX: 313-936-7231. (A nondiscriminatory, Equal Opportunity Employer.)

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE

Two positions are available for studies of signal transduction and transcription regulation in a laboratory applying cutting edge biochemical and biophysical techniques. Current studies focus on transcription factor interactions, protein-induced changes in DNA structure and the regulation of transcription factor activity (see articles in Cell, 66: 317; Science, 254: 1210; MCB, 13: 3782; PNAS, 49: 7360). Applicants should have a strong background in biochemistry, molecular biology or biophysics.

Please send curriculum vitae, a summary of research interests and three letters of reference to: Dr. Tom Kerppola, Department of Biological Chemistry, University of Michigan, 1150 West Medical Center Drive, Ann Arbor, MI 48109-0659, Email: kerppola@beavis.im.med.umich.edu. An Equal Opportunity Employer.

POSTDOCTORAL POSITION


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